Urban Shift for green innovations

REVISED EVALUATION FRAMEWORK

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Terra Institute

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1. Introduction

The Evaluation Framework is an integrated part of the Urban Shift Living Curriculum to ensure a smooth implementation according to the principles of a living curriculum. It outlines the planned evaluation routines and demonstrates, how every step of the curriculum is accompanied by a defined possibility for feedback and thus improvement.

Even though it was not foreseen to elaborate a revised version of the Evaluation Framework in the application, it seems useful to draw conclusions out of the first batch and integrate the valuable experiences in a new version. It intends to foster learning and development from one to the other batch – learning that is documented and thus available for all.

The revised version guides the evaluation processes and routines of the second batch. In comparison to the first version of the Evaluation Framework the most effective processes are sorted out, which provided the basis for the current and final version of the Evaluation Framework. This version is integrated part of the final Urban Shift Curriculum, that is be shared with a big target group of curriculum developers, professors, and interested students of HE and VET institutions.

The present Evaluation Framework consists of the following chapters:

Chapter 1 - Introduction

Chapter 2 – Process and structure of the evaluation

Chapter 3 – Methods and subjects of the evaluation

Chapter 4 – Process and structure of the analysis

2. Process and structure of the evaluation

The evaluation combines different evaluation tools for different target groups and consists of three stages, as the following graphic shows:

- Midterm evaluation after the Kick-Off event
- Final evaluation after the Closing Event
- Revision session after the end of the batch

LEARNING EVENT	METHODS OF EVALUATION	TARGET GROUPS
BRIDGING COURSE	• Online survey	• Learners
KICK-OFF	• Interviews with Learners and/or Interactive Feedback Activity • Online survey	• Learners • Learners • Learners & Trainers
MIDTERM EVALUATION		
SPECIALISED SKILLS TRAININGS	• Online survey • Online survey	• Learners • Trainers
ADVANCED SKILLS TRAININGS	• Online survey • Online survey	• Learners • Trainers
CNER	• Online survey • Online survey	• Learners • Trainers
COACHING	• Group Feedback • Coaching online form • Interviews with Coaches	• Learners • Coaches • Coaches
CLOSING EVENT	• Interactive Feedback • Online survey	• Learners • Learners & Trainers
FINAL EVALUATION		
REVISION		

2.1 Midterm evaluation

The aim of the midterm evaluation is to provide a structured reflection on the first part of the batch in order to correct or improve processes, if necessary.

It covers the recruitment process, the Bridging Courses and the Kick-Off event. Due to experiences of the first batch, it seems useful to focus in particular on the match of contents and teams on the one hand, and the match within the teams and with coaches on the other. It is also necessary to plan enough time and the "right time slot" for onsite evaluation activities to receive complete and deep feedback.

The midterm evaluation addresses learners, trainers and coaches and consists of the following elements:

(a) interactive feedback session in the context of the Kick-Off event (for learners) and/or

(b) interviews with selected learners from the HE and VET institutions (for learners)

(c) assessment of the online survey of the Bridging Courses (for learners)

(d) assessment of the online survey for the Kick-Off event (for learners and trainers)

(e) assessment of the planning templates (from trainers)

It is prepared and conducted by WP4 team and WP2 team with feedback contribution from all partners.

The main findings of the evaluation can be summarized in a report, which is optional, but is strongly recommended, as it serves as preparation for the revision session and as a basis for the review of the Living Curriculum.

> **Supportive materials**
>
> Report of the Midterm evaluation of the first batch (in the second batch we did not make a report out of the Midterm evaluation materials, as no particular changes in the curriculum and evaluation framework seemed necessary in the middle of the batch)

2.2 Final evaluation

The final evaluation aims at reflecting on the entire process of the Living Lab with a focus on the second part. Following the feedback of the revision session of the first batch, some elements had to be adjusted, in particular the method to gain feedback on the process and the timeslots for evaluation activities in the Closing Event. Thanks to the improvements from the first batch, the evaluation process of the second batch ran rather smoothly and no further adjustments seemed necessary.

The final evaluation addresses learners, trainers and coaches and consists of the following elements:

(a) interactive feedback session in the context of the Closing Event (for learners)

(b) interviews with coaches (for coaches)

(c) assessment of the online surveys of AST, SST, CNER, Closing Event (for learners, trainers and coaches)

(d) assessment of the planning templates and coaching templates (from trainers and coaches)

It is prepared and conducted by WP4 team and WP2 team with strong feedback contribution from all partners.

The main findings of the evaluation can be summarized in a report, which is optional, but is strongly recommended, as it serves as preparation for the revision session.

> **Supportive materials**
>
> Reports of the Final evaluations of the first and second batch are available

2.3 Revision session

The revision session provides the final opportunity to reflect upon not only the single learning events, but also on the entire process of the Living Lab. It addresses all consortium members, and external trainers and coaches, who were involved in the learning events.

The revision session after the first batch aims at drawing conclusions for the development of the curriculum for the second batch, the revision session after the second batch aims at figuring out improvement potential for the final Urban Shift Curriculum.

To make the revision as effective as possible, a careful preparation is crucial, including all previous steps – online surveys, midterm evaluation and final evaluation – which are documented in a report in best case. The report or a comparable summary is made available to all members of the consortium in advance to the actual meeting, supplemented by guiding questions to give the session a certain direction, and make the discussion faster and more concrete.

The revision session is designed interactively and contains the following parts for each learning event:

(a) overall feedback

(b) presentation of the main conclusions and suggestions made by WP4

(c) discussion and decisions on the main improvements and changes

The discussion results are documented and made available to the consortium – as basis for the adjustment of the single learning events. These adjustments are then integrated in the Final Living Curriculum.

WP4 team is responsible for the organisation, preparation, conduction, and documentation of the revision session. All partners contribute with feedback and strong involvement during the session.

> **Supportive materials**
>
> Presentation for the revision session
>
> Documentation of the revision session

3. Methods and subjects of the evaluation

3.1 Online surveys

The aim is that valuable feedback and experiences are collected as long as they are fresh, and not be distorted or get lost with time. That was one of the learnings of the interactive feedback session in the Closing event of the first batch, where students could not remember the first events, like the Bridging Courses, very well. This is consistent with the experience of the trainers, who need feedback after each event to make changes and improvements for the next one.

Therefore, each learning event, except the coaching sessions, concludes with an online survey, that is in best case embedded in the event or takes place immediately after it. It is recommended to conduct the online survey after each unit, in particular if the courses are conducted by different lecturers, for instance in SST courses.

Short surveys

The surveys after BC, SST, AST and CNER are addressed to learners only, consist of not more than five to seven questions and should not take more than five to seven minutes. The questions should be easy to answer and easy to analyse as well. Therefore, both, multiple choice questions, which are easy to compare, and open questions, that provide deeper feedback, shall be used.

Each survey consists of a general part, that is common for all learning events, and an individual part that tackles specific targets of the single learning event.

The common part consists of three questions.

1.Overall rating:

On a scale of 1 to 5, how would you rate the learning event?

1. *dissatisfied*

2. *improvements necessary*

3. *neutral*

4. *good*

5. *excellent*

2.Assessment

Please explain your choice in some words. What worked well? What did you not like?

3.Improvement

In your opinion, what could be improved (in terms of used methods, organisational matters…)?

In the individual part, the specific focus of the learning event is considered. Depending on the scope, the questions integrate the following subjects:

- topics and contents addressed in the learning events;

- methods and formats supporting the contents;

- progress in the development of the start-up idea;

- communication and collaboration in the team;

- skills, competences, and change of mindsets;

- structure and organisation of the learning events.

Extended surveys

The evaluation of longer learning events - Kick Off and Closing Event - instead is carried out using longer and more elaborated surveys, which allow to evaluate more aspects and get deeper feedback. The surveys consist of about 15 questions and aim at including all above mentioned six categories. The average time to complete the questionnaire is 10 minutes. Again, it is recommended to fill out the survey already in the framework of the event. Afterwards it is difficult to get the attention of the students once again.

Two versions of the extended surveys are provided:
- one for the learners
- one for the trainers and coaches

Both contain similar questions, as far as possible, to make both perspectives to the same issue visible.

The surveys are designed by WP2 and WP4 team and agreed in the consortium. The results of the analysis, which is conducted by WP4 team, are valuable contributions to the midterm and final evaluation.

3.2 Interviews

Interviews with learners

The aim of the interviews with the learners is to get a lively, maybe also emotional impression from the learners, that helps to better understand, what factors encourage learning and how to create or improve a culture and atmosphere that provide this spirit.

During the Kick-off event the interviews are conducted with at least one representative from each HE- and VET institution. The interviews shall be video-recorded, if permitted, and can also serve as source for the communication and dissemination of the project.

The interviews should last not more than four minutes and should consist of not more than three questions, that are laid down in guiding questions to ensure comparability.

1. *What were the highlights and/or successes of the first period of the project for you?*
2. *What were the challenges and/or moments of failure you experienced in the first period?*
3. *What are the most important takeaways for your professional and personal development?*

To avoid an overabundance of evaluation activities, it is recommended to conduct either the interviews, like in the first batch, or the interactive feedback session, like in the second batch.

Interviews with coaches

The interviews with coaches have a slightly different focus. They aim at collecting insights in the development of start-up processes and at better understanding, how to support these processes. Moreover, they inform, what coaches need to fulfil this task in the most effective way. The evaluation of the interviews in the first batch, for example, revealed a need for more targeted preparation before starting and more exchange between the coaches during the Living Labs. These needs were considered in the design of the revised curriculum, which now provides "Train the coaches – sessions" as preparation and "Trainers' exchange sessions" during the second batch.

Interviews are conducted with all coaches after the Closing Event, either in person or in an online meeting. The interviews last around 20 minutes and shall be arranged as talks. Nevertheless, it is necessary to prepare guiding questions to ensure comparability:

1. *What were the highlights of your experience as a coach?*
2. *What were the challenges you experienced as a coach?*
3. *Did you have all the information, materials and inputs available to help your startup or you felt like you needed something more, or they needed something more from you, which you didn't have right away?*
4. *Do you have any other ideas, what should be changed or improved?*

The interviews and the questions are designed by WP4 team, while the consortium organises the meetings with the coaches. The results of the analysis, which is conducted by WP4 team, contributes to the final version of the Urban Shift Curriculum.

3.3 Interactive feedback

As the Urban Shift project has an innovative, experimental character, innovative methods are considered also in the evaluation, providing different insights into the ecosystem of the Living Labs. As the personal interaction motivates and inspires feedback, it is recommended to organize these evaluation formats in the context of onsite meetings, either in the Kick Off or in the Closing Event, or in both.

Body Mapping

This feedback activity takes place at the end of the Kick Off event. The aim of this evaluation format is to receive some first impressions from the students on the status of their idea and start-up and in general on the usefulness of the project for that. This method ensures a good representativeness of all learners' opinions, as all of them participate. It is recommended to carry out this activity at the end of the event, so the learners have more elements to consider in their evaluation, yet it should not be right before the final pitching, as the learners would inevitably be busy in preparing for that, and emotionally in tension for their performance.

This feedback activity should not last more than one hour. The learners will be asked to split into groups, and for the sake of facilitation, each group should not have more than 20 people. Each group is supported by one trainer who facilitates the activity and at least another trainer, who documents the answers with photos, videos and/or taking notes.

In this activity, learners are asked to position themselves on a "scale" or in a "square" in the room according to their personal point of view to different questions. After each positioning the trainer interviews some participants, mostly those, who are standing on "extreme" positions.

If the body mapping is carried out in the Kick-Off, the questions should focus on the development of the business idea and the start-up team.

1. Problem definition
How relevant is "your problem" for a transition towards sustainability?
> *1 – not relevant*
> *3 – quite relevant*
> *5 – highly relevant*

Possible sub-questions:
- *Why are you standing at this particular position?*
- *For whom "your" problem is relevant?*
- *Are you affected by this problem as well?*

2. Ideation
How satisfied are you with the ideas/solutions you found for your problem?
> *1 – not satisfied at all*
> *3 – quite satisfied*
> *5 – very satisfied*

Possible sub-questions
- *Why are you standing at this particular position?*
- *What were your inspirational sources? Where did you get your ideas from?*
- *What was your part in finding the solution?*

3. Validation

What makes you sure, that your business idea will work? What was the main criterion for your decision?
The options or "stations" the learners could step into are:

> *Personal passion*
> *Feasibility*
> *Innovation*
> *Costumer fit*

Possible sub-questions

- *Why are you standing in this field?*
- *Personal passion: How can you prove your personal commitment to the product?*
- *Feasibility: How did you prove the feasibility?*
- *Innovation: How can you be sure that your idea is new (not already on the market)?*
- *End user fit: Why do you know that your clients will buy your product?*

Feedback Journey

The aim of this evaluation format is to consider the Living Lab as a journey and the single learning events as stop-overs to gain experiences and meet interesting people, who may help to make the next step. It is intended for the Closing Event at a time, where "everything is done".

It is structured like a world café with stations for each learning event and a trainer/coach, who hosts the station. Each station is equipped with a poster, summarizing the key points of the learning event. The learners are asked to give feedback on post-its, that is structured into (a) worked well, (b) did not work well, (c) ideas for improvement.

The strength of this format is that learners go through all learning events and refresh their memory, even if the event occurred a long time before, like the Bridging Courses. The discussion with hosts and other participants can help to detect perspectives they have not yet seen. Furthermore, participants have a chance to look at the entire process and can understand interlinkages.

On the other hand, this format bears the risk, that the feedback becomes superficial if learners cannot remember sufficiently. Therefore, it is crucial to prepare a significant, eye-catching introduction of each learning event and also touching feedback questions, like:

1. *Whom did you meet in this learning event?*
2. *What good inputs did you get from this learning event?*

4. Process and structure of the analysis

The analysis is grounded on various sources, that are customised to the needs of each learning event.

- Planning templates of the learning events

- Online surveys with learners and trainers
- Interviews with learners and coaches
- Interactive feedback

These sources are analysed following a qualitative research approach inspired by the Grounded Theory. The learning events serve as main categories and are analysed along the following sub-categories:

(a) topics and contents addressed in the learning events.
(b) methods and formats supporting the contents.
(c) progress in the development of the start-up idea
(d) communication and collaboration in the team
(e) skills, competences, and change of mindsets.
(f) structure and organisation of the learning events.

4.1 Topics and Contents

Even though the teaching of contents is comprehensive, each learning event has a certain focus on knowledge and know-how:
- Bridging Courses: knowledge on the urban challenges
- Kick-Off: know-how and tools for the start-up creation process
- AST: knowledge and tools for business development
- SST: discipline knowledge and tools for further development of the product and the business idea
- CNER: insights in the state-of-the-art of the disciplines and mentoring from experts in the field
- Closing Event: practical know-how on sales and presentation of the ideas

These inputs are fundamental for creating a start-up idea and for developing a business out of it. Therefore, the evaluation contains questions for learners and trainers on which inputs and contents helped the learners the most in forming their business ideas.

Criteria for the analysis
(a) inspiration for creating new ideas and solutions
(b) applicability of the contents to the concrete use case
(c) usefulness in certain steps of the business development.

4.2 Methods and formats

Which formats, methods or interventions were most useful to bring forward the process and to reach the objectives?

For every learning event both online and offline, we intend to question the adequacy and effectiveness of the formats and methods used. Therefore, the planning templates include a section on formats and methods, which allows to gain clarity on the way every activity will be carried out. In order to verify whether the expected outcomes of the learning events were

actually achieved, the online surveys and interactive feedback sessions also include questions both on the usefulness of formats and methods, and on the successful learning of skills thanks to the methods and formats used.

As many factors are decisive for the success of a learning event and for the acquisition of skills, it is not easy to figure out the specific contribution of methods and formats, as we experienced in the analysis of the first batch. It is necessary to draw explicitly attention to that point in the evaluation and in the analysis and ask explicitly about it.

Criteria for the analysis
  (a) variety of approaches to a learning subject, provided by a mixture of methods
  (b) use of innovative and experimental methods
  (c) usefulness and adequacy of certain methods and formats for each learning event

4.3 Progress of the start-up development
How are the start-ups progressing and how do they go on after the Closing?

As start-ups are one of the main outcomes of the project, it is crucial to have the progress of the start-up ideas very much in the focus. But this category is only relevant from the Kick-off onwards, where the start-up teams are formed, and many activities aim at supporting the growing of the ideas. Of course, the main progress happens between the learning events in the practical implementation of the ideas and direct collaboration of the teams. Nevertheless, some learning events provide impulses that are explicitly dedicated to the start-up progress:

- Kick-Off: Design Thinking process and pitch training
- Coaching: support in the start-up progress for each individual team and individual needs
- CNER: possibility to pitch the idea and to get feedback from experts
- Closing Event: stage for the idea and opportunity to get feedback for further development

In supporting the progress of the start-up idea coaching has explicit importance. Therefore, for the evaluation the documentation of the coaching processes is of great relevance.

Criteria for the analysis

  (a) Flow and goal orientation in the development process
  (b) Dealing with hurdles in the development 13ort h start-up
  (c) Usefulness of learning events 13or the start-up development
  (d) Continuation with the idea after the Closing Event

4.4 Communication and collaboration in the team
Which settings or interventions helped to create a stable transdisciplinary team?

In Urban Shift the teams are very diverse in terms of academic background and geographical origin. If that was not enough, the team members are working from different locations and countries. Consequently, building a good team and establishing a good communication within the team is a fundamental success-factor for this project.

As a learning from the evaluation of the first batch, the process of team formation but also the information about the project's requirements were improved in the second batch.

Firstly, during the info session it was made clearer that the time commitment required by the project goes well beyond that of a normal university course. Secondly, the learners selected signed a letter of commitment to the project, as an attempt to reduce dropouts. Thirdly, during both BCs the learners were given long time for discussions without the presence of trainers. This was meant to give them the possibility to get to know each other and each other's knowledge and skills. Fourthly, like in the first batch, also the Kick-Off of the second batch provides numerous teambuilding activities to encourage the teams to also spend their free time together, as it will be the only opportunity for the learners to get to know each other in person before delivering the result of their collaboration in the Closing Event. Finally, being aware of the communication problems some teams experienced in the first batch, trainers and coaches cast particular attention on this. The Kick-off includes a session with an external professional on communication and on how to best work remotely, and the trainers give help any time this seem to be necessary. We suggest to include such a professional figure more regularly throughout the batch, as team conflicts are sometimes difficult to speak up and teams tend to avoid opening about this with an "external figure".

Also, the evaluation of the second batch, especially after the Kick-off and the Closing Event, will include questions on the relations among team members, regarding the potential interdisciplinary and intercultural barriers which might arise. Additionally, the skills section includes the category of transversal skills, which also include different aspects of "working in teams". The coaches again play an important role, as they are often confronted with team issues during the phase of remote work and provide important reflections in the coaching templates.

 Criteria for the analysis
   (a) Composition of the teams according to disciplines and personality types
   (b) Flow of the team building process, including also upcoming challenges, like time-management, commitment to the project, remote work
   (c) Support of team building through learning events, trainers, and coaches
   (d) Further collaboration of the team after the Closing event

4.5 Skills, competences and mindsets

As skills and competences are a focus of the curriculum, a specific skill assessment process is elaborated, guided by the question: Which skills and competences in the four dimensions were developed?

To draw on a basis that is tailor-made for the project, a skills library is elaborated, which integrates the objectives of the curriculum and the needs of the learners in terms of skills. The skills are structured along the four dimensions – green, digital, business, and transversal skills – and are stored with definitions mostly from the ESCO framework and integrated with other sources in case the ESCO database does not offer the appropriate skills.

The assessment process consists of the following stages:

Targeted skills	Achieved skills	Achieved degree	Skills gaps

Targeted skills: For each learning event, the most relevant skills are selected from the skills library and addressed in the planning template.

Achieved skills: In the evaluation process several questions refer to the developed skills. The answers to this question are the basis for the analysis of which skills were developed along the learning path.

Degree of achievement: The analysis also foresees an assessment of the degree of achievement. Hereby, the reference is level 6 of the EQF, which corresponds to the level of a completed bachelor's degree. Short descriptions and examples for each skill help to evaluate the achievement.

Analysis of skills gaps: The comparison of planned and achieved skills reveals skills gaps. In the analysis of the gaps, it has to be decided, how to address them best in the following batch.

In turn, the assessment of the "learned skills" will be twofold. On the one side, we will evaluate the skills that every learning event explicitly wanted to transmit (e.g. pitching), on the other, we will ask what additional specific and/or individual skills the learners have achieved which are necessary to work with diverse and far-away team members (e.g. collaborate through digital technologies) on a specific business solutions which could entail a high degree of technical and complex content (e.g. perform a feasibility study for building management systems). This would allow the consortium to understand what should be kept and what should be changed for better results in the following batch (or a future project).

4.6 Organisation and structure of the learning events

Even though organisation and structure are not in the centre of the curriculum development, they have to be considered carefully. Organisation is often underestimated, but it builds the framework of learning events and influences the learning atmosphere.

Following the feedback of the first batch, which referred quite often to organisational and structural issues, we have integrated the question on organisation and possible improvements in the survey of each learning event. We also have adjusted some points in the second batch, in particular the information on time requirements.

Criteria for the analysis

    (a) Availability of information: e.g. requirements, schedules, etc.

    (b) Time structure and schedules of different learnings events: e.g. SSTs of different institutions

    (c) Location and place: equipment of rooms, opportunities for prototyping, etc.

    (d) Provided learning materials: quality, accessibility, etc.

    (e) Used tools: accessibility, costs, etc.