

Work Package 3: Toolkit & PD Package



1. Deliverables
2. D3.2: Evaluation of toolkit
3. D3.5: Evaluation of PD package
4. Structure of final toolkit



1. Deliverables

Month 10 (Oct. 14): Submitted

- D3.1: Prototype Toolkit
- D3.4: Prototype PD Package

Month 25 (Jan. 16): Submitted

- D3.2: Evaluation of Toolkit
- D3.5: Evaluation of PD Package



Month 36 (Dec. 16):

- D3.3: Final Toolkit
- D3.6: Final PD-Package



2. D3.2 Evaluation of toolkit

- Classroom Activities of the prototype toolkit were implemented with different technologies & modifications by different partners
- Many additional classroom activities were developed & implemented in classrooms (see D3.2 for complete list)
- Wide variety of FA practices & technologies were explored
- NOT YET TRANSPARENT IN TOOLKIT

Midterm review:

- Toolkit website & main project website should be linked or integrated
- Question of what & how materials are published needs to be addressed



2. D3.2 Evaluation of toolkit

Therefore:

➤ Organisation:

The final toolkit will be hosted at Newcastle University (Wordpress).

➤ Content:

- Adapt existing classroom activities (incl. role of technology)
- Add new classroom activities
- HIGHLIGHT CONNECTIONS BTW. FORMATIVE ASSESSMENT, CLASSROOM PRACTICES & TECHNOLOGY

➤ Structure: → 4.

3. D3.5 Evaluation of PD package

- Principles for effective CPD
- PD approaches in FaSMEd:
 - Active involvement of teachers in design-based research process (all partners)
 - Professional learning groups (PLGs, UNEW & UNOTT)
 - PD courses (e.g. NUIM & UU)

Midterm Review Report:

- Clear structure of PD package necessary



3. D3.5 Evaluation of PD package

Efficacy of PD is measured based on:

- Teachers' feedback, interviews, researchers' observations, teachers' adjustments to lesson plans, teachers' attitudes & beliefs
- Meta-Didactical Transposition model (ENS de Lyon)
- 4 dimensions by Lipowski & Rzejak (DUE)
 - (1) Acceptance of PD among teachers
 - (2) Consequences of PD for teachers' prof. competencies
 - (3) Consequences of PD for teachers' actions in classroom
 - (4) Changes in students' achievements



4. Structure of final toolkit

Starting Point(s):

Toolkit website

Home

🕒 September 16, 2014

FaSMEd is a research project in mathematics and science education, with a particular

 SEARCH

[Home](#) [About our Project](#) [News & Events](#) [Meet the Team](#) [Deliverables](#) [Newsletters](#) [Contact Information](#) [Dissemination Activity](#)

FaSMEd main website

FaSMEd

Improving Progress for Lower Achievers through Formative Assessment in Science and Mathematics Education (FaSMEd)

Welcome to our FaSMEd Project website.

FaSMEd is a Science in Society Collaborative Project of the European Community



4. Structure of final toolkit

We propose: to combine the two exciting websites of FaSMEd
Toolkit website & FaSMEd website

HOME

Include Framework Cuboid (without explanation)

PROJECT

- Aims & Objectives (summarized, less than on UNEW main website)
- ~~Understanding the toolkit~~
- Partners (Meet the Teams)



4. Structure of final toolkit

~~THEORY~~ FRAMEWORK

- Introduction (FaSMEd framework)
- Glossary
- What is FA?
- Role of Technology for FA
- Raising achievement ???
- Effective PD



4. Structure of final toolkit

CLASSROOM ACTIVITIES (Resources/ Examples)

- We suggest to omit the differentiation according to Science/Maths
- Same structure for all activities including characteristics serving as an appetizer – similar to MASCIL (template needed)
 - Tag for Science/Maths (maybe use symbols)
 - Title
 - Topic
 - Informative, catching picture/photo
 - Students' age-range
 - Tags according to FaSMEd framework (Highlighted cuboids)
 - Tag for type of technology (maybe use symbols)
 - Short abstract (< 500 words)
- DUE to provide template for characteristics
- Template for writing up classroom activities needed?



4. Structure of final toolkit

CLASSROOM ACTIVITIES

- Title (as a clear topic)
- Tag for Science/Maths (maybe use symbols)
- Age
- Used Technology
- Materials



4. Structure of final toolkit

Example for tags (MASCIL):

– discipline: All, Biology, Physics, Chemistry, **Mathematics**, Interdisc.

– age: **All**, 9, 10, 11, 12, 13

– type: **All**, Module, Video

– duration: **All**, ≤ 10 min., 11–50 min., 51–100 min., Longer

Search |< 44 items (1 of 4) >>| order Titl

Waterquality: Swim without ris...

Students will investigate how water quality can be determined



module 0 min.
Age: 15–18
1.767 views (2012) ★★

Design a parking garage

Working as an architect: parking in the basement



worksheet, 100 min.
Age: 11–15
1.529 views (2013) ★★

Emergency calls: immediate res...

Interpret the data about the immediate response success rate



module, 50 min.
Age: 11–15
657 views (2013) ★★

Epidemics: modelling with math...

Understanding the use of vaccination in preventing the spread of epidemics.



module, 50 min.
Age: 11–15
767 views (2013) ★★



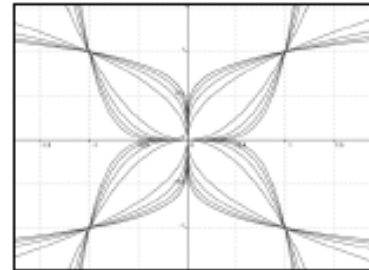
4. Structure of final toolkit

Example for a tag (GTR-Kompakt):

Modul A:
Beispiele zur Untersuchung von Funktionstermen und Graphen mit dem GTR insbesondere in der Einführungsphase

Zentrale Inhalte

- Begrüßen und Kennenlernen
- Erste Schritte mit dem GTR
- Gestalten der ersten GTR-gestützten Stunde. Dies geschieht anhand einer einfachen Aufgabe (Potenzblume, s.r.)



Ziele für Lehrkräfte:

Die Lehrkräfte

- kennen die wichtigsten Befehle im Umgang mit dem Rechner:
 - Graphen erstellen (auch stückweise definierte)
 - Funktionen auswerten (auch durch Ablesen am Plot)
 - Gleichungen und Gleichungssysteme lösen
 - Funktionen ableiten
 - Funktionsscharen erzeugen
 - Tangenten an den Graphen erzeugen
 - Wertetabellen erzeugen
- erkennen den Mehrwert des Rechneinsatzes im Bereich der Funktionenlehre anhand einer exemplarischen Aufgabe (s. Potenzblume).
- erfassen den didaktischen Hintergrund zum Einsatz des GTR im Mathematikunterricht (Darstellungswechsel, Grundvorstellungstheorie)

Benötigtes Material:

-  PowerPoint-Dateien AP1, AP2, AP3
- Aufgaben AA1, AA2, AA3, AA4
- Tagesablauf-Poster
- Hilfe siehe ZUM und WIKI TI

HOME: That is our idea....

PROJECT: Who we are

FRAMEWORK:

- (TECHNOLOGY: What technology did use for the technology... (ARS, Tools, ...linked with other arts)

FA Learning environments/ experiences/ Examples of FA in classrooms/ CLASSROOM EXAMPLES: These examples has worked for us...

PD: How we worked with teachers....

RESEARCH: What we fpund out...



4. Structure of final toolkit

PROFESSIONAL DEVELOPMENT

- Principles (same as in FRAMEWORK)
- PD Approaches:
 - Self-training (UNOTT material in prototype & links to others)
 - PLGs (as active involvement in research process) – e.g. example of organisation by UNOTT
 - Teacher Training: Structure/Timetable/Contents/Materials – examples by NUIM, UU, DUE, ...
- PD materials: (structured along topics like FA, technology, ...)
 - Format (Text, Video, Activity, Presentation,...)
 - Title
 - Topic
 - Short abstract (< 100 words)



4. Structure of final toolkit

RESEARCH

- Case Studies (including Intervention Cases)
- Publications inside FaSMEd
- ~~Partner update~~
- Cross-country analysis

~~NEWS & EVENTS~~ (as we can not keep it up to date)

- Maybe Newsletters

~~DELIVERABLES~~ (Will these be of interest to teachers in the future?)

~~CONTACT INFORMATION~~ (included in „Meet the Teams“)

4. Structure of final toolkit

~~DISSEMINATION ACTIVITIES~~ (included in Publications)