Erasmus+

LaWEEEda

Latin American-European network on waste electrical and electronic equipment research, development and analyses

D5.3 Guideline on Garage Approach

Project Coordination:

BOKU
University of Natural Resources
and Life Sciences, Vienna

European Partners:

TUHH
Hamburg University of Technology

UON University of Northampton

Latin-American Partners:

Local Coordination in Brazil:

unesp

UFRJ

ACAMJG

coopama

Local Coordination in Nicaragua:

La Salle
León, Nicaragua
Universidad Tecnológica

UCAN

NICAMBIENTAL

Hanter Metals, Ltd.
Desde Nicaragua, para el resto del Mundo!!!

Coordenação de Projeto:

University of Natural Resources and Life Sciences, Vienna

Parceiros Europeus:

Parceiros Latino Americanos:

Coordenação Local no Brasil:

Coordenação Local na Nicarágua:

6

Coordinación del Proyecto:

Socios Europeos:

Socios Latino-Americanos:

Coordinación Local en Brasil:

Coordinación Local en Nicaragua:

LaWEEEda

This Document was prepared by: Este Documento foi elaborado por: Este Documento fue preparado por:	Margaret Bates Jim Harris
Project Working Package/ Pacote de Trabalho / Paquete de Trabajo: WP 2 Responsible/Responsável: UFRJ	Version No1 Feb/2018

Table of content

Introduction

Background to the Garage Approach

The Garage approach as described by Maria Mujica is a creative space for incubating ideas that are felt to have uncomfortable definitions and restrictions. The idea is of a startup process - taking an idea to the garage, developing it into a prototype, and then expanding it into an implementable product or service over a two week period.

The first formalised application of the approach, named the Fly Garage was created in Palermo, Buenos Aires. (Source: https://youtu.be/bKWEIEYz5xk accessed 29/01/2018).

Further implementations of the garage approach were developed in Austria through collbotations between the Institute for Entrepreneurship & Innovation, Wirtschafts Universität Wein, the Technische Universität Wien, University of Veterinary Medicine Vienna (Vetmeduni Vienna), and BOKU, University of Natural Resources and Life Sciences. The approach taken within Vienna focussed on forming interdisciplinary groups of students to work on innovations over a three month period, aligning the approach to a traditional semester-based model of delivery.

The LaWEEEda Garage approach aims to build on previous implementations, with a focus on WEEE-related activities and innovations, and with participants external to the educational setting (such as those from businesses or NGOs) being engaged throughout the stages, rather than at the final evaluation of idea proposals, this way encouraging every stakeholder to engage with and participate in the development of innovations which will have the highest chance of implementation and leading to positive change.

Spaces and stakeholders

The garage approach requires a social space for creativity rather than an incubator or startup, involving a blend of external stakeholders - up to 25 people including students, academics, engineers, business leaders and workers. It is therefore indended that the Training Centres identified by the academic partners would facilitate the discussions and development of ideas into implementable solutions.

The co-creation space relies on a free flow of dialogue between each of the groups involved, with the developing ideas feeding through discussions drawing from the expertise and experiences of the group.

The following diagram illustrates the equal roles and status of each type of participant from their sector/context. If an area is not represented, the nature of the garage approach will move away from it's ethos as a collaborative, ego-free approach, and will not be effectively applied, for example:
- students and teachers sharing ideas with no business input would represent an academic seminar or tutorial
- teachers with business representatives but no student participation would be a business meeting or a guest lecture
- students with business representatives would be an informal discussion with no theoretical underpinning/ facilitation and guidance.
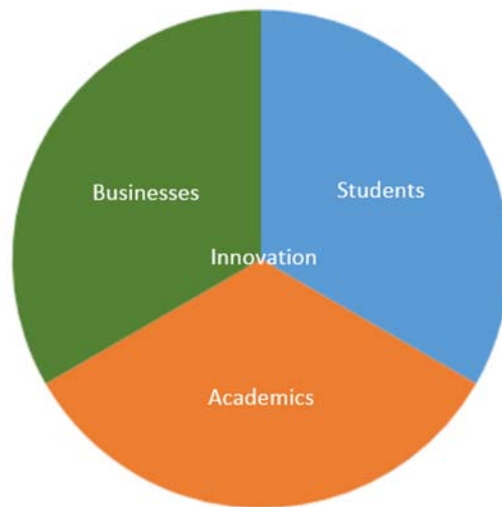
This approach is formalised into a problem-based learning approach to the delivery of outputs that can then be implemented and disseminated for mainstream adoption. Outputs will be shared within the digital repository and used for future learning activities.

Stages in the Garage Approach

There are three main stages to the garage approach:

Stage 1 - Ideation (Idea creation for innovation generation) - a moment of creation (0.5 days)

Sample activity:
Aim: Identify a problem within WEEE processing that has a socio-economic impact. The group would need to reduce the overload of information in order to ensure that all parties agree on the core issue or solution. The group would need to reduce the idea down to a four word statement that could be presented on a t-shirt. This makes the idea/concept accessible rather than burdened in technical terms - these can appear at deeper levels for development in the next stage, but not forced as part of the description

Stage 2 - Prototyping - Selecting the best ideas, developing these to their fullest potential. Blueprints/ frameworks from Powerpoint or paper are developed into real world examples (4 days)

Stage 3 - Scaling the Implementation - the outputs from the prototyping stage are distributed out to the associated communities and businesses, and implemented into real world marketplace and situations. (5.5 days)

Whilst the garage approach is intended to be an open area for discussion, there is a need to work through stages in order to ensure what is defined as "Intrapreneur" - the transition from idea generation in the first phase (Defining the problem/innovation - ideas developed over 3 hours) to action generation (establishing what further learning opportunities are needed,

what the roles of different stakeholders are in bringing the ideas into action) - creating progression and generation of outcomes, rather than stopping at the idea generation stage.

Guidance on the Garage approach

The following guidance on how to run the garage approach is based upon a template developed by the Learning Design team at The University of Northampton, which uses a metaphor of a recipe to structure and describe the approach to the support and delivery of the garage approach.

A overview of the template is provided below, with descriptions of the information that will be found within each part of the template.

Name: *(Declares the name for the activity the participants are engaged with – this could be an overall name for a multi-part session, or individual activities with different methods)*
Description: *(Rationale, Context, Aims & Objectives, Learner Profile)*

	Ingredients: *(Resource List, Environment)*
Preparation: *(Facilitator Activity: preparation tasks including set-up and creation of resources, and supporting activity you are undertaking while students engage in tasks)*	**Method:** *(Participant Activity: What activities the students are engaging in: including preparatory and follow up activities outside of the session)*

Evaluation: *(What measures will be used to show that the participants have completed the required steps, and are able to proceed to the next stage.)*
Further information: *(Supporting research papers, contact info, further information about pedagogy etc.)*

Stage 1 - Ideation

Name: Ideation – a recipe for innovation

Description:
The first stage of the garage approach requires the formation of groups with a mix of stakeholders, backgrounds and experiences.
The first activities focus the groups on a specific theme and context that they will look to develop ideas around.
The aim is for the groups to produce responses to the following statement:

What concerns you about... (this can be either specific to a category of WEEE such as collection, or on a wider context such as health or education linked to WEEE, or can be left wide open to an identified problem that may not be a direct concern to the participant).

Ingredients:
- Flipchart paper
- Marker pens (one per participant)
- Physical space with tables or floor space for groups to cluster around and to collaboratively work on their flipchart paper

Preparation: *(Facilitator Activity)*
 1)   Organise the attendees into groups ensuring there is enough space for all participants to actively engage with the task.
 2)   Run an icebreaker activity such as **The Human Knot**. As the participants will be in groups, it is can be good to run this as a small competition between the groups. NOTE: ensure that you warn participants to act safely while completing the activity – they could get hurt if they hold too tight to each other!)
 3)   Distribute the flipchart paper and pens to each of the groups (ensure that each participant has a pen).

Method: *(Participant Activity)*
The participants must gather together in their designated groups and find a space where they are all able to access the flipchart paper.

Opportunity recognition
1) In 5 minutes write out the ideas and share with the group
2) Everyone reviews the ideas made by others within their own group
3) On the count of 3, all participants in the group makes a mark with their pen against the idea that they feel connected to, that they are also concerned about. The idea is that the idea with the most votes becomes the focus for the next steps. Other ideas can

4) Provide a briefing to the participants at each stage, being clear that everyone should contribute to the ideas, and that the ideas should be as varied, imaginative, and conceptual as possible so that they are not limited to existing/known solutions.

5) Ensure that everyone keeps strictly to time in the first steps of sharing their ideas, and then voting on a specific idea.

6) Review each of the flipcharts as teams are working on them to ensure that everyone is contributing, and encourage participation if a group member is not engaging – the key to the garage approach is that everyone is equal and can contribute, so the group should not be led by the most dominant voices.

be recorded for later sessions as a focus, but it is important that all participants still takes part, even if their idea is not the one selected (this is also key as to why there needs to be representation from all types of participant – student, teacher, and business representatives so that there is not a focus from one sector or "we think there is this problem within businesses" but the business representative has a very different focus or concern.

Ideation activity

1) On a new flipchart sheet, the group makes a 2x2 grid, labelling each quare with a, b, c, and d.

2) Each group will now complete the following sentences in relation to how they would provide soultions their selected area of focus (each group member should produce at least one statement for each :

a) "If we had all the money in the world, we would..."

b) "If we had no money at all, we would..."

c) "If we were in charge of the government, we would..."

d) "If we were artists/musicians, we would..."

3) The group reviews their statements and create a slogan of upto to 6 words to describe the innovation that their group will focus on.

4) The groups now present these slogans and one of the response to each of the four statements to each group

Evaluation: *(What measures will be used to show that the participants have completed the required steps, and are able to proceed to the next stage.)*

Each group will present a brief overview of the area of focus they have agreed on. While each group is presenting, the other groups must make notes (positive and negative) and share these notes with the group either through a question/answer process, or in written form so that the group can review the peer assessment.

It is also important to evaluate the team dynamics – if a participant has not engaged, it is important to identify why they are not participaticing – it may be because they do not feel connected with the innovation their team are working on. They should be encouraged to engage with the group, identifying where they have experience in a particular area and sharing that with the group. It may be that, after the group presentations, people want to change groups to follow their own interests – while this may be reasonable, it will change the team dynamics (especially if a stakeholder group is underrepresented), but could be

negotiated if groups are willing to switch members, as full representation and participation from each stakeholder group is the key to the success of the garage approach. Refer to the Storming stage of the Tuckman Theory of Group Dynamics for strategies to support disconnected teams.

Further information: *(Supporting research papers, contact info, further information about pedagogy etc.)*
Icebreaker – The Human Knot
https://www.youtube.com/watch?v=KahMCA0bR7s
https://www.youtube.com/watch?v=gbCPau5YL0g
https://www.youtube.com/watch?v=moP9wWcnC_A

Tuckman's Theory of Group Dynamics
(https://en.wikipedia.org/wiki/Tuckman%27s_stages_of_group_development)

Alternative ideas for the Ideation Activity section can be found here - 10 Ideation Techniques and Methods - http://ozcontent.com/blog/ideation-techniques-and-processes/ (access 10/11/2017)

Stage 2 – Prototyping

Name: Prototyping – mixing the ideas into outputs	

Description:
The next stage of the garage approach is to develop the initial ideas into more structured approaches to how the idea may be realised into a real-world opportunity. Groups will be working at different paces, but need to take an action and outcome based approached to managing their ideas. As the idea evloves, the group dynamics may shift with different members leading parts of the process based on their expertise and experience. It is important that this is seen as leadership of the group, rather than fragmenting the roles off and other group members not gaining insight and learning from the member leading discussions and actions.

Ingredients:
- eLearning Training material on Entrepreneurship and Innovation (provided via the LaWEEEda e-Learning Platform, based on Entrepreneurship material provided by TUoN)
- Class space if the groups wish to continue working within the LaWEEEda training centres and to make use of academic staff input, however the groups can define their own workspace.

Preparation:
Participants will need to access the e-Learning material and work through each of the designated sections, with guidance from the facilitator to apply the principles to the group's selected idea.

This will include tasks and outputs related to reflections on the group member's own skills and how these can contribute to the group (via group members completing self-audits of the skills they have and personal aims they wish to declare), identifying how they can begin to develop themselves as entrepreneurs, how to perform basic evaluations of the opportunities

Method:
Access the eLearning material and complete the relevant sections of the training material.

On completion of each activity, share your responses with the group, and link the responses to your group's idea. This may be reflecting on what skills or opportunities exist within the group already (for example, what wider networks do you have access to outside of the group, that would be important to supporting the development of the idea).

By the end of the eLearning course, your group should have a set of resources linked to how you would take your innovation to market, for example a specific customer analysis, and overview of the market you will introduce your

presented in relation to their ideas, markets that would benefit from the innovation and the customers/beneficiaries they will engage with, as well as more business-related activities which will formalise their idea into a business proposal.	idea into, a marketing/communication strategy for how to disseminate the idea, and a business model that details the costs for developing the idea.

Evaluation:

There are specific outputs/templates that need to be completed by the groups (either individually by group members, or collaboratively by the group), and it is suggested that, if the 4 workshop day model is followed, summaries ofthese outputs should be peer reviewed in order to gain feedback, provide external critical view, but to preserve the intellectual property of the group. This is also important to keep the groups developing towards specific goals and deadlines.

Further information:

eLearning material will be provided via the Digital Repository, to be embedded within the LaWEEEda project academic partner e-Learning platform instances.

Stage 3 - Scaling for Implementation

Name: Scaling for Implementation – sharing with the community

Description:
The final stage of the garage approach looks to identify opportunities for the innovations to be realised in real-world (or extended/replicatable forms). This involves demonstrating the formalised ideas/innovations to the other groups and participants engaged in the garage approach workshops, as well as to the wider community of stakeholders, potentially through a mini-conference, or through the creation of digital media (videos, digital presentations etc) that can be shared within the LaWEEEda digital repositories, e-Learning environments, and project dissemination channels (website, Facebook group etc).

Ingredients:
- Access to Training Centres
- Access to LaWEEEda project equipment (video creation resources, workshop equipment etc).

Preparation:
The final phase of the garage approach is to work with the groups in finding real world support for their business proposal. This may be achieved by bringing external stakeholders identified by the groups themselves into a World Cafe style event at the LaWEEEda training centres, where the groups will present their proposals to a wider audience.

Method:
Groups will develop and devise their innovation into a working rationale (whether this be a conceptual framework, a new technique, or a business plan) and prepare to present the innovation to the identified customer base (whether that be other students, business leaders, or government officials).

Evaluation:
Apply the de Bono Six Thinking Hats approach to evaluating the ideas created by each group, and provide feedback to each group on how they can refine their innovation to develop any opportunities to strengthen the implementation of the innovation, based on the evaluation.

Further information:
Six thinking hats - http://www.debonogroup.com/six_thinking_hats.php

Refer to p32 and p33 of the Garage Course presentation (copyright Edl, Funke, Lambertus, Lettl, Perkmann Berger WU Wein)