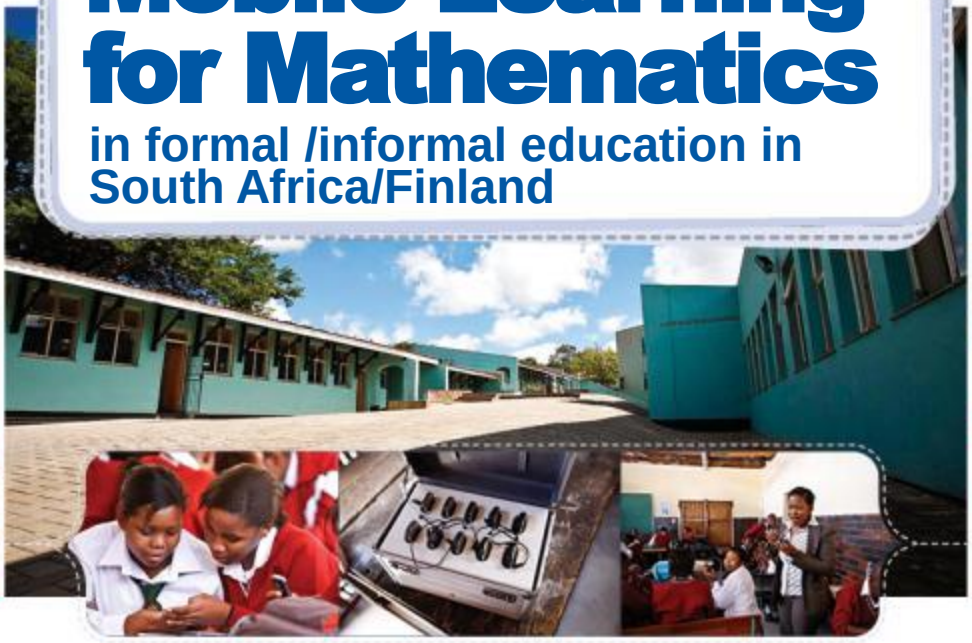
NOKIA Momaths

Mobile Learning for Mathematics

in formal /informal education in South Africa/Finland



Education for All | Sustainability | Scalability | Accessibility | Affordability

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Active learning environment (not only content push or pull)

- Aligned to the current South African curriculum for Grade 10 mathematics.
- Theory and questions from a database of approximately 10,000 questions categorized by topic and degree of difficulty.
- Topic tests
- Immediate feedback
- Compare results with their classmates in their school, in other provinces, and nationally.
- Peer to peer support via Mxit/Ovi chatting
- Competitions
- Add hoc test
- Moodle LMS
- Digital support for learning processes (e.g. Dynamic topic-specific hints)
- Self-testing (activity score, competence score)
- Multi-dimensional messaging and collaboration

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Implementation methodologies

- In class or independently
- Mobile access:
  - Own mobile
  - Shared mobile
  - Mobi-kit
- 2011 access content via Internet also

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Benefits for a learner

- 24/7 access to high quality learning materials - 10 000 additional exercises
- short theory for each topic
- immediate feedback
- hints to guide learners to solve the problems
- better awareness of own skills
- internal competition
- external competition (national/global activity score, competence score, ranking list)

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Benefits for a teacher

- Additional exercises bank for teaching
- Better understanding of the skills in class
- Better communication possibility with learners
- Diagnostic tool for problem areas
- Homework administration (setting, marking and recording)
- Improved digital literacy skills
- Improved use of learning and teaching time

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Implementation methodologies

- Approaching and engaging children with their own tools
- Learning is part of children's life
- Learner is focused
- Positive competition
- For formal and for informal learning
- Combining learning and social networking
- For learners and for teachers
- **Free service for learners**
- **For all phones**
- Scalable

- Affordable
- Replicable
- Sustainable

Co-operation with global and local experts

Partners

Nokia , NSN., South African operators (MTN, CellC), Finnish operators (Telia Sonera, Elisa, DNA), Content provider (MML/Pearson Foundation), Provincial DOE, Mxit, DOE, SAFIPA, DST, DOC, Presidency, Local experts, MERAKA, NBA

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What makes this project successful

- Sustainability, affordability, scalability and replicability considerations have driven the concept design
- Research results have played important role in further development of the service – *learning by doing and learning by implementing*
- Zero rating of the IP address
- Service for all phones
- Focus on learner
- Real 24/7 service
- Lowers the cost of technology required to use such a service
- Brings mathematics into the social networking space already used by youth
- Does not put additional pressure on computer infrastructure in schools
- Minimal teacher training

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Achievements to date

Usage statistics at the end Sept 2011

- 4 provinces, 172 schools, appr 700 teachers, more than15 000 Grade 10 learners (potential group appr. 25 000 learners). NOTE: Free State joined in Aug- Sept and Eastern Cape widen the number of schools in May
- Half a million (491,958) attempts at maths tests and exercises
- 468,496 maths tests and exercises completed by 11,062 Grade 10s (600,546 views and posts). 23,462 maths tests and exercises completed by 743 Grade 11s (who continued to use Momaths Grade 10). (we do not have yet Grade 11 content)

Impact for learners

- Very positive feedback from learners and teachers
- 82% of use was outside of school time
- Continued use during weekends, holidays and strike
- Continued use over one full year (often, despite non-use by teachers)
- Interest for mathemathics has raised
- Learners awarenes of own maths skills have raised
- Preliminary analysis (Feb – June 2010) shows impact on learner results – 14 % better maths results fro those who were using the service

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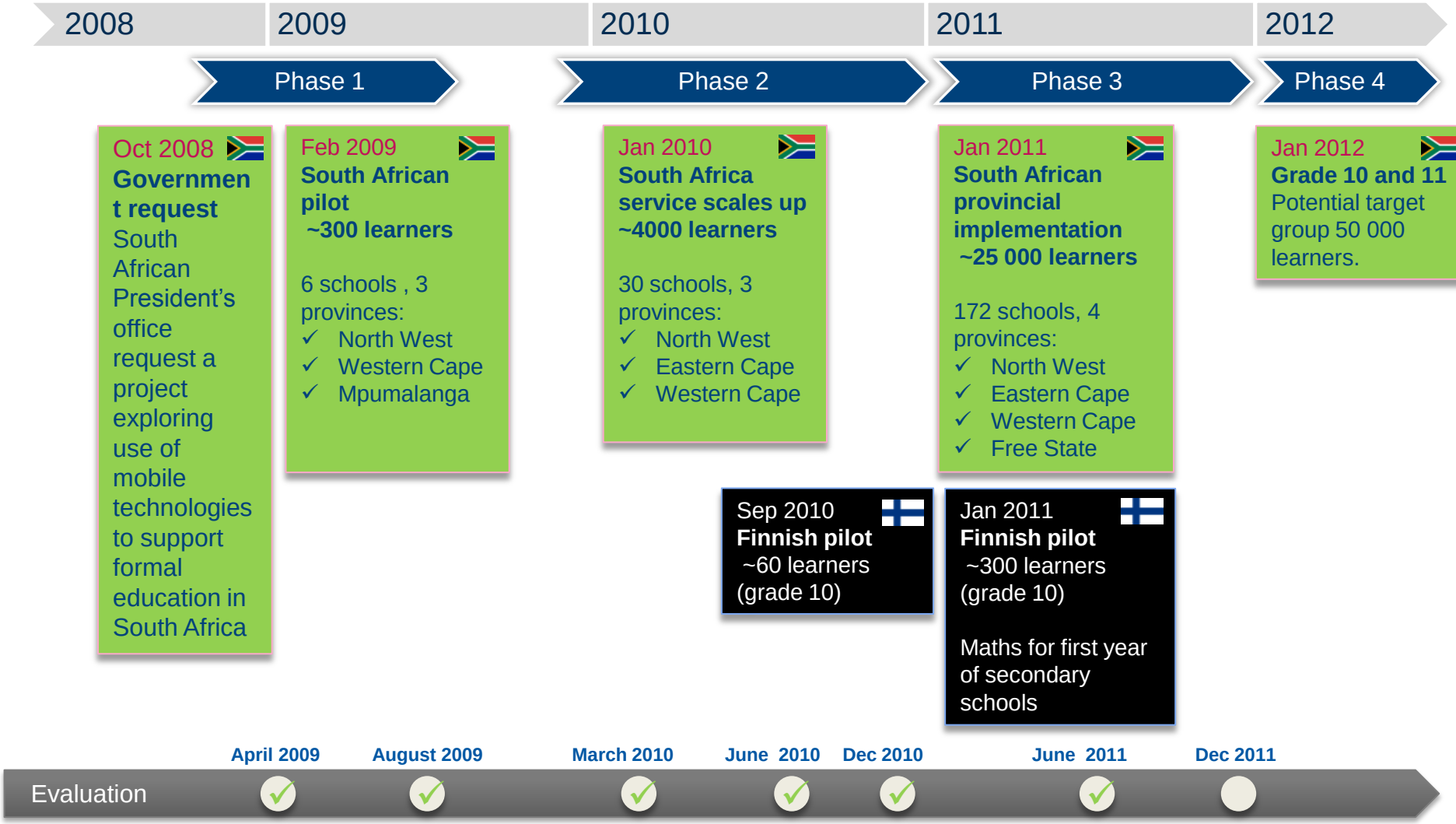
Momaths Timeline



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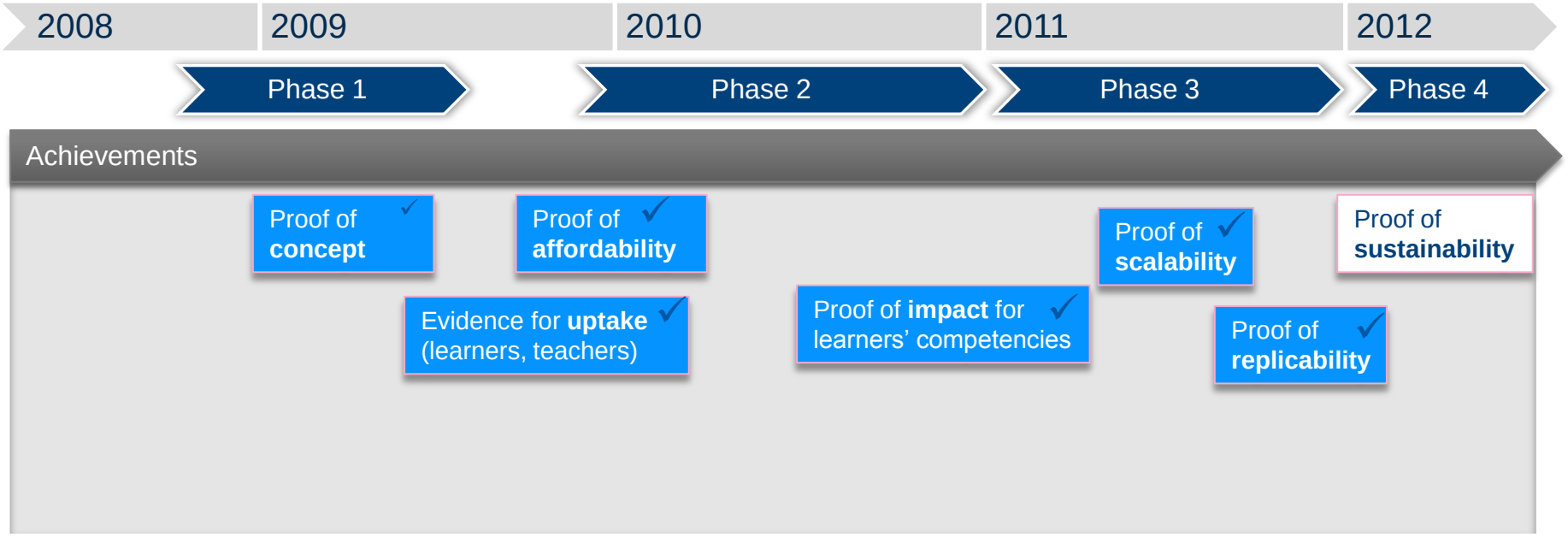
Momaths Timeline



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Many thanks to the Department of Education for their ongoing support of the Momaths project

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