

Assessment module on “ICT for Active Teaching and Learning”

1. VVOB Professional Development Programme on ICT for ATL

VVOB developed a step by step professional development programme on ICT for Active Teaching and Learning (ATL). In 2008 a core group of ICT enthusiasts was selected in each participating TTI, consisting of teacher educators who are:

- 1) Interested in the use of ICT in education
- 2) Motivated to learn about ICT
- 3) Willing to share and collaborate with peer teacher educators.

The core group had to be representative for different subjects being taught in the respective TTIs, as ICT is perceived as a tool which can add value to teaching and learning in different subjects. This ‘ICT core group’ was invited to take part in a step by step journey on the use of ICT in teaching and learning (see table 1).

Table 1

VVOB “Step by Step” Professional Development Programme

Step	Description of step
Training on ICT for Active Teaching and Learning (ATL)	Two-day workshop on how to use ICT in teaching and learning to activate students in the learning process, based on 7 modules on ICT enhanced instructional designs.
Training on ICT for Specific Subjects	Two-day training on different softwares to use in different teaching subjects, with a focus on activation of students in the learning process.
Development of an ICT integrated Lesson Plan	Based on a Lesson Plan Template, ICT core group members write a lesson plan, reflecting on the use of specific tools and methodologies to activate students in the learning process.
Teaching practice under Peer review	ICT core group members teach their lesson and invite colleagues to observe and evaluate the lesson taught, supported with a Lesson Observation/Assessment Tool.
ICT for Active Teaching and Learning Revision Test	ICT core group members take a Multiple Choice Revision test on the 7 modules on ICT enhanced instructional designs.

The rationale behind this step by step approach is the idea of ‘Practice by Doing’. Apart from input organized from an external provider (VVOB), all participants have to reflect and process by developing their own ICT integrated lesson plan and by teaching their lesson plan, observed and assessed by invited peer colleagues. A final revision test was organized for the core group members as a refreshment of the input on ICT for Active Teaching and Learning.

A group of ICT experts who completed all steps has been responsible for multiplication of the ICT for ATL workshops in their respective TTIs. By the end of 2010, the training programme on ICT for ATL has been trained to a total of 517 teacher trainers (including the original ICT core group members). In table 2 you can see the number of trained teacher trainers per TTI.

Table 2
Trained teacher trainers on ICT for ATL per TTI

Teacher Training Institute	Trainees	Respondents
Quang Ninh TTI	127	104 (81.9 %)
Thai Nguyen TTI	105	78 (74.3 %)
Nghe An TTI	144	105 (72.9 %)
Quang Nam TTI	67	47 (70.1 %)
Quang Ngai TTI	74	58 (78.4 %)
TOTAL	517	392 (75.8 %)

2. Toolkit on ICT for Active Teaching and Learning

To support the professional development programme, a toolkit on ICT for ATL has been developed. After feedback and revisions from the ICT core group, VVOB programme coordinators compiled and edited all materials, which resulted in a self-study package which can as well be used as a training tool and as a stimulus for collaborative work.

This toolkit aims to show how ICT can be used for ATL, and to prepare teachers for a changed teacher role. The printed book comes with an interactive CD which guides the user through a series of video-examples, lesson plans and other background information as well as research papers on the 7 instructional designs. A needs assessment test on technological-pedagogical knowledge can be taken as well as a revision test on ICT for ATL.

3. Assessment

3.1. Objectives

The objectives of this assessment are:

- To assess to what extent the training programme and training materials are appreciated and used by trained teacher trainers.
- To assess to what extent the training programme had an impact on knowledge and skills of trained teacher trainers.
- To assess to what extent the training programme has been successful in improving the use of ICT in teaching practice.

3.2. Methodology and data collection

An online questionnaire has been developed to assess different elements of the training programme and the training materials on ICT for ATL. At the start of the second phase of the VVOB Education programme (early 2011), all teacher trainers who took part in training workshops on ICT for ATL were invited to take the questionnaire. Of 517 invited teacher trainers, 392 (75.8 %) completed the questionnaire (see also table 2).

4. Findings

4.1. Appreciation training programme

All the steps of the training programme are very much appreciated, especially the input workshops organized by VVOB and/or by the ICT for ATL experts from the TTIs. But also the development of a lesson plan, organization of, and participation in lesson observation sessions was very much appreciated (see table 3).

Table 3
Appreciation steps training programme

Appreciation steps programme	Not at all	Not so	Quite	Very	Don't know
Input WS	0.5 %	0.0 %	29.6 %	69.4 %	0.5 %
Lesson Plan	0.0 %	0.5 %	32.5 %	66.8 %	0.3 %
Lesson observation (organized)	0.0 %	0.8 %	39.5 %	59.7 %	0.0 %
Lesson Observation (participated)	0.0 %	0.8 %	38.5 %	59.9 %	0.8 %
Multiplication WS (organized)	0.0 %	1.3 %	40.1 %	52.4 %	6.3 %

4.2. Impact on knowledge and skills

Participants in the trainings and workshops on ICT for ATL mostly believe that they quite improved, or even very much on technology knowledge (94.20 %), on pedagogical knowledge (92.40 %) and on technological-pedagogical knowledge (88.50 %) (see table 4).

Table 4
Improvement of ICT integration knowledge

ICT integration knowledge	Not at all	Not so much	Quite	Very much	Don't know
Technology Knowledge	0.0 %	5.5 %	62.8 %	31.4 %	0.3 %
Pedagogical Knowledge	0.0 %	7.6 %	67.0 %	25.4 %	0.0 %
Technological-Pedagogical Knowledge	0.0 %	11.5 %	58.9 %	29.6 %	0.0 %

Most of the trainees also agree that they can choose technologies that can enhance teaching and learning, that the training caused them to reflect on their teaching practice and on how to use technology, and that they can adapt the use of ICT to different learning activities (see table 5).

Table 5
Improvement of ICT integration skills

ICT integration skills	Strongly disagree	Disagree	Neither/ Neither	Agree	Strongly agree
Can choose tech that enhances teaching	0.0 %	0.3 %	4.5 %	76.7 %	18.6 %
Can choose tech that enhances learning	0.0 %	0.5 %	7.6 %	76.7 %	15.2 %
Training caused me to reflect	0.0 %	0.5 %	8.1 %	77.2 %	14.1 %
I am thinking critically about how to use tech	0.0 %	0.0 %	8.4 %	77.0 %	14.7 %
Can adapt tech to diff. learning act.	0.0 %	0.3 %	7.6 %	77.5 %	14.7 %

4.3. Use of ICT in teaching practice

In table 6 we compare for the trainees of the professional development programme the means on different uses of ICT for teaching practice at the start of the programme (2008) and at the end of the training and multiplication period (early 2011). Note: only for about 97 teacher trainers who participated in trainings and workshops on ICT for ATL we have data for 2008 and 2011.

Table 6
Comparison 2008-2011 on use of ICT for teaching purposes (for trainees ICT for ATL)

Use of ICT for teaching purpose	ICT Core Group Members			
	N	Mean (2008)	Mean (2011)	Diff.
Production of documents	96	2.22	2.16	.062
Presentation	97	1.89	2.47	-.588***
Integration into subjects	97	1.41	1.97	-.557***
Access offline information	97	1.85	2.01	-.165
Electronic communication	97	1.11	2.11	-1.000***
Access online information	97	2.31	2.55	-.237**
Classroom management	96	0.52	0.77	-.250

*Note: Significance Paired Differences Paired Samples Test (2-tailed): * <.05, ** <.01, *** <.001*

Answering categories on these questions range from 0 (never), over 1 (rarely) and 2 (sometimes), to 3 (regularly). Teacher trainers use ICT mostly to produce documents, for presentation and for access to online information. By the end of the programme, the trainees use ICT significantly more often for presentation purposes, for electronic communication (with their students) and for accessing online information (to prepare for teaching). They also use more subject specific software for integration in teaching practice.

In table 7 these findings are confirmed. Of the 7 modules that were introduced in the ICT for ATL toolkit, trained teacher trainers regularly use presentation tools (48.4 %), they sometimes organize electronic practice and drill exercises (55.8 %) or mindmapping (54.2 %). But there is also about 10-15 % of the trainees who regularly organize shared writing, photo story telling, mindmapping and practice and drill exercises. Simulation and webquest is sometimes done by about 36 % of the trainees.

Table 7
Use of ICT for teaching (modules ICT for ATL toolkit)

Use of ICT for teaching (modules toolkit)	Never	Rarely	Sometimes	Regularly
Presentation	0.0 %	7.9 %	43.7 %	48.4 %
Practice and Drill	5.5 %	28.5 %	55.8 %	10.2 %
Mind Mapping	6.0 %	28.0 %	54.2 %	11.8 %
Shared Writing	9.4 %	33.8 %	41.1 %	15.7 %
Photo Story Telling	8.1 %	33.2 %	47.4 %	11.3 %
Simulation	24.1 %	35.9 %	36.9 %	3.1 %
Webquest	21.7 %	37.4 %	36.6 %	4.2 %

4.4. Use of ICT for ATL toolkit

When asked about their planned use of the ICT for ATL toolkit (book and interactive CD), about half of the respondents say they will probably use them for the targetted purposes and the other half will use them for sure as a self-study package, as a training tool, as a stimulus for research, as a collection of subject examples or as a reference work for resources on integration of ICT in education (see table 8).

Table 8
Use of the ICT for ATL toolkit

Use of ICT for ATL toolkit	Not at all	Probably not	Probably	For sure	Don't know
As self-study package	0.8 %	2.4 %	48.4 %	47.6 %	0.8 %
As training tool for students TTI	0.0 %	1.0 %	47.1 %	51.3 %	0.5 %
As training tool for in-service teachers	0.0 %	1.0 %	50.5 %	47.6 %	0.8 %
As stimulus for research	0.0 %	0.8 %	52.4 %	46.3 %	0.5 %
As collection of subject examples	0.3 %	2.1 %	47.1 %	50.0 %	0.5 %
As reference work for resources	0.0 %	0.3 %	46.1 %	53.1 %	0.5 %

5. Conclusions and discussion

5.1. Reach

The reach of the training programme is significant, as more than 500 teacher trainers have been trained on ICT for ATL in the course of two and a half years. Some TTIs have been more successful in the organization of multiplication workshops than others. For further multiplications of the ICT for ATL training programme, but as well for other training programmes, the different TTIs have to carefully consider and plan for implementation.

5.2. Impact

The different steps of the training programme have been highly appreciated by most of the trainees and the training programme as such resulted in improved knowledge and skills related to integration of ICT in teaching and learning. Some ICTs are used significantly more often than at the start of the training programme and there is a group of enthusiasts who regularly apply tools and instructional designs which can activate students in the learning process.

This information could be encouraging to continue with multiplication of the training programme to teacher trainers who have not been trained yet, or to integrate the programme into the professional development programme of all teacher trainers of the TTIs. The toolkit on ICT for ATL is an appropriate self-study and training material for this purpose. The smaller group of ICT enthusiasts should be encouraged to take a lead in this multiplication process and to form communities of practice to further explore the possibilities and evolutions in the field of ICT in education.