BUILD UP Skills
ENERGY TRAINING FOR CONSTRUCTION WORKERS

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TWG 3 Innovative training infrastructures, materials & methods: Overview of final results, sharing practices

BUILD UP Skills 10th EU Exchange Meeting
31 May 2017 (Day 1)

Simonas Gaušas (Visionary Analytics)
TWG3 aims to engage the project coordinators and partners in an interactive exchange of information including the following:

1. Identify and share good practices
2. Map the most important difficulties and achievements
3. Discuss the topics

Topics:

- Training infrastructure: where training takes place
- Training materials: tools used to deliver training
- Training methods: techniques or approaches how training is delivered
Database on training activities

- General survey: main features + target groups
- Specific survey: specific features of selected types

Database on training activities
Overall logic of the specific survey

- November 2016 – April 2017 with 100% response rate
- Info collected for each main type of training infrastructure/material/method used in the project (3 per project):
  - Country coverage
  - Objectives
  - Level of progress
  - Target group characteristics (type, age, experience, etc.)
  - Training characteristics (category, duration and timing)
  - Innovativeness
  - Transferability/replicability
  - Feedback incl. strengths and weaknesses
  - Recommendations
How we are going to work in DAY1?
Plan for Day 1

- No division into sub-groups
- Focus on sharing of experiences:
  - **Javier González**, CONSTRUYE 2020: Training materials – participant satisfaction results;
  - **Helder Gonçalves**, FORESEE: Training materials used in building envelope insulation, solar thermal, PV and wind systems
  - **Peter Op 't Veld**, PROF/TRAC: Training methods – mixed classroom- and ICT-based training innovations
- Time for presentation & questions ~15 minutes
- Wrap-up and plan for Day 2
Overview of final results of the specific survey
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Outline for each group

- Distribution of main types
- Inovativeness
- Replication
- Feedback
- Strengths & weaknesses
- Lessons learned
Overview of final results:
Training materials
Main types of training materials

- 15 Didactic materials – mostly Power Point Presentations or similar (e.g. Prezi)
- 5 Training manuals
- 4 Reference manuals
- 3 software tools (2 mobile applications – CONSTRUYE and BUSTOB and 1 online module - SWEBUILD)
Didactic materials

- 2/3 projects completed their activities for this type
- Focused on workers/technicians
- An innovative practice? Yes – 67%, e.g. can be used on site/mobiles, first time, specifically adapted, include innovative technologies, ambassadors
- Easy to replicate? Very easy – 33% or easy – 67%
- Feedback available? Yes – 53%
  - Strengths: easy to understand/use, up-to-date, in-depth (incl. mistakes/good practices)
  - Weaknesses: lacks focus and illustrations, complex and too theoretical
- Lessons: ADAPT to local context (incl. target groups)
Training and reference manuals

- 2/3 projects (partly) completed their relevant activities
- Focused on workers/technicians, but also trainers
- An innovative practice? Yes – 67%
- Easy to replicate? Very easy – 33% or easy – 67%
- Feedback available? Yes – 44%
  - Strengths: good theory/practice balance; graphs & figures; useful after the course; examples of real projects
  - Weaknesses: difficult to fit in the time available; important to adapt to target group; requires high level of practical skills from trainers; more examples/standard solutions
- Lessons: classic, but the most typical and user friendly way to achieve the learning outcome; dividing tasks into sub-tasks for easier application; reorganise courses from few days to few weeks
Software tools

- All projects (partly) completed their relevant activities
- Focused on workers/technicians
- An **innovative** practice? Yes – 100%
- Easy to **replicate**? Very easy – 67% or easy – 33%
- **Feedback** available? Yes – 67%

**Strengths:** new approach to training; accessible anywhere; Free of charge; easy to understand; interactive

**Weaknesses:** costly/difficult to update without EU funding; trainers reluctance to use new technologies; requires internet; not too in-depth and practical
Overview of final results:

- Training methods
Main types of training methods

- 13 interactive classroom-based training (group or peer-assisted learning)
- 5 hands-on or direct practical training – Work-based training
- 3 mixed classroom- and ICT-based training – Blended learning, flipped classroom and other (e-learning)
- 2 Passive classroom-based training (lecture or seminar based instruction)
- 1 Hands-off or indirect guidance-based training-Mentoring (CROSKILLS II)
- 1 Hands-on training – Apprenticeship (QualiShell)
- 1 Hands-on training – Job-shadowing (BRICKS)
- 1 ICT-based training techniques – Internet-based training (BUStoB)
Interactive classroom-based training (1)

- 92% projects (partly) completed their relevant activities
- Focused on workers/technicians, but also trainers, managers/supervisors and foreign workers
- An innovative practice? Yes – 77% due to:
  - Train the trainer approach
  - Better solution to meet personal training needs within a varied background group
- Contents
  - Addresses cross-craft understanding issues
  - Involves training ambassadors, participants as change agents
  - Combination of classroom with demo sessions and practical (hands-on) exercises
- Easy to replicate? Very easy – 38% or easy – 62%
Interactive classroom-based training (2)

- **Feedback** available? Yes – 62%
  - Strengths: builds on group work/interactive; **facilitates cross-craft exchange**; flexible in terms of content and time; can be used on-site; can be adapted to different needs and competences; could involve some practical elements;
  - Weaknesses: too technical and less systemic; limited in-depth knowledge transfer; very much depends on experience of the trainer (esp. in practical tasks); too long for workers; heterogeneous group of participants; expensive

- **Lessons**: Training should be given in even shorter sessions: (training>work>training>etc.); build on a system ("house as a system“); high investment in trainers; more time for practical tasks, examples of trainees; flexible schedule
Work-based training

- All projects (partly) completed their relevant activities
- Focused on workers/ technicians

- An **innovative** practice? Yes – 80% due to:
  - Combination of practice/ theory, of self-/ interactive training
  - Using specific tools (e.g. specially constructed house, app)

- Easy to **replicate**? Very easy – 60% or easy – 20%

- **Feedback** available? Yes – 80%
  - Strengths: possibility of self-learning; close to daily practice; adapted to workers
  - Weaknesses: trainees reluctant to new technologies; costly; fixed location; too short; limited number of participants

- **Lessons**: the most adapted to multilingual workforce, however need to provide guidelines how work-based training is carried out; should led to certification
Mixed classroom and ICT training

- All projects (partly) completed their relevant activities
- Focused on managers, architects and engineers
- An **innovative** practice? Yes – 100% due to:
  - Combines self-/interactive training, multidisciplinary
  - Portal promotes distant learning and dialogue
  - Application of case study method
- Easy to **replicate**? Very easy – 33% or easy – 67%
- **Feedback** available? Yes – 67%
  - Strengths: useful content; good organisation; flexibility
  - Weaknesses: too dense; too theoretical; too general; costly
- **Lessons**: your experience?
THANK YOU!

For more information, please contact: simonas@visionary.lt
TWG 3 Innovative training infrastructures, materials & methods: Overview of final results, sharing practices, database and TWG3 report

BUILD UP Skills 10th EU Exchange Meeting
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Simonas Gaušas (Visionary Analytics)
How we are going to work in DAY2?
Plan for Day 2

- No division into sub-groups
- Continue sharing experiences:
  - Elisa Sirombo, I-TOWN: working groups on cases, workshops and mock-up construction training and e-learning – progress and lessons learned
  - Savvas Vlachos, WE QUALIFY: Training infrastructure – organizing workshops in energy efficient buildings for the first time
- Other contribution(s)
- Expectations regarding the database
- Expectations regarding the TWG3 report
- Wrap-up and last steps
Overview of final results: Training infrastructures
Main types of training infrastructures

- 11 Classrooms (traditional) – Seminar rooms
- 10 workshops for simulation of different work tasks
- 3 In-company/practical training – Company production facilities
- 1 Study visits (TRAINBUD)
- 1 Computer-based training, i.e. training via PCs, tablets, smartphones, etc. (BUSTOB)
- 1 Online training, i.e. training via webinars, learning management systems like Moodle (PROF-TRAC)
Workshops (1)

- 90% projects completed their activities for this type
- Focused on workers/technicians, but also trainers and supervisors
- An **innovative** practice? Yes – 89% due to:
  - Combination of classroom and practical training
  - First time in a country (e.g. CY, SK)
  - Tools (e.g. full-scale demo wall for insulation)
- Easy to **replicate**? Very easy – 33% or easy – 67%
- **Feedback** available? Yes – 44%
  - Strengths: good facilities; possibility to try out construction materials; Includes field visits; good trainers; presence of manufacturers
  - Weaknesses: expensive; long; stronger practical element (e.g. not suitable simulations/demo); more interactive
Workshops (2)

- Lessons:
  - Significant investments in adapting and using available space to prepare good demo models (e.g. building constructions, RES installations, ventilation facilities, airtightness testing, etc.)
  - Practical experience should be similar to the actual conditions that might appeared in the field
  - Distribution of few days of training over few weeks to get better results
Classrooms

- All projects (partly) completed their relevant activities
- Applied to all groups
- An innovative practice? Yes – 50% due to combination with e-learning, training on-site, immediate clarifications
- Easy to replicate? Very easy – 50% or easy – 50%
- Feedback available? Yes – around 60%
  - Strengths: easy to use; possibility to update; flexible; easily transferable; suitable for different needs; good experts
  - Weaknesses: too general/ unsuitable for experienced; difficult to bring workers; non-active listeners;
  - trainees reluctant to new technologies; costly; fixed location; too short; limited number of participants
- Lessons: must be combined with practical training/ demo models and more detailed handouts; trainers are the key
In-company/ practical training

- All projects (partly) completed their relevant activities
- Applied to workers/ technicians
- An innovative practice? Yes – 67%
- Easy to replicate? Very easy – 67% or easy – 33%
- Feedback available? Yes – 33%
  - Strengths: practical experience; good transfer of knowledge
  - Weaknesses: too short; training laboratory needed; risks (e.g. workers hired by other employers)
- Lessons: Infrastructure can be developed in schools (e.g. can be provided by producers based on partnerships)
Expectations

- Will be in MS Excel only
- Formatting suits your needs? Any improvements needed?
- Content is accurate?
  - A number of clarifications of specific survey have been already made
  - Some further changes are due (study visits)
- We will ask you to send links to major outputs of your projects (esp. for training materials)
- Accompanying files useful?
- Anything else to add or amend?
TWG 3 Innovative training infrastructures, materials & methods: TWG3 report on findings

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Structure of TWG3 report

For each group (infrastructures, materials, methods)

1. Definition (what it is and what it is not)
2. Major characteristics (target groups, content, etc.)
3. Innovativeness (where/how to innovate)
4. Assessment in terms of:
   • Pains (weaknesses, challenges)
   • Gains (strengths, successes)

➢ Good practice examples from presentations, database to be inserted where relevant
➢ Need for a useful document, not another report – how to make this document more useful for you?
TWG3 wrap up

- **Background** (aims, tasks, topics)
- Overview of **final results** of the specific survey on training infrastructures, training materials and training methods incl. project presentations
- Expectations regarding the **database** (links to major outputs of projects to be collected)
- Expectations regarding the **TWG3 report**
THANK YOU!

For more information, please contact:

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