

THE 5-DOOR APPROACH TO ELEARNING FOR THE INTERREG EXCELLENCE IN RESEARCH, SOCIAL, AND TECHNOLOGICAL INNOVATION PROJECT MANAGEMENT (EXCELLENCE-IN-RESTI)

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Abstract

12 partners from 9 countries in the Danube Transnational Region formed a collaborative learning community to design, test, and offer a quality *Excellence in Research, Social and Technological Innovation (ReSTI) Project Management Programme* with the core purpose of increasing the capacity for European Union (EU) project acquisition, planning, and implementation. The project is funded by the *EU Interreg Danube Transitional Programme* and lead by *The Centre for Social Innovation (ZSI)*, Vienna, Austria. The target audience are young professionals, but the program is open to all interested learners. The curriculum is composed of five modules and 20 classes—offering information, advice, theories, processes, methods and tools to lead participants to success with their projects. The classes are structured to align with the ECTS credit system in EU universities and participants will earn a *Certificate of Completion* from the *Project Consortium*. The curriculum will be piloted during an entire year with three face-to-face events, but is intended to be offered fully online and completed through automated assessment.

The curriculum developers are experimenting with an innovative approach to online learning they call the *5-Door Approach to eLearning*. Each class offers multiple entry points to the learning through these doors: *The Library* (course content resources), *The Café* (interactive activities with others), *The Playground* (playful activities and games), *The Forest* (reflection activities to integrate the learning), and *Assessment* (to test the level of knowledge gained and/or skills acquired). This approach is based on the classic theory of *Kolb's Learning Styles* (Kolb, 1984) and adapted from *Thiagi's 4-Door Approach* (Thiagi, 2015). Program participants can walk through the assessment door as they get started with a course to either define a focus for themselves while taking the course and/or to simply test out of the course and move on to those courses that provide new learning for them. Behind each door, the learning is tailored for a particular learning style, and participants can either walk through all doors and solidify their learning through repetition in various formats and/or choose the approach that works best for them and dive deeply into the offerings provided behind the chosen door. The intent is to offer many resources behind each door (more than would be needed in traditional learning scenarios), so that participants can choose from a plethora of offerings according to their preferences. They can do a lot of activities, or just a few, or none if they pass the assessment upon entry. The purpose here is to optimize the learning potential and give full control about type and depth of learning to the learner, including the option to complete all or just a few modules. Participants can claim the ECTS credit recommendation for each module separately, however, they earn the certificate only if they succeed through all modules.

After the pilot phase in 2018/19 the program will be refined according to the feedback collected, and then offered online, free of charge, world-wide. The project consortium will be working with the relevant accreditation authorities to gain accreditation for this program after the pilot phase.

Keywords: diverse learning styles, Kolb, Thiagi, 4-door approach, 5-door approach, project management, innovation, design thinking, badges

1 INTRODUCTION

One of the main objectives of the *Excellence in Research, Social and Technological Innovation (ReSTI) Project Management Programme* [1] project funded by *EU Interreg Danube Transitional Programme* is to cocreate and implement an *Online ReSTI Project Management Programme* tailored to the needs of project managers and administrators of ReSTI projects in the Danube Region.

The ReSTI consortium first researched existing approaches to serving the defined audience, and then developed a methodology for addressing the different needs of ReSTI learners. The ReSTI curriculum developers intended to create a highly innovative up-to-date curriculum that would engage the different learning styles of the diverse learners typical for the Danube Region. As a result, the team cocreated a flexible learning system devoted to spreading excellence in ReSTI management, leadership and administration knowledge and to building associated skills in a multisensory approach.

This article does not focus on discussing the content of the ReSTI online programme, rather it describes the process of curriculum development as a good practice for including innovative state-of-the-art educational approaches.

1 METHODOLOGY

1.1. ReSTI Curriculum Development

The ReSTI consortium developed an innovative program that attracts the attention of the target audience and encourages and maintains their continuous interest in learning. As such, the programme offers a flexible learning structure that is fun, effective, and also efficient, while offering various levels of depth and breadth in content and methodology.

The ReSTI curriculum has been developed in line with the current state-of-the-art approach required by the different accreditation bodies in the European Union [2] to enable a formal accreditation after the evaluation phase. Following steps are to be expected:

1. Planning (assessment of current needs and already available resources)
2. Creating an effective structure for the content of this online programme in form of modules composed of courses in accordance with the formal requirements (certification and accreditation), as well as with the principles of long-life learning
3. Module title
4. Course title and course description
5. Definition of learning objectives and outcomes for each course
6. Identification, selection, and development of appropriate learning materials and activities
7. Accommodation of different learning styles
8. Creating assessment process for each module and/or course, and ultimately program certification
9. Pilot implementation, feedback and curriculum refinement
10. Program evaluation

11. Program release
12. Certification
13. Accreditation

A major challenge in developing an effective online program lies in the charting of a coherent e-learning path and making its trajectory visible to learners with diverse capacity levels, because the diversity of the needs increases in parallel with the complexity level of the content [3]. Outlining a clear but flexible learning path and pinpointing the learner's position on the learning curve is important because it allows them to locate themselves on the trajectory. The freely available MOODLE online platform [4] is being adapted to accommodate the flexible system developed to meet this additional objective.

Another innovative approach is the grading system. While course assessments are designed for pass/fail options, the completion of a module is awarded by the earning of a badge designed to be placed into a virtual backpack customary on LinkedIn and other digital resume environments. The earning of five module badges then leads to the certification, also awarded with an accumulative badge for the program completion.



Figure 1. The ReSTI Badges for each Module. Authors' image.



Figure 2. Figure 1. The ReSTI Accumulative Badge for the entire program. Authors' image.

1.1.1 Methodological Framework

The ReSTI consortium developed the 5-Door Approach to eLearning to meet the goals of developing an innovative online program that is custom-designed for the defined audience. The team optimized the learning experience by offering self-directed learning based on the individual freedom to choose depth and breadth of content and by encouraging learners to follow their learning preferences on a multisensory learning path. The team chose to adapt the classic Kolb [5] learning theory and Thiagi's [6] 4-Door Approach to eLearning under additional consideration of multisensory approaches to digesting information to achieve these goals.

1.1.2 Kolb Learning Phases

The ReSTI team underpinned their approach with Kolb [5] learning theory to enhance the learning process by offering multiple ways to access and process information—which is to say “making meaning” from it.

Meaning-making in Kolb’s [5] learning phases refers to information being accessed through either thinking (abstract conceptualization) or feeling (concrete experience), and then processed through either observing (reflective observation) or doing (active experimentation)—described on the Kolb Wheel bisected by two axes (Figure 1). According to Kolb the learning journey can be entered anywhere on the wheel, but logically may begin with the learner’s preferences created by both innate predispositions and cultural conditioning. To complete the learning cycle (and thus the meaning-making process), the learner, ideally, moves through all four phases.

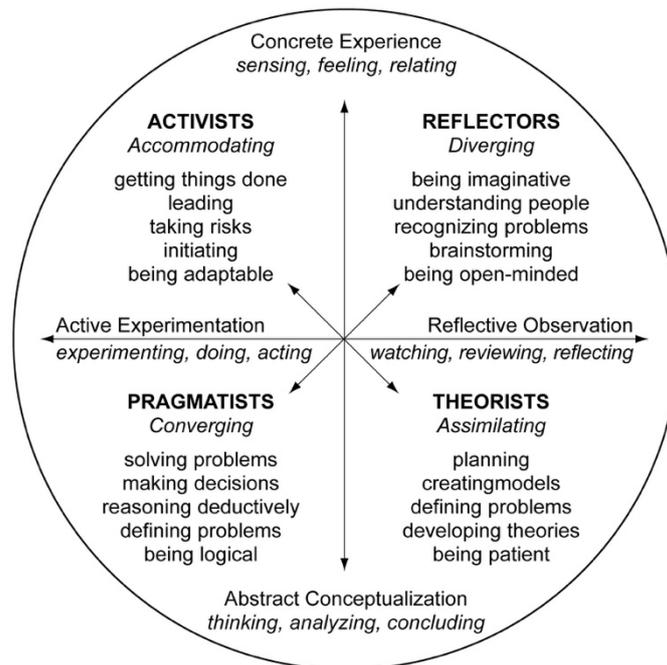


Figure 3. The Kolb Wheel.

Authors’ image; consolidated and adapted from Clark [7], Hay Group [8], and Bennett & Bennett [9].

Four distinct learning styles emerge between the four learning phases: Accommodators (activists) focus on “acting skills: committing oneself to objectives, seeking and exploiting opportunities, influencing and leading others, being personally involved, and dealing with people” [10]. Divergers (reflectors) focus on “valuing skills: being sensitive to people’s feelings and to values, listening with an open mind, gathering information, and imagining implications of ambiguous situations” [10]. Assimilators (theorists) focus on “thinking competencies: organizing information, building conceptual models, testing theories and ideas, designing experiments, and analyzing quantitative data” [10]. Convergents (pragmatists) focus on “decision skills: creating new ways of thinking and doing, experimenting with new ideas, choosing the best solution to problems, setting goals, and making decisions” [10]. These four ways of learning contrast with each other at times and result in creative tensions and conflicts between different ways of being in the world—learning happens as a form of resolution to these conflicts [5].

The influence of culture on learning preferences has been recognized. Kolb [5] is clear about the assumption that “no account of human learning could be considered complete without an examination of culturally accumulated knowledge,” [11] and suggests that there is an isomorphic relationship between the structure of social knowledge and the structure of the learning process. Innate or cultural learning preferences can change over one’s lifetime. Thus, learning (and therefore meaning-making) is not only a process of adapting to the world, but also of cocreating the social worlds in which people participate, a process described in constructivist theories of intercultural communication. Cultural preferences for certain learning phases are most strongly observed in the education system, which often has no room for learners with nonmainstream preferences.

While it is important for course developers to understand the four Kolb [5] Learning Phases (Concrete Experience and Abstract Conceptualization, Reflective Observation and Active Experimentation) and the resulting four Learning Styles (accommodating, diverging, assimilating, converging), for the design of the activities it is the four phases that best guide the developers in designing the learning journey. The essence of these four phases were merged with Thiagi’s [6] 4-door model for rapid e-learning.

1.1.3 Thiagi’s 4-Door eLearning Approach

Game designer, Thiagi [6], developed the 4-Door eLearning Approach already in the early days of online learning (early 2000s) in order to avoid passive learning. Through his extensive experience as a train-the-trainer in the corporate context he learned that acquiring new skills and applying knowledge cannot simply be achieved by rote learning—described as participants learning “primarily by reading interspersed with mindless multiple choice test items” [6]. He broke the learning journey into four basic categories and linked them to rooms separated by doors. The design of the various activities in this approach follows five principles:

- Learning has to be relevant to the learner
- Learning has to align with a concrete outcome
- It is the activity, not the content, that is important
- The learners should be empowered to choose their own pace and sequence
- Do not use technology because it is there, use it only if it supports the learning process

Thiagi called the four doors library, playground, café, and assessment center. The library contains all the foundational materials necessary to be successful in the course work and acts as a resource center during the final assessment. As such, the library contains, for example, journal articles, videos, podcasts, slides, checklists, templates, case studies, and so forth. The playground offers fast-paced web games that serve the purpose of gaining fluency with the learning content available in the library, and each game is directly related to a particular learning outcome represented by a particular resource. If the learner does not know the content, s/he may struggle with completing the game, but will learn through the self-correcting function of the game. Alternatively, learners return to the library to access the content that holds the key for completing the game successfully. The café serves the purpose of open-ended discussion and questions. Answers may be posted live and/or through an available list of answers from other learners and/or experts. Thiagi’s [6] assessment center offers ways to test mastery in form of real life deliverables or other forms of self-test.

Thiagi’s 4-Door eLearning Approach can be a facilitated or a non-facilitated process, and the only requirement is that learners pass the final performance test. They do not need to access all the resources or complete all the activities provided, rather they choose the ones they need in order to pass the test. There is structure, and even a sequence or depth may be suggested, but ultimately, the learner is free to walk through the rooms as desired, s/he could even simply pass through the course by first going to the test and completing the assessment successfully.

1.1.4 Multisensory approach

Research conducted over the past few decades revealed that human brains perceive stimuli through different senses [12], and scholars do not agree upon which senses lead various meaning-making processes. Most commonly included in these studies are the visual, auditory, kinesthetic, olfactory and gustatory senses and the human experience as a series of constant multisensory input and processing thereof.

Studies demonstrate that the senses work together when it comes to perception and perform many tasks related to survival [13]. For instance, both visual and auditory information is involved in localizing and tracking moving objects. Therefore, it can be assumed that the human brain has evolved to learn, develop, evolve and operate optimally in multisensory environments [13]. Multisensory learning concerns the activation of multiple senses all at once [12]. This multisensory approach to learning has been emulated in the ReSTI methodology by adapting Kolb's [5] learning phases and Thiagi's [6] 4-Door eLearning Approach, so that the needs of the different learners are adequately addressed in the *Excellence-in-ReSTI 5-Door Approach to eLearning*.

2 RESULTS

2.1 The Excellence-in-ReSTI 5-Door Approach to eLearning

Based on the wide-spread success of Kolb's [5] learning theory and Thiagi's [6] 4-Door eLearning Approach and under consideration of multisensory learning [13] the ReSTI team adapted and integrated aspects of these approaches and created a hybrid approach for optimal results. The team created a 5-Door system and called the doors: library, café, playground, forest, and assessment— with each course providing these five doors plus an additional discussion forum.

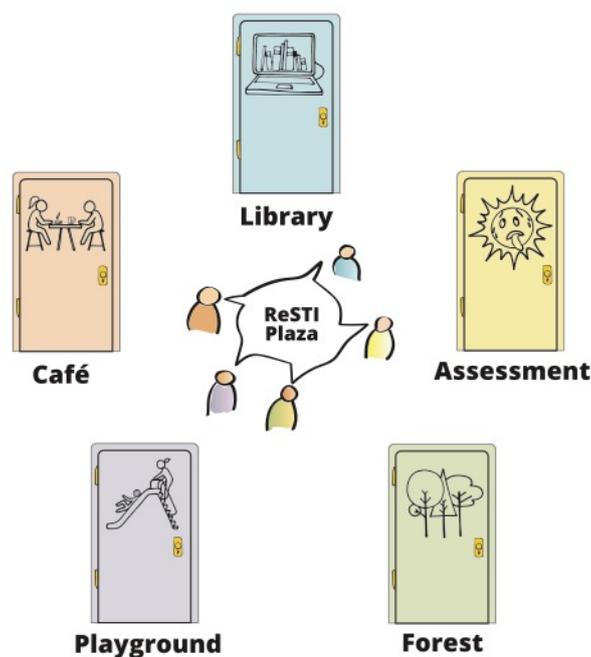


Figure 4. The ReSTI 5-Door Approach to e-Learning. Authors' image.

Table 1: Characteristics of *The Excellence-in-ReSTI 5-Door Approach to eLearning*

	Library	Café	Playground	Forest	Assessment
Types of resources and activities	Library contains content resources such as lectures, readings, videos, case studies, articles, models, references, and other research materials, and various templates needed in the course.	Café includes prompts for activities that learners complete through interaction with other people	Playground offers learning opportunities for exploration, such as simulations, trial and error experimentation, or games with self-correcting features when mistakes are made.	Forest provides opportunity for individual reflection upon particular content items and/or activities prompted by instructions but also by various media and activities where the learner takes on an observer role.	Assessment includes ways to test knowledge acquired and skills honed through automated testing and or self-reporting. This option includes multiple choice questions as well as self-reflection questions that do not require a pass.
Reference to Kolb	Information intake through thinking, analyzing, and concluding	Information intake through sensing, feeling, and relating	Information processing through experimenting, doing, and acting	Information processing through watching, reviewing, and reflecting	—
Activity example set I (interrelated activities for scenario: <i>Rural Exodus</i>)	Read designated research article in the library to learn about rural exodus.	Interview 5 people from different demographics in a village nearby that suffers from rural exodus and learn about the dynamics associated with rural exodus.	Design and facilitate a workshop engaging 10+ people from a village that suffers from rural exodus; focus them on cocreating a vision where they have overcome the problem of rural exodus.	Complete one learning activity focused on rural exodus behind the café or playground doors; find a quiet place outdoors, preferably in nature, sit in quiet for 20 minutes and think about how the issue affects village inhabitants.	Answer multiple choice and reflection questions.
Activity example set II (disjointed activities for various sustainability-related scenarios)	<i>Scenario: Smart Cities</i> Watch “xyz” documentary to learn about the definition of smart cities and associated actions and processes.	<i>Scenario: Energy Transition</i> Visit a community that is working on moving from petro-based to alternative energy sources. Gather artifacts and documents and talk to people about how they are achieving this transition.	<i>Scenario: E-Mobility</i> Visit a car dealer and test-drive an electric car, at your visit gather all information possible about the car, how it functions, what challenges it presents, what environmental impact it has, etc...	<i>Scenario: Personal Sustainability</i> Pull the Biomimicry Life Principles sheet from the library and reflect upon which of these life principles you may already be following and where you could do better, record in journal.	Answer multiple choice and reflection questions.

A discussion forum connects into all five doors and serves those learners who might want to take the course together and interact with each other and/or leave comments behind for people taking the course at another time, or learn from comments left by previous learners and/or experts. While the pilot course will be semi-facilitated, eventually, the online ReSTI program is designed to run independently and does not require peer interaction or the support of instructors or facilitators.

Besides the obvious result of having developed an innovation online ReSTI program for a diverse audience, the consortium members will have learned from each other, built relationships across boundaries, enriched their own curricula and institutions, and will have made contributions to academia and the development of the field.

3 CONCLUSIONS

The *Excellence-in-ReSTI 5-Door Approach to eLearning* has been collaboratively developed by the ReSTI consortium in 2017. The team is currently in the process of developing the specific tailor-made materials that will be available for prospective learners behind each of the doors during the pilot phase—requiring developers to create and adapt their materials according to the intent of the 5-Door approach. During the pilot phase in the academic year 2018/2019, a group of 25 selected students from the Danube Transnational Region will evaluate the programme. After the curriculum has been refined according to the feedback, the program will go live and the official accreditation process will be prompted. It is expected that the ReSTI online programme will be available world-wide, free of charge, and will continue to be upgraded through future funding.

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FIGURES

Figure 1. The ReSTI Badges for each Module

Figure 2. Figure 1. The ReSTI Accumulative Badge for the entire program

Figure 3. The Kolb Wheel

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TABLES

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