DIGITAL DECATHLON

WP2-f **Lessons Learned**

- Lessons Learned Matrix (of the external Evaluator)
- Internal Lessons Learned Matrix

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WP2-f Lessons Learned Matrix

(of the external Evaluator)

Digital Decathlon - External Report - Criticism and Improvement

Chapter reference	Point of criticism 1. competition	Description	Improvement 2. competition	Further improvement needed?
2. WP01 PROJECT MANAGEMENT				
2.2.1 Research Procedures	Inconsistent cloud usage	Not all partners use the shared cloud to document interim results consistently. Action: Discuss barriers to usage and encourage more uniform participation.	The use of the shared cloud to document the (interim) results improved in the second run, but there is still room for improvement as some documents are still shared by mail or stored on local data carriers.	Yes
	Delayed survey evaluation	Surveys are used to gather feedback, but delays in evaluation hinder timely responses to suggestions.	Feedback from the individual project partners was evaluated in time during the second round so that any adjustments required could be implemented directly in the ongoing	No
2.2.4 Collaborative Working	Lack of formal research integrity agreement	No formal agreement covering research integrity standards, intellectual property, conflict resolution, and misconduct procedures has been established.		Yes
3. WP02 QUALITY MANAGEMENT				
3.1 Objectives	Delay of evaluation and learning objectives	The evaluation and learning objectives were not available for everyone to discuss before the start of the first competition.	The goals were ready before the start of the second competition and could be coordinated with each other.	No
3.2 Methods	Delay of evaluation criteria for final students results	The evaluation criteria for the student work were not available to the students before submission.	Detailed assessment criteria with descriptions of which achievements lead to which points were provided to the students from the outset.	No
3.4 Data Evaluation and Reporting	Delay of completion of survey by teacher	Some of the project partners themselves do not take part in the surveys in time and thus prevent the timely discussion of suggestions for improvement.	Teachers complete the surveys in good time, which enables timely discussion and implementation of improvements.	No
4. WP03 LEARNING MANAGEMENT				
4.1 Framework	Lack of "map" for disciplines	There's no clear structure or relationship between disciplines. This lack of coherence can lead to workload imbalances and confusion, making it hard for students to contextualize their tasks across different fields.	To link the disciplines with each other, a map was created as part of discipline 5, which shows the connections between the various disciplines and software as part of the competition and supported the students in their work.	No

4.3 Observations on Competition Procedure	Comprehensability of the task	Some disciplines have presented these very clearly at the beginning. The other disciplines should also be guided by these criteria and clearly set out their objectives in the initial course.	The evaluation criteria were presented and explained by all disciplines in the introductory presentation.	No
	Interplay between the disciplines	Discipline 1 (Architecture) receives disproportionate attention, while others are underemphasized. Architecture's central role causes dependency delays; other disciplines cannot start without initial architectural models. Future iterations should set earlier deadlines for architectural inputs and include a project management workshop to improve team organization and scheduling.	The project task has been restructured so that the focus is no longer on discipline 1. The partial focus on design was completely shifted to the BIM process. Each discipline only has an equal status and a specific time frame in which it is processed. In addition, the students were given time at the beginning of the competition for project management, which they were able	No
	Collaboration and teamwork	Dependence on specific team members for essential tasks, particularly in architecture, has created dependencies. Teams where architectural work lagged were given "dummies," but this only partially mitigates disruption. Moreover, varied schedules and commitments of students make coordination difficult, indicating the need for mandatory group	By structuring the disciplines over time, the problems of dependencies between the disciplines could be completely eliminated. This resulted in an improved project flow and it was possible to avoid mandatory meetings with the lecturers.	No
		During working hours in the students' home countries, there were communication problems between the students, as some students were difficult for others to reach. This was exacerbated by the dependency between the disciplines.	By shifting the main tasks of the competition to the two face-to-face sessions, the communication problems between the students have improved significantly. Using the time at home as training time, adapted to the students' own motivation to prepare even better for the second part of the competition, worked without any problems.	No
	Communication and provision of information	There were inconsistencies in information distribution, with some groups receiving different or additional updates from mentors. Information scattered across multiple platforms overwhelmed students, who ended up creating their own reference guides. For the next round, a central communication tool is suggested, such as a CDE (Common Data Environment), with FAQ sections in Moodle to	A CDE was introduced in discipline 5 and a Q&A area was introduced in Moodle. This has led to a significant improvement in student support for lecturers and less confusion for students.	No

4.4 Learning Materials	General	Some BIM materials and model object names are in German, posing challenges for international students.	In the course documents, models and software of the second competition, particular attention was paid to the exclusive use of English, so that no problems arose for the students.	No
	BIM Pre-course	Although intended to be optional, the introductory BIM course saw low participation. Some students found it unhelpful, yet those unfamiliar with BIM could benefit significantly. Offering more incentives for completion, such as integration with the main competition or additional mentorship, could encourage participation.	The BIM preliminary course was further improved and enhanced based on student feedback, so that this time all students completed the course in preparation for the competition.	No
5. WP04 EVENT MANAGEMENT				
5.1 Project Flow	Site visit		Unlike in the first round, the site was not visited. However, the students would have liked this in order to find a suitable design for the pavilion	Yes
6. WP05 COMMUNICATION				
6.1 Internal	Deadlines	The binding nature of set deadlines was not understood equally by all project partners	Deadlines were consistently met by all participants, leading to smoother coordination	No

WP2-f Internal Lessons Learned Matrix

Digital Decathlon - Reporting - Lessons learned/Understanding the lessons learned

Chapter reference	Point of criticism 1° competition	Description	Improvement 2° competition	Further improvement needed?	Point of criticism 1° competition	Description
A. LEARNING QUALITY						
A.1	Great ambition of students	A strong emphasis on improving international collaboration and exchange, BIM skills, interdisciplinary understanding, language proficiency, and confidence in professional abilities.	Continue to improve DD to make it attractive to as many people as possible.	No		
A.2	Difficulties to approach disciplines without background on them	For someone with no backgound in some topic wouldn't be able to rely just on the Moodle material to complete the task. One think that would impove the Moodle is to add some level of interactivity with the teacher, eg. chat box for individual questions to the teachers and a separate discussion box visible to all about general issues and questions.	Simplify some tasks to give students the possibility to complete them, but also going deeper to that topic thanks some level.	No		
A.3	Some testing guidelines provided not in english	Something were provided not in the official languages of english but in German. This means more difficulties for students to do the tasks requested and errors due to translation.	Attention to provide all the materials in english.	No		
A.4	Workload too high	Someone consider the workload too high in relation to the credit points received.	Nothing is changed, due to different opinion on that.	Yes	/	/
B. DIGITAL ENVIRONMENT						
B.1	Not fully satisfactory the Digital Environment	Digital Decathlon is evaluated good (3,5/5) but not completely satisfactory. Is noted the importance of clarity and clear guidance on the digital environment, by suggesting the provision of a list detailing the programs provided and their intended uses. To avoid confusion with multiple platforms	Simplyfication of Digital Environment and preparation of a more intuitive presentations of platforms used in the DD.	No		
B.2	Needs of weekly online meeting	Obligatory weekly meetings with tutors are proposed to ensure that all the students in the teams are working efficiently and systematically, providing regular check and support.	In the 2° competition the work was compressed in the starting and final event to give all the support to the students, in presence and not online.	No		
C. BIM ADOPTION						
C.1	Language barrier on BIM training introductory course	Language barriers, particularly with German content, pose difficulties and hindered progress for some students, affecting their ability to fully	Attention to data provided that is in English language.	No		
C.2	/	/	/	/	Low level of BIM softwares knowledge.	An high percentage of students reveal their low knowledge about BIM. This interacted with performance of tasks. Maybe should be improved

D. DESIGN COMPETITION						
D.1	Dependency on disciplines.	Participants felt the need for a clearer project frame, such as the imposition of sequential deadlines for the different tasks, consenting to facilitate a smoother passage from a discipline to another.	Use of strict deadlines to ensure that everyone has sufficient time to contribute.	No		
D.2	Limited time	Not to much time to fully engage with the project. This affects the final results of teams.	Simplify of tasks and defined time to do that.	Partially (not all the disciplines)	Time constraints	Difficulties to complete tasks of some disciplines due to tight time, this reason affected coordination and corrections.
D.3	Lack of clear guidance	Not so much defined what to do during the competition.	Provided a clear guide before starting the competition explaining what to do, step by step.	No		
D.4	Restriction in using wood structures	Too limiting to be able to make the structure only in wood and not in any other materials.	There are no improvements because the University in charge of construction is specialised in wood.	Yes		
D.5	Not balanced disciplines	Not all the students agreed about the distribution of the workload in the various disciplines.	Balance of disciplines.	Partially	Some disciplines remains bigger than others.	Some disciplines remains bigger than others, maybe due to the importance of that in a project.
E. COLLABORATION AND SUPPORT						
E.1	Not so fair the division and distribution of disciplines within teams	Not in all teams the disciplines were distributed equally to each students. This generated misunderstandings and slowdowns in work.	Was provided an initial survey to understand the level of knowledge of each participant and their preferences to create balanced teams.	No		
E.2	Hard contacts to do smartworking	Difficulties generated from distance in the period between the first and the second event for the first competition. It was hard to keep contact with every Team members. Not all the students were careful to read messages or email to program the meetings.	In the second competition was deleted the mandatory period of work between starting and final event. The month from Warsaw to Joensuu were suggested, but not mandatory, to improve their own models to solve some problems and improve skills.	No	Too much workload	The concentration of work in the starting and final events generate a high workload. Particularly in the first event, when the teams had to generate the models.
E.3	More time for person collaboration in site	Extend On-Site Time: Allocate more time for in-person collaboration and reduce reliance on online work. Make trips longer with intensive collaborative work and less at-home tasks.				
F. VALUE FOR THE FUTURE						
F.1	Great experience	Digital Decathlon is in the first as in the second competition an attractive experience.	Remain attractive to the target.	No		