



Matching  
**graduates' skills**  
and **labour world**  
**demands** through  
authentic **learning**  
**scenarios**

## OUTPUT 2

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# A Handy Guide to Create Authentic Learning Scenarios in Higher Education



Funded by the  
Erasmus+ Programme  
of the European Union

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## HOW TO DEVELOP AN AUTHENTIC LEARNING SCENARIO

### AUTHENTIC LEARNING

Influenced by constructivist pedagogy and technological progress authentic learning is a growing interest in authentic activities as the basis for learning in both face-to-face and web-based courses. While real businesses together with traditional course teaching methods primarily have served as tools for development of skills and processes authentic learning is a more radical approach in building an entire course of study on authentic activities and tasks. According to Herrington and Kervin (2007) using these principles of authentic learning to design learning issues in classroom provide an environment rewarding and innovative for students as well as teachers. Herrington & Herrington (2008) emphasize it is the cognitive authenticity rather than the physical authenticity that is of prime importance in designing of authentic learning environments. Authentic learning environments (Herrington & Kervin, 2007) consist of nine elements as follows:

### ELEMENTS OF AUTHENTIC LEARNING

- Authentic contexts
- Authentic activities
- Access to expert performances
- Multiple roles and perspectives
- Collaboration
- Reflection
- Articulation
- Coaching and scaffolding
- Assessment

An **authentic context** reflects how knowledge will be applied in real-life.

**Authentic activities** provide ill-defined activities which have real-world relevance, and which present a single complex task which represent a professional task as closely as possible to be completed over a sustained period of time (Herrington, 2006). ill-defined activities are not easily solvable, nor they have not obvious answers. May be there are layers of tasks that need to be completed in order to solve the problem. A sustained period of time requires projects and tasks that demand a significant investment of time and cannot be solved in a matter or minutes or hours. Activities and tasks will lead to the creation of a whole product rather than an exercise or sub-step in preparation for something else. Students must identify their own unique

tasks and sub-tasks in order to complete the major task. Authentic tasks allow a range and diversity of outcomes open to multiple solutions of an original nature, rather than a single correct response obtained by the application of rules and procedures.

The authentic learning environment employs access to **expert performances**. It has to provide access to expert thinking through experts in various domains. It could be teachers or experts in the professional field. It also means to have access to learners in various levels of expertise and to observations of real-life episodes.

Authentic learning environments provide learners to learn through interaction with **multiple roles and perspectives** rather than the teacher's single perspective. Projects are not limited to a single subject or set of knowledge but will make use of knowledge and skills from across subjects. Different resources and media make a rich array of opinions possible. Resources may be theoretical or practical and may require learners to distinguish useful information from irrelevant information. There are many possible solutions and answers to the problem (Lombardi, 2007).

In contrary to many classroom tasks the authentic learning environment highlights educational advantages of **collaboration** between students. When they are working together in pairs or in small groups, they are able to articulate their common understanding that they have co-constructed. Individuals cannot achieve success alone. Projects and tasks will require social connections. The authentic learning environment ensures classroom tasks are completed within a social context. In such a context students are discussing, interviewing, sharing pictures or stories and presenting talks to make sure that they have the possibility to articulate, negotiate and defend their understanding in process.

Authentic learning environments should promote **reflection** to enable abstractions to be formed. Kervin and Herrington (2007) emphasize the social aspect of reflection rather than a solitary action. In the authentic learning environment students have to reflect upon knowledge of different kinds to hypothesise, predict and solve problems. Students will reflect on their own learning and make choices and set targets accordingly.

In order to enable tacit knowledge to be explicit the authentic learning environment has to promote **articulation**. The process of articulation, Herrington & Herrington (2008) wrote "...enables formation, awareness, development, and refinement of thought" (p. 72).

In the authentic learning environment teachers are **coaching and scaffolding**. They provide resources, observe student activities, offer reminders and hints, modelling and providing different kinds of feedback. Teachers provide different skills and strategies that their students are not able to provide themselves to complete tasks in class. When the students are able to do that themselves the coaching or scaffolding is removed. The scaffolding and coaching are in highly specific to the situation of learning and to a certain problem arising to students' attempt to integrate their knowledge. Scaffolding can also be provided in collaboration with other students who are more able than their less able colleagues.

Authentic learning environments should provide for integrated and authentic **assessment** of learning. It needs to give the possibility for students to be effective performers with acquired knowledge (Herrington & Herrington, 2008 p. 73). The authentic assessment make opportunities for integrated assessment of students' learning within specific tasks. Formative assessment is woven seamlessly into tasks. Rather than separate artificial assessment removed

from the nature of task the authentic assessments of activities reflects the real-world assessment (Herrington, Reeves & Oliver, 2007, p.87).

It is important to remember that this kind of checklist is exhaustive and represents authenticity at its greatest. The authentic learning tasks do not have to have all the characteristics. They can be thought of as being on a spectrum, with tasks being more or less authentic. Principally, authentic learning is multi-disciplinary, skills-based learning in a real-life context, demonstrating to students that their learning is connected, relevant, and can have an impact upon the real-world around the educational setting.

## A GUIDE TO CREATE AN AUTHENTIC LEARNING SCENARIO

There is no set method for the design of authentic learning scenarios. The guidance here should be used just as a guidance. You know your students best, what they need according to the curriculum and can make decisions accordingly. Start small and work towards the larger projects. The key is that the projects or tasks need to have relevance, some sort of application to the real world.

1. What are your students' interests? What engages them? Determine their learning needs in relation to the curriculum. For example, are they performing well in certain tasks but could work on special skills? The needs and interests of your students is the starting point.
2. Based on your students and the curriculum, define a possible project, goal or outcome. This is where relevance and authenticity come into play – link the outcome to something real life. It could be running a restaurant, publishing a book, creating a museum, solving an environmental issue or a number of other ideas. There are many Project Based Learning (PBL) websites that can give you ideas if you need a starting point.
3. Create a single complex ill-defined task which represent a real-world task as closely as possible. Try to use a sustained period of time. Higher-order thinking requires students to move beyond simple recall of facts to the more complex task of manipulating information and ideas in ways that transform their meaning and implications, such as when students synthesize, generalize, explain, hypothesize, or arrive at some conclusion or interpretation. Break down the skills that your students will need in order to complete the project or reach the outcome. These may be across a number of subject areas and can be matched to curriculum objectives. The starting point of the task is real world problem or question.
4. Apart from your own expertise try to organize other more knowledgeable students to have access to or experts in the field.
5. Create instructions that include multiple roles and perspectives in the task. One way of doing that is when students engage in simulations and role-playing in order to be put in situations where they have to actively participate in the decision making of a project. This helps in developing valuable communication, collaboration, and leadership skills that would help the student succeed as a professional in the field he/she is studying.

Another way to expose the students to different perspectives is to have peer-based evaluation during the process. Students are then given the opportunity to analyze, critique, and provide constructive feedback on the assignments of their peers.

6. The importance of metacognition in the learning process is well-documented. Giving students the opportunity to reflect upon and monitor their learning is essential. Journals, portfolios, and electronic portfolios are examples of authentic learning tasks designed to showcase the student's work as well as give the student a means to reflect back on his/her learning over time.
7. In order to create the solution of the problem instructions about collaboration is needed. Collaboration should to be done synchronously so that each student contributes to the task and reflection and articulation of different understandings are possible. The solution/product should not be completed independently by either individual. High levels of substantive conversation are indicated by three features: considerable interaction about the subject matter which includes evidence of higher-order thinking, sharing of ideas that are not scripted or controlled, and dialogue that builds on participants' ideas to promote improved collective understanding of a theme or topic.
8. Some skills will require discrete teaching in a traditional sense, then an opportunity to transfer. Others will be better suited to more student-led learning and exploration. Be prepared to offer scaffolding with cognitive structures or challenging questions. Be careful with too much coaching and guiding. It is easy to guide too much which will end up with a reduce of the authenticity of the task. One way of scaffolding is to offer various technologies to create videos, design websites, produce animations, virtual reconstructions, and create photographs. In addition to gaining valuable experience in working with a range of technologies, students also improve their reading comprehension, writing skills, and their abilities to plan, analyze, and interpret results as they progress through different media recourses.
9. Try to assess throughout the project; help the students determine their own next steps. It could be helpful for students to self-assess at the end of a project. What have they learned? What new skills do they now have? What would they like to learn more about? When the students are going to present their solutions of the task try to invite as many stakeholders and experts as possible in order to offer opportunities for the students to articulate their knowledge and be evaluated by professionals.

## EVALUATION OF AUTHENTIC LEARNING

Below there is a rubric for evaluation of an authentic learning scenario whether how authentic it is based on Herrington, Reeves and Oliver (2010).

Element of authentic learning	Guidelines for implementation	Continuum of characteristics Non-authentic → Authentic	Evaluation questions
Provide authentic context that reflects the way the knowledge will be used in real-life	<ul style="list-style-type: none"> <li>a physical/virtual environment that reflects the way the knowledge will ultimately be used</li> </ul>	Decontextualized → Realistic	<input type="checkbox"/> Does the context of the course represent the kind of setting where the skill or knowledge is applied?
	<ul style="list-style-type: none"> <li>a non-linear design to preserve the complexity of the real-life setting</li> </ul>	Fixed → Flexible	<input type="checkbox"/> Is the pathway students take through the learning environment flexible, where students are able to move around at will?
Provide authentic activities	<ul style="list-style-type: none"> <li>activities that have real-world relevance</li> </ul>	Academic → Real world	<input type="checkbox"/> Does the task mirror the kind of task performed in real world applications?
	<ul style="list-style-type: none"> <li>ill-defined complex activities that provide an opportunity for students to define the tasks and sub-tasks required to complete the activity</li> </ul>	Multiple small tasks → Complex task	<input type="checkbox"/> Is the task presented as a series of small sub-steps or as an overarching complex problem?
	<ul style="list-style-type: none"> <li>a sustained period of time for investigation</li> </ul>	Short time → Long time	<input type="checkbox"/> Do students work on the task for weeks rather than minutes or hours?
	<ul style="list-style-type: none"> <li>the opportunity for the detection of relevant versus. irrelevant information</li> </ul>	Limited information → Broad information	<input type="checkbox"/> Are students able to choose relevant information from a variety of inputs, including relevant and irrelevant sources?
	<ul style="list-style-type: none"> <li>tasks that can be integrated across subject areas</li> </ul>	Single discipline → Multi-disciplinary	<input type="checkbox"/> Are tasks and strategies relevant to other disciplines and broader knowledge?
Provide access to expert performances and the modelling of processes	<ul style="list-style-type: none"> <li>access to expert thinking and modelling processes</li> </ul>	Direct instruction → Expert performance	<input type="checkbox"/> Does the learning environment provide access to expert skill and opinion?
	<ul style="list-style-type: none"> <li>access to learners with various levels of expertise</li> </ul>	Expertise → Levels of expertise	<input type="checkbox"/> Does the learning environment allow access to other learners at various stages of expertise?
	<ul style="list-style-type: none"> <li>opportunity for the sharing of narratives and stories and access to the social periphery</li> </ul>	Didactic, core → Narrative, peripheral	<input type="checkbox"/> Are students able to hear and share stories about professional practice?
Provide multiple roles and perspectives	<ul style="list-style-type: none"> <li>different perspectives on the topics from various points of view</li> </ul>	Single view → Multiple perspectives	<input type="checkbox"/> Are students able to explore issues from different points of view?
	<ul style="list-style-type: none"> <li>the opportunity to criss-cross the learning environment</li> </ul>	Single pathway → Multiple pathways	<input type="checkbox"/> Are students able to use the learning resources and materials for multiple purposes?
Support collaborative construction of knowledge	<ul style="list-style-type: none"> <li>tasks are completed in pairs or groups rather than individually</li> </ul>	Cooperation → Group collaboration	<input type="checkbox"/> Are students able to collaborate (rather than simply co-operate) on tasks?
	<ul style="list-style-type: none"> <li>appropriate incentive structure for whole group achievement</li> </ul>	Individual grade → Group grade	<input type="checkbox"/> Are grades given for group effort, rather than individual effort?

Element of authentic learning	Guidelines for implementation	Continuum of characteristics Non-authentic → Authentic	Evaluation questions
<b>Promote reflection</b>	<ul style="list-style-type: none"> <li>authentic context and task that require decisions to be made</li> </ul>	Pre-determined steps → Decision-making	<input type="checkbox"/> Are students required to make decisions about how to complete the task?
	<ul style="list-style-type: none"> <li>non linear organization of materials and resources to enable students to return to any element if required</li> </ul>	Linear → Non-linear	<input type="checkbox"/> Are students able to move freely in the environment and return to any element to act upon reflection?
	<ul style="list-style-type: none"> <li>the opportunity for learners to compare themselves with other learners in varying stages of accomplishment</li> </ul>	No facility to compare → Able to compare	<input type="checkbox"/> Can students compare their thoughts and ideas to experts, teachers, guides, and to other students?
	<ul style="list-style-type: none"> <li>groupings of students to enable reflection with aware attention</li> </ul>	Individual → Group	<input type="checkbox"/> Do students work in collaborative groups that enable discussion and social reflection?
<b>Promote articulation</b>	<ul style="list-style-type: none"> <li>a complex task incorporating inherent, as opposed to constructed, opportunities to articulate</li> </ul>	Little discussion → Much discussion	<input type="checkbox"/> Does the task require students to discuss and articulate beliefs and growing understanding?
	<ul style="list-style-type: none"> <li>groups to enable articulation</li> </ul>	Individual → Group	<input type="checkbox"/> Does the task provide collaborative groups and forums to enable articulation of ideas?
	<ul style="list-style-type: none"> <li>public presentation of argument to enable articulation and defence of learning</li> </ul>	Little articulation → Presentations	<input type="checkbox"/> Does the task enable articulation and defence of arguments?
<b>Provide coaching and scaffolding</b>	<ul style="list-style-type: none"> <li>collaborative learning, where more able partners can assist with scaffolding and coaching</li> </ul>	Unsupported → Partner coaching	<input type="checkbox"/> Are more knowledgeable students able to assist with coaching?
	<ul style="list-style-type: none"> <li>coaching and scaffolding assistance is available for a significant portion of the activity</li> </ul>	Unsupported → Scaffolding	<input type="checkbox"/> Is a teacher, guide or helper available to provide contextualised support?
<b>Provide for authentic assessment of learning within the tasks</b>	<ul style="list-style-type: none"> <li>the opportunity for students to be effective performers with acquired knowledge, and to craft polished, performances or products</li> </ul>	Raw → Polished	<input type="checkbox"/> Are products or performances polished and refined rather than incomplete or rushed drafts?
	<ul style="list-style-type: none"> <li>significant student time and effort in collaboration with others</li> </ul>	Brief → Extended	<input type="checkbox"/> Do students participate in the activity for extended periods of time?
	<ul style="list-style-type: none"> <li>the assessment to be seamlessly integrated with the activity</li> </ul>	Separate tests → Integrated assessment	<input type="checkbox"/> Are students assessed on the product of the investigation, rather than by separate testing?
	<ul style="list-style-type: none"> <li>multiple indicators of learning</li> </ul>	Single measure → Multiple measures	<input type="checkbox"/> Are there multiple assessment measures rather than a single measure?

## SOME BENEFITS AND OPPORTUNITIES OF AUTHENTIC LEARNING

- Students are more likely motivated and interested in what they are learning when it is relevant and applicable to their lives outside of the educational setting and they become better prepared to succeed in their future profession
- This audience beyond the classroom changes the problem from an 'exercise' to something more important, allowing students to become emotional stakeholders in the problem.
- The authentic activities highlight the students' ability to affect the world beyond the classroom since authentic tasks provide the opportunity for students to examine the task from different perspectives, using a variety of resources.
- The use of a variety of resources rather than a limited number of preselected references requires students to detect relevant from irrelevant information.
- Within authentic activities the students will be able to practice transferrable skills that will serve them in any professional context such as judgement, synthesis, research skills, decision-making, negotiation and application of theory in practice.
- Since tasks are completed in days, weeks and months rather than minutes or hours, Students get the opportunity to deepen their knowledge over a longer period of time requiring significant investment of time and intellectual resources.
- Through multi-disciplinary tasks students are exposed to different settings, activities, and perspectives and are able to develop flexibility to work across disciplinary and cultural boundaries.
- Students have opportunities so application of theoretical knowledge to the world outside of the classroom is enhanced.
- Students have opportunities to collaborate, produce products, and to practice problem solving and professional skills.
- Students have opportunities to exercise decision-making and professional judgments in a safe environment.
- Students practice higher-order thinking skills.
- Students have opportunities to develop patience to follow longer arguments.
- Students practice collaborative work both with peers and experts.
- Authentic tasks provide important opportunities for students to interact with the wider community and reflect upon their experiences.
- Authentic tasks create polished products valuable in their own right rather than as preparation for something else

(Jenkins, Clinton, Purushotma, Robinson & Weigel, 2006; Rule, 2006; Lombardi, 2007).

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