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Pinocchio  Joins the Orchestra (on S.T.R.E.E.T.)
Symphonic TRacks European Educational Training



RESEARCH SESSIONS

**Pinocchio PINOCCHIO JOINS THE ORCHESTRA
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Symphonic
TRacks
European
Educational
Training**

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Research Sessions

Part 1 – Techniques and activities of Research Sessions

Research sessions, in the context of this project, correspond to the evaluation cycle of the programs, teaching and learning activities under development, with the goal to enable an iterative Learning Design process.

Iterative design is frequently described also as “spiral prototyping”, and consists of:

1. Generating ideas to reach a desired result
2. Develop early versions of the ideas
3. Test the versions in real life settings to learn, progressively, its limits
4. Redesign to overcome limits, pitfalls and optimize
5. Test new versions
6. Redesign to arrive as close as possible to the desired result

Learning design is a method that expands instructional design developing descriptions of pedagogical scenarios, teaching and learning experiences, and learning environments. The focus of Learning Design is the representation of learning as a process in which learning activities are aligned to planned outcomes and evaluation methods.

Contrary to courseware-based approaches, which design highly structured content and sequences, this project is inspired by UDL (universal design for all), which embeds flexibility not only as a value, but as a key competence of the teacher that will implement the course. In fact, UDL principles invite designers and teachers to give all participants equal opportunities to succeed, removing potential barriers as much as possible, instead of focusing on compensatory tools and alternative learning paths.

Differentiation, within UDL, will find room enough for all participants, when flexibility is recognized as a dimension of the learning environment, and the teacher is willing to facilitate learning processes that are context-aware. Managing flexibility can be difficult, initially, to people who are more comfortable working with highly structured learning objects and paths. This is the reason why the learning designer is advised to add his own reflections to the description, possibly connecting choices to contexts, as experiences, instead of generating prescriptions and receipts.

Therefore, reflection on the learning processes are frequently contained in the description of experiences as narratives and advices, that will allow the users of the Toolkit to get inspired by the activities, without claiming that they are “ready to use”. Teachers are invited to bypass the idea of simple “reuse”, and feel free to adapt or recreate, generating new versions of the proposed ideas, to get as close as possible to its desired result, in their contexts.

Evaluating programs and learning activities in early prototyping phase

Iterative design requires the adoption of tools to evaluate the versions of the idea in the various stages. Moreover, when the authors of the ideas and processes are

reflecting on the results, they need to be protected from possible confirmation bias. Confirmation bias is an unintended habit to look for clues and observe aspects that support an initial thesis or the goodness of a self-produced solution. The development of these tools is also subject to phases of validation and corrections, necessary to align the evaluation of the experiences with its activities and learning goals.

The rules of thumb adopted in this project for the early prototyping phase can be summarized as follows:

1. Designing qualitative evaluating tools requires the development of a common glossary and a set of shared criteria of "goodness" among practitioners, both for planning, observation and documentation of experiences.
2. The fine tuning of terms and descriptors should be oriented by the adoption of expressions that are easily comprehended by users that were not part of the team of designers. Otherwise, the tools would be useful in structured research contexts, but, if used as process evaluation tools by non-experts, would require specific training.
3. The evaluation set of practices should capture both teachers and learners' reflections in a way that "hidden" relevant considerations, could emerge.

Applied to actions, these rules required the team to:

- define learning goals that could be stated, instead of purposing the heuristic deployment of known contents and activities, focusing at the same time on music and socio-emotional competencies;
- transform the self-referential narratives of previous experiences into objective descriptions;
- negotiate the choice of words in order to prevent the use of terms that are similar but have different meanings in the context of the references used to inform the resulting methodology;
- develop questionnaires and observation tools that could be perceived by future users as intuitive and useful.

The steps to obtain a common glossary and initial agreement on general descriptors of good learning processes, were coordinated by FNCC (Fondazione Nazionale Carlo Collodi), the partner of the project that contributed as facilitator of the research sessions, development of evaluation tools and framework for the toolkit.

The research activities implemented during the early prototyping phase consist of a recursive cycle of:

1. Interactive group interviews, where the facilitator collects keywords and values inferred from narratives and share immediately these items to obtain feedback from all the practitioners engaged in the session.
2. Ex-post qualitative questionnaires, containing semi-structured questions that guide the reflection on the adopted learning practices (teachers questionnaire).
3. Ex-post questionnaires, containing quality perception and self-assessment questions (participants questionnaire).
4. Collection of descriptors from the summative assessments adopted in the

previous experience of each partner.

5. Discussion about the data collected, to stimulate shared interpretation and alignment of vision among the partners.

Evaluating programs and learning activities in advanced prototyping phase

Advanced prototyping phase occurs after the activities were adopted in various contexts and data from these experiences are used to inform decisions about challenges, pitfalls and unexpected outcomes.

The implementation of these programs and activities, in terms of evaluation practices, implies the adoption of tools and methods that are different from early prototyping phase. The tools are more structured, guide towards more descriptive than narrated answers, and are focused on structured observations during the activities:

1. Group meetings among practitioners for debriefing and diagnosis of factors that require change in the ongoing activities.
2. Observation tools tailored for specific events, for example, online workshops or curricular lessons (used by teachers).
3. Ex-post questionnaires, containing quality perception and self-assessment questions, tailored for specific events, with questions that allow the teachers to compare their observations with the representations of competency or perception of value stated by the students.

Documentation of final versions of programs and activities

The cycles of discussion and evaluation planned in the framework of iterative learning design, are activities that stimulate an attitude of continuing innovation. It trains the eyes of the practitioners to look for clues emerging "in action", and it trains the authors of the activities to communicate the process through details that will enable others to "learn" from the experiences of the authors.

However, a common "light" scheme for publishing is needed, to guarantee that these models of activities and programs are shared as examples that can be adopted or adapted by people who were not part of the project. In fact, frequent discussions and the interiorization of shared values sometimes cause the authors to discard from the descriptions what for them, by repeated experience, became obvious.

A common scheme that gives a "shape" to tacit knowledge is a strategy that can support explicitation of expert's practices. Reaching an agreement about "what is worth" describing, and how to guide the reader of the toolkit to gain awareness of the context-related variables of the experiences, was the final phase of the research sessions, during meetings where all authors participated in open dialogues to reach a clear enough structure, guided by the goal of clear explicitation of the learning process.

Part 2 – Questionnaires

This session presents the final version of the questionnaires adopted for collecting

structured data or qualitative answers from teachers/facilitators and students/participants. The previous versions were revised to obtain tools with answers more coherent with the questions presented. This means that after the first use of the tools in all countries, and discussion about the results, the team was able to:

- review the texts of the questions to prevent misunderstanding and answers that were not pertinent;
- discard questions that were perceived by the respondents as redundant and or obtained similar answers from the same respondent;
- rephrase open questions, if needed, to be more specific and obtain answers that are meaningful.

Teachers questionnaire (early prototyping phase)

Teachers' questionnaires aim at building narratives and reflection upon practices with semi-structured questions - ex-post qualitative questionnaires, containing semi-structured questions that guide the reflection on the adopted learning practices. The answers to teachers questionnaires were considered as starting points to build interactive group interviews (keywords, main themes and values). The analysis is explorative, not statistical.

The following example regards Activity Documentation. The questions are guidelines and explanations about how to describe the various dimensions of experiences selected by the respondents.

Activity Documentation Questionnaire

FIRST PART

The first part of the questionnaire is the most important and constitutes the work required by the European Commission.

Describe in detail what activities were carried out during the research sessions (example: music campus workshops). For each activity you describe, indicate:

1. OBJECTIVES (example: socialization, social inclusion, a specific skill such as rhythm, etc.)
2. PARTICIPANTS (to whom the lesson is addressed, number and age, level of students, minimum prerequisites)
3. MATERIALS (materials used, musical instruments)
4. DESCRIPTION (it is the most substantial and extensive part. it is the detailed step-by-step description of the activity)
5. EVALUATION (observations on the outcome of the activities, specifying how the activities have achieved the expected objectives, or not)

SECOND PART

The second part of the questionnaire is a series of questions to document the activities in a wider and more complete way

1. Describe how the comparison with different cultural identities for the students was a reason for growth and positive recognition of the other.

2. Describe how the comparison between different teaching methods, in particular the "Abreu" system and the traditional school system, stimulated the creation of new didactic activities. Furthermore, having observed the activities carried out and the result, evaluate the outcome of this new method and whether the results produced correspond to those expected.

3. Was the experience of the concert in a "street" festival, that is in non-institutional contexts such as streets and squares, stimulating for the processes of social integration and cooperation between young people from different cultures, social backgrounds and countries? Tell us about the experience.

4. Which Peer Education, Cooperative Learning and Open Learning activities, among those carried out, have led to a better result about the objectives set by the project and in what way?

The answers to questionnaires tended to be reach but revealed some difficulties of the respondents regarding objectivity and internal coherence. The team could learn from the content of the answers that:

1. pedagogical alignment was rarely considered when describing objectives and evaluation of outcomes (raising the need to build structured observation tools)
2. celebrations prevailed sometimes over clear descriptions, or over reasoning (raising the need to reinforce a shared vision of documentation as resources to enable other practitioners to adopt or adapt the same practices)

Teachers Observation Tool (fine tuning /process evaluation)

Teachers observation tool was developed as a resource for process evaluation in the context of iterative planning and design. It means that in all learning events, each participant activities and behavior are coded with the same criteria for further ex-post analysis. The teachers will reflect upon the observations, asking herself/himself "why" some of the expected results were not reached or are too heterogeneous, and plan strategies to "solve" problems through redesign or personalization.

To adopt structured observation tools, the teacher/facilitator should be helped by a second expert in classes where huge number of participants could be an obstacle to objective observation of each participant.

The following example was used in the last workshops of the Campus program, which were totally redesigned as online alternative solutions. COVID Pandemics required an approach of immediate reactions from the teachers during the activities, to manage new challenges, together with the participants. Systematic observations were an essential dimension of this tasks.

The form is the same for all sessions of activities and contains the main goals of the campus, but the teachers annotate only the items that apply to the activity under observation. The other items will be marked as "does not apply".

The goals for observation were aggregated in 3 groups:

1. engaging in creative process,
2. working with digital tools,
3. playing in time.

For each item contained in the group/category, representing a "what" instance, a maximum of 3 options of descriptors were available, representing a "how" the

corresponding activity was visible. A box for optional further comments was available for each item. The “how” descriptors do not correspond to hierarchic gradings, or to quantitative measurements of proficiency.

The descriptors were designed as hypothesis of observable behaviors during participation in the activities, for heterogeneous situations and groups of participants, based upon the discussion about previous events of the project. In fact, the partner organizations engaged in the activities of the project, participants with different starting levels of proficiency in music playing, improvisation, rhythm accuracy; different ages or academic levels; different settings (formal, non-formal); and different profiles in terms of special needs.

For each participant, at the end of the duration of the campus workshops, a collection of observation results, made by the teachers in charge of each activity, traced progress or changes in behavior along the program. In the case of this campus, it was clearly manifested in the items connect with technological barriers or communicating with new acquaintances using a second language.

The “story” of the participants, documented by this sequence of observations, reveal if the kind of behavior observed tend to be the same or if there are relevant differences, for the same items, in different days or different kinds of activities. Future uses of the documentation could also compare statistically the results for each item with diagnostic intentions, for example, investigate if some of the activities had created unexpected barriers to active engagement and need to be redesigned before next editions.

Accurate annotations allowed teachers to interpret the results of observations of participants that have known issues or barriers (technical, special needs, cultural, social).

In-class Observation of Processes

DATE:

NAME OF ACTIVITY:

NAME OF TEACHER:

NAME OF OBSERVER:

NAME OF PARTICIPANT:

1. Student’s dossier: please complete a different observation grid for each participant and each activity so that you and other teachers can keep track of progress, competence development and attitudes to learning.
2. If the descriptor does not apply to the activity, select NO and write “does not apply” in the description field

1 – ENGAGING IN CREATIVE PROCESS

*Describe known issues if needed (technical, special needs, cultural)

Expresses creativity	NO*	Only individually	Interacting with others	
Participates actively	NO*	Just for fun	Working on shared goals	
Communicates with peers	NO*	Only in closed circles	With new acquaintances	
2 – WORKING WITH DIGITAL TOOLS				*Describe known issues if needed (technical, special needs, cultural)
Participates in online meetings	NO*	Passively	Actively	
Manages audio and musical files	NO*	Needs constant support	Mostly Autonomously	
3 – PLAYING IN TIME				*Describe known issues if needed (technical, special needs, cultural)
Plays with rhythmic accuracy	Not at all	Almost enough accurate	Accurate	

Participants questionnaire (ex-post/reflections about the learning process and feedback)

Participants questionnaires were designed as tools that can be used independently of differences among the participants of activities in the context of a specific project. The questions map the perceptions and narratives of the students and cover the same areas of the observation tool, but with a structure that stimulates a reflective attitude, and communicate the value of “participants voice” to the continuous optimization of the programs and activities.

The effectiveness of engaging participants in writing meaningful feedback depends on its communication strategy. They should feel “free” to share, express their own limits and perception, even if their representations differ from the result of observations made by the teachers. For this reason, when inviting the participants to answer, an introduction to the goals and statements about the privacy could help the respondents to be “honest” and to avoid the fear of being judged.

The following example was created for and adopted in the last Digital Campus of the project. It contains 10 items/questions:

1. The first 3 items are closed questions with scales of intensity and explore the perception of advancement in specific skills practiced in the workshops.

2. The 4th item is a closed question with a scale of intensity and explore the perception of utility of online tools used in the workshop.
3. The 5th and 6th items investigate the satisfaction with the results obtained and require argumentation (question 6) about the option selected in the scale.
4. The 7th and 8th items collect feedbacks about the learning activities. The 7th is a closed question with intensity scale and the 8th item is open question that invites the participants to share their personal experience during the workshop.
5. Open questions 9 and 10 invite the participants to provide feedback and ideas for future versions of the Campus.

The questionnaire was available online as Google Modules form. However, Google Modules shows results isolating each item. In order to have meaningful analysis, groups of connected items should be “read” and treated using the available spreadsheet. This process could be time-consuming but will allow to interpret the answers to open questions with qualitative or text-analysis methods, and, at the same time, if the questionnaire is not anonymous, to compare observations from the teachers with the perceptions of each participant.

Each participant has answered to a version of the questionnaire in its own language. The example was translated in English to be included in the Toolkit but was not originally validated in this language.

Erasmus Digital Campus 2020

1. How successful have you been in improving your ability to record music and send recordings through the internet?
 - Very much
 - Rather much
 - Only a little
 - Not at all
2. How much have you been able to express your personal creativity in improvisation activities?
 - Very much
 - Rather much
 - Only a little
 - Not at all
3. How much have you managed to improve your musical part?
 - Very much
 - Rather much
 - Only a little
 - Not at all
4. Has the online collaboration experience given you useful tools for your daily life too?
 - Very much

- Rather much
- Only a little
- Not at all

5. Are you satisfied with the results you achieved on campus?

- Very much
- Rather much
- Only a little
- Not at all

6. Comment on your response by describing the most important results you have achieved.

7. How interesting or stimulating were the following activities?

	Very much	Rather much	Only a little	Not at all
Moments of free improvisation				
Working with written scores				
Sessions to change/improve your part				
Audio recording moments				
Team quiz game about Pinocchio				

8. Comment on your answer (for example: how you felt during activities, whether they were easy or difficult, why they were interesting or challenging).

9. Briefly describe the positives of your campus experience.

10. Do you have any suggestions for improving the online campus in future editions?

Part 3 – Final comments

Systematic analysis and discussion of learning processes were the core of research sections, and frequent small group meetings. The benefits of the iterative design approach were very clear during the Online Campuses. The growth in awareness about learning goals and processes gained during the project, allowed the team to adapt and recreate the activities in a totally new scenario, where Social Distancing had to give place to mediated collaboration, communication and participation.

Notwithstanding the numerous technical barriers, quick reactions and constant personal support from the teachers brought together the participants. This is clear in the results of the last participants questionnaires. Almost all participants have chosen high values for the closed answers (rather much + very much), with only one exception: question 4.

Question 4 asked "Has the online collaboration experience given you useful tools for your daily life too?". "Usefulness of communication tools in daily life" is probably a way of stating the question that deviates the attention from the object of evaluation (the Campus) and versus the expression of some level of resistance to mandatory social distancing. The open questions have clarified this hypothesis, which apply also to comments on the "audio recording moments", which were necessary in the process to overcome barriers created by the distance but were time consuming.

Conversely, answers to question 8, which invited to describe difficulties, engagement and challenges, confirm the value of the scaffolding and support strategies, with many stories of "success" in overcoming initial technical barriers, or being resilient and fully engaged in the activities.