



LEARNING TO LEARN – A METHOD IN ACTION

Research Synthesis Report

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1. Introduction

Between November 2008 and October 2010, a European network of seven organisations joined efforts to develop, implement and analyse innovative approaches in the field of non-formal adult education aimed at the development of the competence enabling learners to plan, organise, implement and assess their own learning, in particular in view of self-directed learning.

The project considers *learning to learn* as the most crucial key competence for life-long learning and, therefore, aims to support educational staff to acquire and develop competences and methodologies needed for implementing this kind of learning. It has benefited from financial support through the Grundtvig Action of the Lifelong Learning Programme of the European Commission.

The project began with an analytical compilation of literature on learning competence and how it is developed – *learning to learn* – in order to explore related concepts, theories and practices. During this phase, six literature reviews investigating discourses on learning competence and learning competence development in different language domains were produced and summarised in a synthesis report. The reviews show that – the fuzziness of the concept notwithstanding – *learning to learn* is predominantly understood as a method-in-action: people have to engage in the activity itself – learning – to learn about it (Chisholm et al. 2010).

Informed by the literature review, educational approaches were developed aiming to provide learners with the skills and knowledge needed to enable them to plan, organise and assess their own learning process. These educational approaches were tested in 24 projects, exploring and examining *learning to learn* as a method-in-action in the field of adult non-formal education.

Seeking to identify which educational approaches are successful in fostering *learning to learn*, all projects made use of online pre- and post-activity questionnaires for trainees and trainers. Seven of the 24 projects were analysed in more detail through structured documentation and non-participatory on-site observation.

This report provides a synthesis of the data gathered from the analysis of the 24 adult education projects analysed. It is underpinned by seven reports with a detailed analysis of selected practice projects and an analysis of the survey results of all 24 projects. In addition, a handbook for facilitators of *learning to learn* was produced in the framework of the “Learning to Learn” Project.

*L2L Project Research Team
Innsbruck, July 2010*

2. Note on terminology

The European Union has described *learning to learn* as one of eight areas of key competence¹ adhering to “the ability to pursue and persist in learning, both individually and in groups.” (European Communities 2007: 10)

Learning to learn, however, has – across the domains of policy, research and practice – acquired a wide range of meanings, resulting in a prominent yet fuzzy notion. There are various claims, definitions and understandings of what constitutes *learning to learn*, and what it really is – some of them competing, others complementary.

In academic writing, *learning to learn* is commonly described as a notion that encompasses both activity and aim, both process and goal (e.g. Candy 1990, Smith 1990, Claxton 2003, Chisholm 2006). There is no evidence to conclude that the aim is more important than the process – or vice versa.

The political connotation of *learning to learn* as a competence² has nonetheless frequently led to strategies narrowed down to learning *how* to learn. Notwithstanding the potential validity of a theoretical argument for this approach, there is no empirical substantiation – in fact, not even circumstantial evidence – to argue that *how* to learn is any more important than *what* to learn, *why* to learn, *when* to learn, *where* to learn, *with whom* to learn or *whether* to learn³.

Beyond the generally shared understanding of *learning to learn* as encompassing a process and describing a goal, there is neither a singular definition nor a unified approach to what *learning to learn* is or what it should comprise.

Amidst this conceptual multiplicity, Philip Candy introduced – with one of the first pieces on learning to learn and in an attempt to distinguish process from outcome – the use of *learning competence* and *learning competence development* for capturing the outcome and process aspects of *learning to learn* across learning domains (Candy 1990: 56).

This report usually refers to the terminology as originally introduced by the different authors. When used, **learning competence** refers to the meaning of *learning to learn* as a goal – the possession of the competence, whereas **learning competence development** refers to the meaning of *learning to learn* as a process – the acquisition and construction of the competence.

¹ The eight key competences comprise the *European Framework for Key Competences for Lifelong Learning*, introduced at http://ec.europa.eu/education/lifelong-learning-policy/doc42_en.htm.

² Competence is, in this context, understood as the proven ability to use knowledge, skills and personal, social and/or methodological abilities (European Qualifications Framework 2008).

³ There is, on the other hand, plenty of evidence showcasing that the traditionally exclusive focus on knowledge – what to learn – and its recent expansion to skills – how to learn – is not sufficient to embrace the complexity of (lifelong) learning.

3. Framework

Three categories of projects were analysed:

- *Practice Projects – Group A*: adult education activities organised by the core partners of the project consortium, which were analysed through on-site observation, learning diaries and online-surveys of learners and educators.
- *Satellite Projects – Group B*: adult education activities organised by associated partners of the project consortium, which were analysed through online-surveys of learners and educators.
- *Training Courses – Group C*: training courses organised in the framework of the “Learning to Learn” Project to train facilitators and educators on *learning to learn*, which were analysed through online-surveys of learners and educators.

1. Practice projects

I. Overview

The following seven practice projects were analysed:

- Training modules on intercultural competence (Austria)
- European-level long-term training course for trainers (Europe)
- Introductory seminar for young adults in voluntary services (Germany)
- Mobility and work placement preparatory workshop (Italy)
- Training course on open youth work competences (Lithuania)
- Training for first-time jobseekers (Slovenia)
- Advanced training course for trainers in human rights education (Spain)

The following sections provide a brief overview for each project, specifying in particular aims, objectives and learning outcomes of the activities.

II. Training modules on intercultural competence (Austria)

The *Intercultural Competence Course* was developed and first carried out in 1997 by the Intercultural Centre (*Interkulturelles Zentrum*) in Vienna. The course offers extra-occupational continuing education and training for participants working in multicultural settings in management and administration across all social policy fields dealing with integration issues, including health care, youth work or education.

The course is thus aimed at persons who deal with integration issues in their professional context on a regular basis and wants to equip participants with basic (social, cultural, political, economic, psychological etc.) knowledge related to the multi-

cultural environment in which they work. By doing so, the course seeks to develop participants' personal, social and professional competences, enabling them to

- endorse an empathic approach towards concrete individuals;
- develop sensitivity towards diverse needs and beliefs;
- act effectively in multicultural settings;
- deal constructively with intercultural conflicts;
- develop confidence with respect to intercultural issues;
- clarify their own professional roles;
- reflect and exchange personal and professional experiences and routines with colleagues through a mix of inter- and supervision of practice;
- carry out, reflect and further develop concrete projects in these fields.

The 2009 edition of the course was organised in five modules (two to three days each), which were scheduled over a period of seven months:

- Migration – living in a pluralist society (3 days, April 2009)
- Conceptualizing culture – diversity and foreignness (2 days, May 2009)
- Racism and anti-discrimination (2 days, June 2009)
- Intercultural conflict management (2 days, September 2009)
- Integration and intercultural competence (3 days, October 2009)

The on-site observation included the two final modules.

III. European-level long-term training course for trainers (Europe)

The *Training of Trainers for European Youth in Action Projects* is a core element of the quality development strategy of the Youth in Action Programme of the European Union. The multi-phase long-term training aims to train trainers who have the competences and the motivation to contribute to the improvement of the quality of projects within the Youth in Action Programme of the European Union. The overall aim of the course was operationalised by means of objectives designed to further develop and improve the following six competences of participants:

- the competence to design and implement training activities for youth workers and other actors involved in the development and implementation of projects within the EU Youth in Action Programme;
- the competence to cooperate in international teams of trainers/facilitators;
- the competence to deal with ambiguity and change;
- intercultural competence;
- the competence to understand and facilitate learning of others;
- the competence to direct one's own learning.

The general aim and the six competence-related objectives were underpinned by two complementary learning objectives, namely

- to increase participants' understanding of the educational context (i.e. non-formal education, life-long learning) in which the training course had been placed;
- to encourage participants to further develop and make explicit their personal training approach.

The course is organised annually and brings together 25 participants. It is hosted by the network of National Agencies of the Youth in Action Programme and coordinated by the SALTO Training and Cooperation Resource Centre. The 2009/2010 edition of the course was framed by three residential seminars in October 2009, January 2010 and June 2010. The on-site practice analysis took place during selected programme days of the first and second seminar.

IV.Introductory seminar for young adults in voluntary services (Germany)

The introductory seminar for young adults in voluntary services entitled “*Civil society in practice: individual involvement in civil society through participation in voluntary services*” aims to support the social involvement of young adults and to work on personal and professional future perspectives.

The overall aim was operationalised by a thematic focus on five subject areas:

- intercultural learning;
- self-organisation;
- social learning;
- gender emancipation;
- ecological learning.

The aim and thematic foci were translated into eight learning outcomes, which stipulated that participants were expected to:

- acquire knowledge about disabilities;
- acquire knowledge about their rights, duties and liabilities;
- learn how to get self-organised;
- learn something about their own behaviour;
- learn something about their voluntary year;
- learn what supports and what discourages their learning process;
- learn how to work in groups and how to arrange oneself with others;
- learn how to learn best.

The course is part of a pedagogical programme supporting young volunteers with 25 training days during their 12-months voluntary service. While the voluntary service itself is optional, once committed to the year, the support programme is obligatory.

The analysed seminar was the first compulsory element of that accompanying programme. It brought together 27 participants and 3 trainers in a small village in Germany for a week in October 2009.

V. Mobility and work placement preparatory workshop (Italy)

As a mobility and work placement project, “*Form-azioni capaci di futuro / Form-azioni capable of informing the future*” aimed to support 76 young adults who had completed their high school or university studies in the acquisition of further linguistic, intercultural, professional and organisational competences. The participants had been carefully selected from an overwhelming number of applicants.

Participants were given the opportunity to spend three months abroad for a work placement. They had to attend an obligatory 3-day preparatory workshop before their departure, and were invited to join a voluntary 1-day evaluation meeting after their return.

During the 3-months-period spent abroad, participants should

- acquire or improve basic language skills in another European language;
- attend a language course and apply the language in their everyday lives;
- further develop their intercultural skills in an unknown environment;
- develop professional competences and organisational know-how;
- act effectively in another European country, and thus
- develop and extend their employability.

By participating in one of the preparatory workshops offered by the Academy of Firenze, the selected young adults were expected to

- learn about the European Union, its member states and programmes;
- understand and appreciate the role and significance of lifelong learning;
- clarify their own professional competences, roles and ambitions;
- develop confidence about living and working in an intercultural context.

The on-site practice analysis took place during one of the preparatory workshops, bringing together 25 participants for three days in Florence, Italy.

VI. ... Training course on open youth work competences (Lithuania)

The *Training course on open youth work competences* aimed to develop the professional competence of youth workers in relation to open youth work, ultimately seeking to raise the quality of community work in government-funded youth centres.

The programme leads to a state-recognised certification for advanced open youth work. It is co-financed by the EU Regional Funds, the Ministry of Youth and the Association of Youth Workers.

The overall aim was operationalised by means of two objectives, namely

- to develop the competences of youth workers in open youth centres;
- to strengthen and widen the awareness for open youth work.

The aim and objectives were translated into and complemented by four expected learning outcomes, determining that through the training participants should:

- be aware of concepts and methodologies in open youth work;
- understand the main methods in non-formal education and youth work;
- have developed their youth worker competences;
- have developed their competences for working with groups;
- have developed their competences to organise learning processes.

The observed modules of the course brought together 13 participants for two weekends in June and July 2009 in Kulautuva, Lithuania.

VII. ... Training for first-time jobseekers (Slovenia)

The *Training for first-time job seekers* was embedded in a programme called “Lion’s jump,” a programme designed – against the context of changing life transformations and postponed economical maturation of youth – to foster employment-related skills of young adults in non-formal learning settings.

The training aimed to qualify participants to develop and realise personal aims in relation to the labour market. The aim was operationalised by four expected outcomes, namely

- participants will strengthen their competences and their motivation for seeking a job;
- participants will get to know tools, techniques and knowledge to improve the effectiveness of their job search;

- participants will value their knowledge gained through non-formal education and realise its importance and relevance for employability;
- participants will have developed internal motivation to seek employment and, if necessary, return to school or university to finish their education.

The observed training brought together 28 participants for one week in December 2009 in Šmarješke Toplice, Slovenia.

VIII. Advanced training course for trainers in human rights education (Spain)

The *Advanced training course for trainers in human rights education* aimed to develop the professional competence of trainers in human rights education.

The overall aim was made operational by means of six objectives, namely:

- to provide theoretical knowledge including key concepts of human rights education;
- to develop the competences of participants in their work as trainers in the field of human rights education;
- to explore and analyse sensitive questions in relation to human rights education within non-formal learning and youth work;
- to enable participants to direct their own individual and collective learning processes during the training course;
- to contribute to the learning process by using experiences with human rights education on local and regional level;
- to explore synergies between formal education and non-formal education in relation to human rights education.

The objectives were complemented by six expected learning outcomes specifying that participants should, at the end of the course, be:

- familiar with key concepts of human rights education;
- more competent in their work as trainers in human rights education;
- capable to explore sensitive questions in human rights education;
- able to direct their own learning independently, including in groups;
- capable to use and contribute experiences for the learning process;
- able to use synergies between formal and non-formal education.

The course was organised in three residential modules with two virtual distance-learning phases. The on-site practice analysis took place during the first and second residential module in January and February 2010.

2. Satellite projects

I. Overview

The following 15 satellite projects were analysed:

- Seminar on games as a method of learning (Belgium)
- Training course for volunteer educators (Croatia)
- International academy of experiential learning (Europe⁴)
- Learning laboratory for youth work professionals (Europe⁴)
- Training on the implementation of Youthpass (Europe⁴)
- Training on intercultural learning and youth work (Europe⁴)
- Training course on coaching (Hungary)
- Leadership workshop for young adults (Iceland)
- Diversity training for early school leavers (Ireland)
- Language course for foreigners (Italy)
- Rehabilitation and self-development workshop (Italy)
- Modules on management competences (Lithuania)
- Seminar on international project management competence (Lithuania)
- Democracy workshop for local intervention agents (Portugal)
- Human rights education training for multipliers (Romania)

The following section details the main aim of each project.

II. Main aims of the satellite projects

- Seminar on games as a method of learning (Belgium)

The aim of this seminar was to explore games as a method of learning in non-formal education, including game facilitation, game development, game adjustment, game debriefing and quality assessment of games.

- Training course for volunteer educators (Croatia)

The aim of this training course was to develop skills, knowledge and attitudes of participating trainers, empowering them to develop tailored and adequate volunteer programmes within their own organisations.

⁴ Projects labelled as European were implemented by partners from several countries, involved participants from several countries and were co-financed by European programmes.

- International academy of experiential learning (Europe)

The aim of this academy was to improve the content and delivery of adult education by increasing adult educators' access to professional training courses on quality experiential education methodology, for which a model course in collaboration between formal and non-formal education should be developed.

- Learning laboratory for youth work professionals (Europe)

The aim of this laboratory was to initiate a learning community and gather trainers, community workers, policy makers, experts and researchers actively involved in European non-formal education to explore, debate and discuss current issues.

- Training on the implementation of Youthpass (Europe)

The aim of this training was to explore Youthpass – an instrument for participants to describe and showcase what has been achieved and learnt – as a tool for learning and to improve the use of Youthpass in the Youth in Action Programme.

- Training on intercultural learning and youth work (Europe)

The aim of this training course was to empower and train youth workers in dealing with cultural diversity proactively, e.g. as a tool to discover identity, and to encourage youth workers to integrate aspects of cultural diversity in their daily work.

- Training course on coaching (Hungary)

The aim of this training course was to increase the quality and support of youth exchanges, youth initiatives and youth democracy projects in the frame of the Youth in Action Programme by supporting and facilitating experienced youth, social and community workers in improving their coaching competences.

- Leadership workshop for young adults (Iceland)

The aim of this workshop was to provide youth and social workers with a platform to discuss and explore the potential as well as the challenges of leadership and to empower them to take on their own leadership roles more confidently.

- Diversity training for early school leavers (Ireland)

The aim of this training was to promote the development of the personal qualities of mutual respect, tolerance and acceptance in order to facilitate positive interaction of participants with cultural differences and diversity in their daily lives.

- Language course for foreigners (Italy)

The aim of this language course was to create diverse, inclusive and creative classes for language learners in order to support their process of learning Italian.

- Rehabilitation and self-development workshop (Italy)

The aim of this workshop was to provide knowledge and a space to experience different approaches to nutrition and the relation to one's overall well being, ultimately seeking to support participants' personal development.

- Modules on management competences (Lithuania)

The aim of these modules was to equip managers of non-governmental organisations providing social services at community level with essential leadership skills and to initiate active and efficient partnerships between small and medium-sized NGOs.

- Seminar on international project management competence (Lithuania)

The aim of this seminar was to empower youth workers to prepare and implement high quality international youth exchanges that foster tolerance and co-operation.

- Democracy workshop for local intervention agents (Portugal)

The aim of this workshop was to empower intervention agents working in local communities to introduce participatory approaches in their daily work to make a contribution to ensuring equal opportunities.

- Human rights education training for multipliers (Romania)

The aim of this training was to develop a model of parents' education for human rights and to make parents more competent in addressing human rights education with their children.

3. Training courses

1. Overview

Two training courses were organised and analysed in the framework of the “Learning to Learn” Project. Both courses aimed to enable adult educators to facilitate *learning to learn* competence development in their projects. The overall aim was operationalised by means of five objectives, namely

- to explore and reflect on *learning to learn* competence development;
- to explore the new role of facilitators and learners in *learning to learn*;
- to design and apply methods for developing *learning to learn*;
- to support the development of projects *integrating learning to learn*;
- to contribute to the research component of the L2L Project.

4. Approach

The following design of the research element of the L2L Project is the result of a process, which was initiated with a draft design by the research team of the Institute of Educational Science at the University of Innsbruck. This draft was discussed and further developed by all researchers involved in the project at the *L2L Research Design and Coordination Meeting* from 1 to 4 April 2009 in Innsbruck. The research design was finalised and agreed as a follow-up to that meeting.

1. Research questions

General research question:

- How is learning competence acquired in selected (non-formal) adult education settings?

Practice analysis questions:

- Which educational approaches (in particular, teaching/training and learning methods and methodologies) are successful in fostering learning competence development in such settings?
- How does learning competence emerge and manifest itself in such settings?

Synthesis questions:

- On the basis of the material and data collected, what supports and what detracts from the development of learning competence in non-formal adult education?
- How do the findings of the research component contribute to theory development on the topic of learning to learn?
- How do the findings illuminate and extend the existing perspectives on learning to learn uncovered by the literature review?
- How could the findings contribute to practice development?

2. Research instruments

! Overview

The project employed four main research instruments for the project analysis:

- Structured **documentation** of the adult education practices
- Semi-structured non-participatory on-site **observation**
- Semi-structured **reflection diaries** for trainees and trainers
- Anonymous **online surveys** with trainees and trainers

II. Structured documentation

The documentation of the practice projects includes the aims, objectives and learning outcomes; information regarding the setting, location and timing; an overview of programme, structure and methods; and the profiles of trainers and participants.

III. On-site observation

The on-site observations focused primarily on the process and the social context of the educational activities in view of methods in their capacity to foster learning to learn. In particular, the on-site observation has looked at the group process including aspects such as communication and interaction, participation, and any explicit and implicit references to learning.

Due to the length of the practice projects, the on-site observations covered selected elements of the activity, ensuring a minimum of 30 contact hours. The results and findings are summarised in reports of the researchers involved in the project.

IV. Reflection Diaries

The reflection diaries were introduced as a voluntary contribution to the research by each actor in the practice projects (trainers and trainees). While trainees and trainers were strongly encouraged to complete the reflection diaries, no pressure to do so was exerted.

Trainees and trainers were asked to write semi-structured reflection diaries at various points during the activity – partly individually, partly in small groups. The specific timing and frequency for completing the reflection diaries was coordinated between the researcher and the educational team to allow for meaningful integration into the flow of the programme with respect to learning to learn.

Participants were asked to describe a. what they learned in terms of practical skills, knowledge and/or understanding and how, b. how their attitudes changed and why, c. what they discovered about themselves as learners and how they found out, and d. what they learned about learning in a group and how they learned about that.

Trainers were asked to describe a. which knowledge or understanding participants acquired, deepened or extended and how, b. which practical skills participants acquired, developed or improved and how, c. which attitudinal changes were observable and how they came about, and d. what and how participants learned about both individual and collective learning processes.

V. Online Surveys

All trainees were invited to complete two online questionnaires: the first one approximately two weeks before the beginning of the activity, and the second one approximately two weeks after the end of the activity. All trainers were asked to complete an online questionnaire three weeks after the end of the activity.

The trainee surveys generated response rates of 65 % for the pre-activity surveys and 37 % for the post-activity surveys. The trainer surveys generated a response rate of 42 %. Figure 1 details the response rates for the overall project as well as its three distinct project categories:

- pp – the seven practice projects,
- sp – the fifteen satellite projects,
- tc – the two training courses for practice project and satellite project organisers.

L2L Surveys	Population				Response rates				Response rates %			
	N	pp	sp	tc	n	pp	sp	tc	%	pp	sp	tc
Trainees: Pre-Activity	525	173	318	34	340	140	168	32	64,8	80,9	52,8	94,1
Trainees: Post-Activity	509	172	319	18	189	91	87	11	37,1	52,9	27,3	61,1
Trainers: Post-Activity	71	22	42	7	30	12	15	3	42,3	54,5	35,7	42,9

Figure 2 shows the distribution of pre- and post-activity surveys both for trainees and trainers across the three project categories:

L2L Surveys	Population N				Subpopulations n			
	All	pp	sp	tc	All	pp	sp	tc
Trainees: Pre-Activity	100 (N=525)	33,3	60,6	6,5	100 (n=340)	41,2	49,4	9,4
Trainees: Post-Activity	100 (N=509)	33,8	62,7	3,5	100 (n=189)	48,1	46,0	5,8
Trainees: Pre & Post	---	---	---	---	100 (n=171)	40,0	50,0	10,0
Trainers: Post-Activity	100 (N=71)	31,0	59,2	9,9	100 (n=30)	46,2	47,4	6,4

3. Research indicators

I. Core aspects related to learning knowledge (awareness and understanding)

In the context of this project, it is assumed that knowledge implies being aware of something and/or (being able) to fully understand something. Understanding cannot develop without awareness. No distinction is made between theoretical and practical awareness (including self-awareness) or understanding of a particular area.

- K1. Awareness and understanding of one's learning preferences, including styles, approaches, methods and environments
- K2. Awareness and understanding of one's learning competences and needs, including own skills and qualifications
- K3. Awareness and understanding of available learning opportunities, including education, training, guidance and counselling
- K4. Awareness of one's attitudes related to learning, including own perceptions, beliefs, values, aspirations and motivations (and how these are shaped)
- K5. Awareness of the capacity of collective modes of learning, including peer groups and communities of practice
- K6. Awareness of the impact of the socio-cultural, political and institutional environment on learning (including social, cultural, political and economical aspects)
- K7. Awareness of the potential and impact of learning, including individual, collective and societal aspects

II. Core aspects related to learning attitudes (views and dispositions)

Starting from a necessary basic commitment to and appreciation of learning, this set of aspects covering personal dispositions contends that a) in order to learn you need to be willing to learn; b) learning is always give and take: as much as you would like others to contribute to your learning, you have to be ready to contribute to the learning of others; c) learning is never about skills only: you need to be willing to improve yourself, but also be ready to have your way of thinking challenged; and d) learning is more than just natural curiosity: you need to be willing to sustain your motivation, and also be willing to take risks on the way.

- A1. Commitment to and positive appreciation of learning as an ongoing practice
- A2. Willingness to engage in one's own learning, both individually and collectively
- A3. Readiness to contribute to the learning of others, both individually and collectively
- A4. Willingness to change and further develop and improve one's knowledge, skills and competences

- A5. Readiness to challenge and change one's attitudes, perceptions, beliefs and values
- A6. Willingness to sustain one's curiosity and motivation for learning
- A7. Readiness to take risks and make mistakes while learning (including to consider obstacles and difficulties as potential learning opportunities)

III. Core aspects related to learning skills (capacities and abilities)

Capacity is often considered to be a skill that can be learned, whereas an ability is commonly thought as innate and something that requires hard training until it is learnt (if at all). Consequently, most skills in this area use the term capacity, and only two abilities are introduced that are considered to be essential and that could, in some ways, probably be seen as preconditions.

- S1. Capacity to reflect on the object, purpose and impact of learning, both as a concept and practice
- S2. Capacity to reflect, analyse and evaluate one's learning, including strategies, plans, processes and outcomes
- S3. Capacity to autonomously manage one's learning, including planning, organisation, regulation and sustainment (including the capacity to identify and make adequate use of education, training, counselling and guidance opportunities)
- S4. Capacity to acquire, amend, restructure (de- and re-construct) and routinize knowledge as well as modes of action (including the capacity to apply new knowledge and skills in a variety of contexts; including the capacity to identify and process information)
- S5. Capacity to engage in and relate to different ways of communication as part of collective learning processes
- S6. Ability to evaluate and review one's perceptions and beliefs, in particular those directly or indirectly affecting one's learning
- S7. Ability to construct and manage one's learning in relation to prior learning and life experiences

5. Survey Results

1. Fostering *learning to learn* in general

By means of the surveys, trainees were asked to assess themselves before and after their educational activity with respect to statements that were developed in correspondence with the 21 research indicators covering aspects of knowledge, attitudes and skills as outlined above in chapter 4.3. Additionally, trainers were asked after the educational activity to indicate their perception with regard to trainees' knowledge, attitudes and skills related to *learning to learn*.

Correlation values were calculated with Spearman's rank correlation coefficient, a non-parametric measure of statistical dependence between two variables (Spearman's ρ)⁵. Levels of significance are

$P \leq 0,05$	(error margin $\leq 5\%$)	commonly considered significant	(*)
$P \leq 0,01$	(error margin $\leq 1\%$)	statistically significant	(**)
$P \leq 0,001$	(error margin $\leq 0,1\%$)	highly significant	(***)

The statistical hypothesis test was based on

Null hypothesis (H_0)	There is no change of learning competence.
Alternative hypothesis (H_1)	There is an increase of learning competence.

1. Self-assessment of trainees before their activity

The following statements were assessed **highest** by trainees before their activity:

- Learning is important for my personal development (Mean=4,7)
- Learning is important for the development of a society (Mean=4,7)
- Learning is an important part of my life (Mean=4,5)

The following statements were assessed **lowest** by trainees before their activity:

- I persist with my learning goals, even if it is difficult to combine with daily workloads and routines (M=3,2)
- I reflect on what I have learned on a regular basis (M=3,4)
- I can easily describe my own competences and qualifications (M=3,4)
- I am used to defining learning goals for myself (M=3,4)
- I reflect on what supported or blocked my learning in a specific context (M=3,4)
- In learning activities, I consciously choose between different modes of expression and communication... depending on the specific situation (M=3,4)

⁵ Spearman's rank correlation coefficient, also known as Spearman's rho, is a measure of correspondence between variables and the significance of such correspondence.

Across all statements and indicators, the mean has a value of $M=3,9$ (on a six-level Likert-type scale ranging from $0=does\ not\ apply\ at\ all$ to $5=fully\ applies$). Statements pertaining to indicator a (attitudes – views and dispositions) were assessed highest ($M=4,2$), and statements pertaining to indicator s (skills – capacities and abilities) were assessed lowest ($M=3,6$).

There are no relevant differences between the project categories (p. 18). Fig. 3 details the basic statistical values of the self-assessment of trainees' own knowledge, attitudes and skills across the different projects and indicators before their activity.

Pre-Activity // Self-assessment of trainees' own knowledge, attitudes and skills			
<i>N=340</i>	Mean	Mode	Standard Deviation
All projects: All indicators	3,9	3,9	0,6
All projects: Indicator knowledge (k)	3,9	4,1	0,6
All projects: Indicator attitudes (a)	4,2	4,4	0,7
All projects: Indicator skills (s)	3,6	3,9	0,8
Practice projects (pp): All indicators	3,9	4,1	0,5
Satellite projects (sp): All indicators	3,9	4,0	0,7
Training courses (tc): All indicators	3,9	4,3	0,8

II. Self-assessment of trainees after their activity

The following statements were assessed **highest** by trainees after their activity:

- Learning is important for the development of a society ($M=4,8$)
- Learning is important for my personal development ($M=4,7$)
- Learning is an important part of my life ($M=4,5$)

The following statements were assessed **lowest** by trainees after their activity:

- I reflect on what I have learned on a regular basis ($M=3,5$)
- I am used to defining learning goals for myself ($M=3,5$)
- I reflect on what supported or blocked my learning in a specific context ($M=3,5$)
- I can easily describe my own competences and qualifications ($M=3,6$)
- I persist with my learning goals, even if it is difficult to combine with daily workloads and routines ($M=3,6$)

Across all statements and indicators, the mean has a value of $M=4,0$ (0=does not apply at all; 5=fully applies), an increase by one decimal place (0.1) in comparison to the trainees' self-assessment before their activity.

Statements pertaining to indicator a (attitudes – views and dispositions) were assessed highest ($M=4,2$), and statements pertaining to indicator s (skills – capacities and abilities) were assessed lowest ($M=3,8$).

The overall average of the satellite projects and the training courses ($M=4,1$) is slightly higher compared to the practice projects ($M=4,0$). Figure 4 details the basic statistical values of the self-assessment of trainees' own knowledge, attitudes and skills across the different projects and indicators after their activity.

Post-Activity // Self-assessment of trainees' own knowledge, attitudes and skills			
<i>N=189</i>	Mean	Mode	Standard Deviation
All projects: All indicators	4,0	4,4	0,5
All projects: Indicator knowledge (k)	4,1	4,2	0,4
All projects: Indicator attitudes (a)	4,2	4,8	0,6
All projects: Indicator skills (s)	3,8	3,9	0,6
Practice projects (pp): All indicators	4,0	4,0	0,5
Satellite projects (sp): All indicators	4,1	4,4	0,5
Training courses (tc): All indicators	4,1	4,1	0,4

III. Trainers' perception of trainees after the activities

The following statements were assessed **highest** by trainers when asked about their perception of trainees after the activities:

- The trainees believe that learning is important for their personal development ($M=4,6$)
- The trainees are aware that significant learning processes also take place in group contexts ($M=4,5$)
- The trainees believe that learning is an important part of their life ($M=4,5$)
- In learning activities, the trainees are open towards collaborating with others ($M=4,5$)

The following statements were assessed **lowest** by trainers when asked about their perception of trainees after the activities:

- The trainees persist with their learning goals, even if it is difficult to combine with daily workloads and routines (M=2,9)
- The trainees are used to defining learning goals for themselves (M=3,1)
- The trainees know which settings and methods are best suited for fostering their learning (M=3,3)

Across all statements and indicators, the mean has a value of M=3,9 (0=does not apply at all; 5=fully applies), a difference of one decimal place (0.1) in comparison to the trainees' self-assessment after their activity (M=4,0).

Statements pertaining to indicator a (attitudes – views and dispositions) were assessed highest (M=4,1), and statements pertaining to indicator s (skills – capacities and abilities) were assessed lowest (M=3,7). Figure 5 details the basic statistical values of the trainers' perception of trainees after the activities across the different indicators.

Post-Activity // Trainers' perception of trainees' knowledge, attitudes and skills			
N=30	Mean	Mode	Standard Deviation
All projects: All indicators	3,9	3,1	0,5
All projects: Indicator knowledge (k)	3,9	3,9	0,6
All projects: Indicator attitudes (a)	4,1	3,8	0,5
All projects: Indicator skills (s)	3,7	3,0	0,6

IV. Comparison of trainees' self-assessment before and after their activity.

Across all statements and indicators, the pre- and post-activity surveys⁶ signify a small but highly significant increase of learning competence ($M_{pre}=3,91$: $M_{post}=4,03^{***}$).

While the mode values have hardly changed in comparison between the pre-activity and post-activity survey, the standard deviation has decreased noticeably.

⁶ The comparisons in this chapter are based on the analysis of 171 surveys by those respondents who submitted *both* the pre-activity *and* the post-activity survey. (340 respondents submitted the pre-activity survey, 189 respondents returned the post-activity survey. See page 18 for details).

The reduction of the variance is mostly connected with statements that had been assessed lowest in the pre-activity survey and were assessed higher in the post-activity survey. These statements showed highly significant increases:

- I know how I can learn best***
- I know which settings and methods are best suited for fostering my learning***
- I can well judge the quality of learning material***
- In learning activities, I consciously choose between different modes of expression and communication... depending on the specific situation***

None of the statements that had been assessed highest in the pre-activity survey showed increases at the same level of significance: the overall increase of learning competence is mainly generated by higher assessments of those statements originally assessed lowest. One statement showed a significant decrease, namely, *"Learning is important for my personal development."*

The indicators show at least significant levels of difference ($P \leq 0.05$). The indicator skills experienced the highest level of increase ($M_{pre}=3,66 : M_{post}=3,83^{***}$), the indicator knowledge the second highest level of increase ($M_{pre}=3,99 : M_{post}=4,10^{***}$), and the indicator attitudes – which had the highest level of assessment in the pre-activity survey – the lowest level of increase ($M_{pre}=4,19 : M_{post}=4,24^*$).

The analysis of the project types shows that the increase of learning competence is highest for the satellite projects ($M_{pre}=3,97 : M_{post}=4,12^{***}$), followed by the practice projects ($M_{pre}=3,83 : M_{post}=3,93^*$) and the training courses ($M_{pre}=4,12; M_{post}=4,14$).

Figure 6 details the basic statistical values of the comparison of trainees' self-assessment before and after their activity across the different projects and indicators.

Pre-Post-Activity Comparison // Self-assessment of trainees' own knowledge, attitudes and skills				
N=171	M_{pre}	M_{post}	Difference	Significance
All projects: All indicators	3,91	4,03	0,12	***
All projects: Indicator knowledge (k)	3,99	4,10	0,11	***
All projects: Indicator attitudes (a)	4,19	4,24	0,05	*
All projects: Indicator skills (s)	3,66	3,83	0,17	***
Practice projects (pp): All indicators	3,83	3,93	0,10	*
Satellite projects (sp): All indicators	3,97	4,12	0,15	***
Training courses (tc): All indicators	4,12	4,14	0,02	

V. Comparison of trainees' and trainers' assessment after the activities

Trainers, when asked after the activities about their perception of trainees, assessed the learning competence of trainees to be considerably lower than the trainees themselves. Overall, across all statements and indicators, the trainers' assessment is one decimal place (0.1) lower than the trainees' self-assessment.

The following statements show particularly high discrepancies:

- For trainees, spending time and money on learning is well worth it ($M_{diff}=0,8$)
- Trainees persist with my/their learning goals, even if it is difficult to combine with daily workloads and routines ($M_{diff}=0,7$)
- Learning is important for the development of a society ($M_{diff}=0,6$)
- Trainees know which settings and methods are best suited for fostering their learning ($M_{diff}=0,5$)

Figure 7 details the basic statistical values of the comparison between trainees' self-assessments and trainers' assessment after the activities across the different indicators.

Post-Activity // Comparison of trainees' self-assessment and trainers' assessment			
	M_{self}	$M_{trainers}$	Difference
All projects: All indicators	4,0	3,9	0,1
All projects: Indicator knowledge (k)	4,1	3,9	0,2
All projects: Indicator attitudes (a)	4,2	4,1	0,1
All projects: Indicator skills (s)	3,8	3,7	0,1

VI. Detailed results: learning competence development

On the following pages, figures 8 to 12 provide a more detailed overview of the survey results in the same order in which the sequence of this chapter has been built. Mode values – i.e. the values occurring most frequently – are marked in grey.

TRAINEES PRE-ACTIVITY (N=340) How would you assess yourself with respect to the following?	Does not apply at all						Fully applies	Mean	Mode	Deviation	Indicators
	0	1	2	3	4	5	M	Mod	SD		
I know how I can learn best	1,8	2,9	5,9	27,9	46,2	15,3	3,6	4	1,0	k01a	
I know which settings and methods are best suited for fostering my learning	1,5	1,8	9,4	29,7	46,5	11,2	3,5	4	1,0	k01b	
I am able to identify my personal learning needs	1,2	0,3	3,2	25,0	50,0	20,3	3,8	4	0,9	k02a	
I can easily describe my own competences and qualifications	1,8	4,7	10,6	34,1	35,6	13,2	3,4	4	1,1	k02b	
I am aware of some of my weaknesses as far as learning is concerned	1,8	2,1	5,0	21,8	42,4	27,1	3,8	4	1,1	k02c	
I know how to find training or learning opportunities	1,5	2,1	11,8	27,1	37,4	20,3	3,6	4	1,1	k03a	
I know how to get advice which supports my learning	2,9	2,1	11,2	29,7	40,9	13,2	3,4	4	1,1	k03b	
I know what motivates or discourages me to learn	1,2	1,5	5,0	16,8	45,6	30,0	3,9	4	1,0	k04	
Groups and social networks can stimulate my learning	1,8	0,9	5,9	12,4	36,2	42,9	4,1	5	1,1	k05a	
Significant learning processes also take place in group contexts	2,6	0,6	1,5	11,8	28,8	54,7	4,3	5	1,1	k05b	
Learning is affected by the socio-cultural and political environment	2,4	2,1	3,8	16,2	40,0	35,6	4,0	4	1,1	k06	
Learning is important for my personal development	1,2	0,0	0,9	2,6	14,1	81,2	4,7	5	0,7	k07a	
One's educational path has an important impact on one's professional career	1,5	1,2	7,1	19,1	36,2	35,0	3,9	4	1,1	k07b	
Learning is important for the development of a society	1,2	0,3	0,6	1,5	17,4	79,1	4,7	5	0,7	k07c	
SUM Indicators knowledge (awareness & understanding)	-	-	-	-	-	-	3,9	4,1	0,6	k	
Learning is an important part of my life	1,2	0,6	1,5	8,2	25,3	63,2	4,5	5	0,9	a01	
For me, spending time and money on learning is well worth it	0,9	0,0	4,1	10,3	35,6	49,1	4,3	5	0,9	a02	
In learning activities, I am open towards collaborating with others	0,9	0,9	1,8	11,2	36,5	48,8	4,3	5	0,9	a03a	
Generally, I am ready to share my views and achievements with others	1,8	0,0	3,2	5,9	37,1	52,1	4,3	5	0,9	a03b	
I intend to engage in further learning activities on a regular basis	1,5	3,2	8,2	18,8	32,9	35,3	3,9	5	1,2	a04	
I am open to question my personal views, values and beliefs when taking part in a learning activity	1,2	1,2	2,6	14,1	40,0	40,9	4,1	5	1,0	a05	
Even when I encounter difficulties, I motivate myself to carry on learning	1,8	2,4	4,1	18,2	44,4	29,1	3,9	4	1,1	a06	
I am ready to take risks to discover new kinds and ways of learning	1,2	1,2	3,8	15,6	36,8	41,5	4,1	5	1,0	a07	
SUM Indicators attitudes (views & dispositions)	-	-	-	-	-	-	4,2	4,4	0,7	a	
When taking part in a learning or educational activity, I ensure that it is suitable for my needs	1,8	1,8	10,0	27,4	37,4	21,8	3,6	4	1,1	s01a	
I reflect on what I have learned on a regular basis	2,1	2,4	11,5	35,6	33,8	14,7	3,4	3	1,1	s01b	
I can well judge the quality of learning material	1,5	0,6	9,1	27,1	40,0	21,8	3,7	4	1,0	s01c	
I am used to defining learning goals for myself	1,2	4,4	14,7	28,5	35,0	16,2	3,4	4	1,2	s02a	
I reflect on what supported or blocked my learning in a specific context	1,8	5,0	17,4	24,7	34,7	16,5	3,4	4	1,2	s02b	
I am able to plan and organise my learning on my own	2,1	2,9	13,5	23,8	33,5	24,1	3,6	4	1,2	s02c	
I persist with my learning goals, even if it is difficult to combine with daily workloads and routines	2,1	7,1	14,7	29,4	34,1	12,6	3,2	4	1,2	s02d	
I am able to judge the quality of my learning processes and outcomes	0,9	2,4	7,4	27,6	43,2	18,5	3,7	4	1,0	s03	
When learning something new, I am usually able to connect it with prior experience, knowledge and skills	1,5	0,3	4,7	16,8	40,6	36,2	4,0	4	1,0	s04a	
I try to apply new knowledge and skills in my private, social and/or professional life	1,5	0,3	3,8	10,6	40,3	43,5	4,2	5	1,0	s04b	
In learning activities, I consciously choose between different modes of expression and communication... depending on the specific situation	2,6	2,9	14,1	30,6	31,8	17,9	3,4	4	1,2	s05	
I am generally able to adapt to learning demands that come up in quite different contexts	1,5	1,8	7,1	23,2	44,4	22,1	3,7	4	1,0	s06	
When planning my learning I build on former learning experiences	1,5	1,5	8,5	21,2	41,8	25,6	3,8	4	1,1	s07	
SUM Indicators skills (capacities & abilities)	-	-	-	-	-	-	3,6	3,9	0,8	s	
SUM all projects (N=340)	-	-	-	-	-	-	3,9	3,9	0,6	-	
SUM practice projects (n=140)	-	-	-	-	-	-	3,9	4,1	0,5	-	
SUM satellite projects (n=168)	-	-	-	-	-	-	3,9	4,0	0,7	-	
SUM training courses (n=32)	-	-	-	-	-	-	3,9	4,3	0,8	-	

TRAINEES POST-ACTIVITY (N=189) How would you assess yourself with respect to the following?	Does not apply at all					Fully applies					Mean M	Mode Mod	Deviation SD	Indicators
	0	1	2	3	4	5	6	7	8	9				
I know how I can learn best	0,0	0,5	4,8	20,6	51,9	22,2	3,9	4	0,8	k01a				
I know which settings and methods are best suited for fostering my learning	0,5	0,0	4,8	24,3	50,8	19,6	3,8	4	0,8	k01b				
I am able to identify my personal learning needs	0,0	0,5	0,5	20,7	55,3	22,9	4,0	4	0,7	k02a				
I can easily describe my own competences and qualifications	0,0	1,6	10,2	29,4	48,7	10,2	3,6	4	0,9	k02b				
I am aware of some of my weaknesses as far as learning is concerned	0,0	0,5	3,7	21,2	49,7	24,9	4,0	4	0,8	k02c				
I know how to find training or learning opportunities	0,0	1,1	6,9	27,0	46,0	19,0	3,8	4	0,9	k03a				
I know how to get advice which supports my learning	0,5	1,1	6,4	27,3	49,2	15,5	3,7	4	0,9	k03b				
I know what motivates or discourages me to learn	0,5	0,0	2,7	14,9	52,1	29,8	4,1	4	0,8	k04				
Groups and social networks can stimulate my learning	0,0	0,5	2,7	9,6	34,0	53,2	4,4	5	0,8	k05a				
Significant learning processes also take place in group contexts	0,0	0,5	0,5	4,2	29,6	65,1	4,6	5	0,7	k05b				
Learning is affected by the socio-cultural and political environment	0,0	0,5	2,6	20,1	38,6	38,1	4,1	4	0,9	k06				
Learning is important for my personal development	0,0	0,5	0,0	3,7	24,3	71,4	4,7	5	0,6	k07a				
One's educational path has an important impact on one's professional career	0,0	0,0	2,6	19,6	42,3	35,4	4,1	4	0,8	k07b				
Learning is important for the development of a society	0,0	0,0	0,5	1,6	19,6	78,3	4,8	5	0,5	k07c				
SUM Indicators knowledge (awareness & understanding)	-	-	-	-	-	-	4,1	4,2	0,4	k				
Learning is an important part of my life	0,0	0,0	2,1	7,9	27,0	63,0	4,5	5	0,7	a01				
For me, spending time and money on learning is well worth it	0,0	0,0	2,1	8,5	39,9	49,5	4,4	5	0,7	a02				
In learning activities, I am open towards collaborating with others	0,0	0,5	1,6	9,5	40,7	47,6	4,3	5	0,8	a03a				
Generally, I am ready to share my views and achievements with others	0,0	0,5	1,6	9,0	40,2	48,7	4,4	5	0,8	a03b				
I intend to engage in further learning activities on a regular basis	0,0	3,7	3,7	18,6	32,4	41,5	4,0	5	1,0	a04				
I am open to question my personal views, values and beliefs when taking part in a learning activity	0,0	0,5	2,1	14,8	34,4	48,1	4,3	5	0,8	a05				
Even when I encounter difficulties, I motivate myself to carry on learning	0,5	1,1	8,5	18,5	42,3	29,1	3,9	4	1,0	a06				
I am ready to take risks to discover new kinds and ways of learning	0,0	0,0	6,4	11,7	39,4	42,6	4,2	5	0,9	a07				
SUM Indicators attitudes (views & dispositions)	-	-	-	-	-	-	4,2	4,8	0,6	a				
When taking part in a learning or educational activity, I ensure that it is suitable for my needs	0,0	1,6	6,9	21,2	49,7	20,6	3,8	4	0,9	s01a				
I reflect on what I have learned on a regular basis	0,5	2,2	10,2	33,9	38,2	15,1	3,5	4	1,0	s01b				
I can well judge the quality of learning material	0,0	0,0	6,4	19,3	49,7	24,6	3,9	4	0,8	s01c				
I am used to defining learning goals for myself	0,0	3,7	10,2	33,2	35,8	17,1	3,5	4	1,0	s02a				
I reflect on what supported or blocked my learning in a specific context	0,0	2,1	11,2	34,2	35,8	16,6	3,5	4	1,0	s02b				
I am able to plan and organise my learning on my own	0,0	3,8	7,5	22,0	39,8	26,9	3,8	4	1,0	s02c				
I persist with my learning goals, even if it is difficult to combine with daily workloads and routines	1,1	3,2	13,2	23,3	40,7	18,5	3,6	4	1,1	s02d				
I am able to judge the quality of my learning processes and outcomes	0,5	1,6	3,7	23,3	47,1	23,8	3,9	4	0,9	s03				
When learning something new, I am usually able to connect it with prior experience, knowledge and skills	0,0	1,1	1,6	10,1	47,6	39,7	4,2	4	0,8	s04a				
I try to apply new knowledge and skills in my private, social and/or professional life	0,0	0,5	3,7	10,7	40,6	44,4	4,3	5	0,8	s04b				
In learning activities, I consciously choose between different modes of expression and communication... depending on the specific situation	0,0	1,6	7,4	27,0	44,4	19,6	3,7	4	0,9	s05				
I am generally able to adapt to learning demands that come up in quite different contexts	0,0	0,5	6,3	16,9	55,6	20,6	3,9	4	0,8	s06				
When planning my learning I build on former learning experiences	0,0	0,0	2,1	19,3	49,7	28,9	4,1	4	0,8	s07				
SUM Indicators skills (capacities & abilities)	-	-	-	-	-	-	3,8	3,9	0,6	s				
SUM all projects (N=189)	-	-	-	-	-	-	4,0	4,4	0,5					
SUM practice projects (n=91)	-	-	-	-	-	-	4,0	4,0	0,5					
SUM satellite projects (n=87)	-	-	-	-	-	-	4,1	4,4	0,5					
SUM training courses (n=11)	-	-	-	-	-	-	4,1	4,1	0,4					

TRAINERS POST-ACTIVITY (N=30) What is your perception of the trainees with respect to the following?	Does not apply at all					Fully applies		Missing or "Can't judge"	Mean	Mode	Deviation	Indicators
	0	1	2	3	4	5	n					
The trainees know how they can learn best	0,0	0,0	10,7	28,6	39,3	21,4	2	3,7	4	0,9	k01a	
The trainees know which settings and methods are best suited for fostering their learning	0,0	3,4	13,8	37,9	34,5	10,3	1	3,3	3	1,0	k01b	
The trainees are am able to identify their personal learning needs	0,0	0,0	3,3	26,7	43,3	26,7	0	3,9	4	0,8	k02a	
The trainees can easily describe their own competences and qualifications	0,0	7,1	3,6	50,0	25,0	14,3	2	3,4	3	1,0	k02b	
The trainees are aware of some of their weaknesses as far as learning is concerned	0,0	3,6	14,3	21,4	28,6	32,1	2	3,7	5	1,2	k02c	
The trainees know how to find training or learning opportunities	0,0	0,0	6,7	33,3	46,7	13,3	0	3,7	4	0,8	k03a	
The trainees know how to get advice which supports their learning	0,0	0,0	6,9	27,6	58,6	6,9	1	3,7	4	0,7	k03b	
The trainees know what motivates or discourages them to learn	0,0	0,0	3,7	25,9	40,7	29,6	3	4,0	4	0,9	k04	
The trainees believe that Groups and social networks can stimulate their learning	0,0	0,0	6,7	10,0	40,0	43,3	0	4,2	5	0,9	k05a	
The trainees are aware that significant learning processes also take place in group contexts	0,0	0,0	0,0	13,3	20,0	66,7	0	4,5	5	0,7	k05b	
The trainees are aware that learning is affected by the socio-cultural and political environment	0,0	0,0	18,5	11,1	40,7	29,6	3	3,8	4	1,1	k06	
The trainees believe that leaning is important for their personal development	0,0	0,0	0,0	3,3	30,0	66,7	0	4,6	5	0,6	k07a	
The trainees believe that their educational path has an important impact on one's professional career	0,0	0,0	3,3	6,7	46,7	43,3	0	4,3	4	0,8	k07b	
The trainees believe that Learning is important for the development of a society	0,0	0,0	7,4	0,0	55,6	37,0	3	4,2	4	0,8	k07c	
SUM Indicators knowledge (awareness & understanding)	-	-	-	-	-	-	-	3,9	3,9	0,6	k	
The trainees believe that learning is an important part of their life	0,0	0,0	0,0	13,3	26,7	60,0	0	4,5	5	0,7	a01	
For the trainees, spending time and money on learning is well worth it	0,0	0,0	10,7	25,0	53,6	10,7	2	3,6	4	0,8	a02	
In learning activities, the trainees are open towards collaborating with others	0,0	0,0	3,3	6,7	30,0	60,0	0	4,5	5	0,8	a03a	
Generally, the trainees are ready to share my views and achievements with others	0,0	0,0	3,6	7,1	35,7	53,6	2	4,4	5	0,8	a03b	
The trainees intend to engage in further learning activities on a regular basis	0,0	0,0	3,7	14,8	59,3	22,2	3	4,0	4	0,7	a04	
The trainees are open to question their personal views, values and beliefs when taking part in a learning activity	0,0	0,0	10,3	13,8	48,3	27,6	1	3,9	4	0,9	a05	
Even when the trainees encounter difficulties, they motivate themselves to carry on learning	0,0	0,0	3,6	39,3	46,4	10,7	2	3,6	4	0,7	a06	
The trainees are ready to take risks to discover new kinds and ways of learning	0,0	0,0	17,9	10,7	42,9	28,6	2	3,8	4	1,1	a07	
SUM Indicators attitudes (views & dispositions)	-	-	-	-	-	-	-	4,1	3,8	0,5	a	
When taking part in a learning or educational activity, they ensure that it is suitable for their needs	0,0	0,0	13,8	44,8	27,6	13,8	1	3,4	3	9,0	s01a	
The trainees reflect on what they have learned on a regular basis	0,0	0,0	7,1	32,1	42,9	17,9	2	3,7	4	0,9	s01b	
The trainees can well judge the quality of learning material	0,0	0,0	0,0	17,9	67,9	14,3	2	4,0	4	0,6	s01c	
The trainees are used to defining learning goals for themselves	3,4	3,4	20,7	37,9	20,7	13,8	1	3,1	3	1,2	s02a	
Sometimes they reflect on what supported or blocked their learning in a specific context	0,0	0,0	13,3	23,3	53,3	10,0	0	3,6	4	0,9	s02b	
The trainees are able to plan and organise their learning on their own	0,0	3,4	6,9	37,9	41,4	10,3	1	3,5	4	0,9	s02c	
The trainees persist with their learning goals, even if it is difficult to combine with daily workloads and routines	0,0	7,1	25,0	39,3	25,0	3,6	2	2,9	3	1,0	s02d	
The trainees are able to judge the quality of their learning processes and outcomes	0,0	0,0	14,3	10,7	50,0	25,0	2	3,9	4	1,0	s03	
When learning something new, the trainees are usually able to connect it with prior experience, knowledge and skills	0,0	0,0	0,0	20,7	48,3	31,0	1	4,1	4	0,7	s04a	
The trainees try to apply new knowledge and skills in their private, social and/or professional life	0,0	0,0	0,0	21,4	53,6	25,0	2	4,0	4	0,7	s04b	
In learning activities, the trainees consciously choose between different modes of expression and communication	0,0	10,7	7,1	25,0	32,1	25,0	2	3,5	4	1,3	s05	
The trainees are generally able to adapt to learning demands that come up in quite different contexts	0,0	0,0	3,8	38,5	53,8	3,8	4	3,6	4	0,6	s06	
When planning their learning the trainees build on former learning experiences	0,0	0,0	7,1	21,4	39,3	32,1	2	4,0	4	0,9	s07	
SUM Indicators skills (capacities & abilities)	-	-	-	-	-	-	-	3,7	3,0	0,6	s	
SUM (N=30)	-	-	-	-	-	-	-	3,9	3,1	0,5		

PRE- & POST-ACTIVITY COMPARISON // All trainees How would you assess yourself with respect to the following?	Indic.	PRE (N=340)			POST (N=189)			Trainer (N=30)			POST - PRE			POST - TRAINER		
		M	Mod	SD	M	Mod	SD	M	Mod	SD	M	Mod	SD	M	Mod	SD
I know how I can learn best	k01a	3,6	4	1,0	3,9	4	0,8	3,7	4	0,9	0,3	0,0	-0,2	0,2	0,0	-0,1
I know which settings and methods are best suited for fostering my learning	k01b	3,5	4	1,0	3,8	4	0,8	3,3	3	1,0	0,3	0,0	-0,2	0,5	1,0	-0,2
I am able to identify my personal learning needs	k02a	3,8	4	0,9	4,0	4	0,7	3,9	4	0,8	0,2	0,0	-0,2	0,1	0,0	-0,1
I can easily describe my own competences and qualifications.	k02b	3,4	4	1,1	3,6	4	0,9	3,4	3	1,0	0,2	0,0	-0,2	0,2	1,0	-0,1
I am aware of some of my weaknesses as far as learning is concerned	k02c	3,8	4	1,1	4,0	4	0,8	3,7	5	1,2	0,2	0,0	-0,3	0,3	-1,0	-0,4
I know how to find training or learning opportunities	k03a	3,6	4	1,1	3,8	4	0,9	3,7	4	0,8	0,2	0,0	-0,2	0,1	0,0	0,1
I know how to get advice which supports my learning	k03b	3,4	4	1,1	3,7	4	0,9	3,7	4	0,7	0,3	0,0	-0,2	0,0	0,0	0,2
I know what motivates or discourages me to learn	k04	3,9	4	1,0	4,1	4	0,8	4,0	4	0,9	0,2	0,0	-0,2	0,1	0,0	-0,1
Groups and social networks can stimulate my learning	k05a	4,1	5	1,1	4,4	5	0,8	4,2	5	0,9	0,3	0,0	-0,3	0,2	0,0	-0,1
Significant learning processes also take place in group contexts	k05b	4,3	5	1,1	4,6	5	0,7	4,5	5	0,7	0,3	0,0	-0,4	0,1	0,0	0,0
Learning is affected by the socio-cultural and political environment	k06	4,0	4	1,1	4,1	4	0,9	3,8	4	1,1	0,1	0,0	-0,2	0,3	0,0	-0,2
Learning is important for my personal development	k07a	4,7	5	0,7	4,7	5	0,6	4,6	5	0,6	0,0	0,0	-0,1	0,1	0,0	0,0
One's educational path has an important impact on one's professional career	k07b	3,9	4	1,1	4,1	4	0,8	4,3	4	0,8	0,2	0,0	-0,3	-0,2	0,0	0,0
Learning is important for the development of a society	k07c	4,7	5	0,7	4,8	5	0,5	4,2	4	0,8	0,1	0,0	-0,2	0,6	1,0	-0,3
SUM Indicators knowledge (awareness & understanding)	k	3,9	4,1	0,6	4,1	4,2	0,4	3,9	3,9	0,6	0,2	0,1	-0,2	0,2	0,3	-0,2
Learning is an important part of my life	a01	4,5	5	0,9	4,5	5	0,7	4,5	5	0,7	0,0	0,0	-0,2	0,0	0,0	0,0
For me, spending time and money on learning is well worth it	a02	4,3	5	0,9	4,4	5	0,7	3,6	4	0,8	0,1	0,0	-0,2	0,8	1,0	-0,1
In learning activities, I am open towards collaborating with others	a03a	4,3	5	0,9	4,3	5	0,8	4,5	5	0,8	0,0	0,0	-0,1	-0,2	0,0	0,0
Generally, I am ready to share my views and achievements with others	a03b	4,3	5	0,9	4,4	5	0,8	4,4	5	0,8	0,1	0,0	-0,1	0,0	0,0	0,0
I intend to engage in further learning activities on a regular basis	a04	3,9	5	1,2	4,0	5	1,0	4,0	4	0,7	0,1	0,0	-0,2	0,0	1,0	0,3
I am open to question my personal views, values and beliefs when taking part in a learning activity	a05	4,1	5	1,0	4,3	5	0,8	3,9	4	0,9	0,2	0,0	-0,2	0,4	1,0	-0,1
Even when I encounter difficulties, I motivate myself to carry on learning	a06	3,9	4	1,1	3,9	4	1,0	3,6	4	0,7	0,0	0,0	-0,1	0,3	0,0	0,3
I am ready to take risks to discover new kinds and ways of learning	a07	4,1	5	1,0	4,2	5	0,9	3,8	4	1,1	0,1	0,0	-0,1	0,4	1,0	-0,2
SUM Indicators attitudes (views & dispositions)	a	4,2	4,4	0,7	4,2	4,8	0,6	4,1	3,8	0,5	0,0	0,4	-0,1	0,1	1,0	0,1
When taking part in a learning or educational activity, I ensure that it is suitable for my needs	s01a	3,6	4	1,1	3,8	4	0,9	3,4	3	0,9	0,2	0,0	-0,2	0,4	1,0	0,0
I reflect on what I have learned on a regular basis	s01b	3,4	3	1,1	3,5	4	1,0	3,7	4	0,9	0,1	1,0	-0,1	-0,2	0,0	0,1
I can well judge the quality of learning material	s01c	3,7	4	1,0	3,9	4	0,8	4,0	4	0,6	0,2	0,0	-0,2	-0,1	0,0	0,2
I am used to defining learning goals for myself	s02a	3,4	4	1,2	3,5	4	1,0	3,1	3	1,2	0,1	0,0	-0,2	0,4	1,0	-0,2
I reflect on what supported or blocked my learning in a specific context	s02b	3,4	4	1,2	3,5	4	1,0	3,6	4	0,9	0,1	0,0	-0,2	-0,1	0,0	0,1
I am able to plan and organise my learning on my own	s02c	3,6	4	1,2	3,8	4	1,0	3,5	4	0,9	0,2	0,0	-0,2	0,3	0,0	0,1
I persist with my learning goals, even if it is difficult to combine with daily workloads and routines	s02d	3,2	4	1,2	3,6	4	1,1	2,9	3	1,0	0,4	0,0	-0,1	0,7	1,0	0,1
I am able to judge the quality of my learning processes and outcomes	s03	3,7	4	1,0	3,9	4	0,9	3,9	4	1,0	0,2	0,0	-0,1	0,0	0,0	-0,1
When learning something new, I'm usually able to connect it with prior experience, knowledge & skills	s04a	4,0	4	1,0	4,2	4	0,8	4,1	4	0,7	0,2	0,0	-0,2	0,1	0,0	0,1
I try to apply new knowledge and skills in my private, social and/or professional life	s04b	4,2	5	1,0	4,3	5	0,8	4,0	4	0,7	0,1	0,0	-0,2	0,3	1,0	0,1
In learning activities, I consciously choose between different modes of expression and communication	s05	3,4	4	1,2	3,7	4	0,9	3,5	4	1,3	0,3	0,0	-0,3	0,2	0,0	-0,4
I am generally able to adapt to learning demands that come up in quite different contexts	s06	3,7	4	1,0	3,9	4	0,8	3,6	4	0,6	0,2	0,0	-0,2	0,3	0,0	0,2
When planning my learning I build on former learning experiences	s07	3,8	4	1,1	4,1	4	0,8	4,0	4	0,9	0,3	0,0	-0,3	0,1	0,0	-0,1
SUM Indicators skills (capacities & abilities)	s	3,6	3,9	0,8	3,8	3,9	0,6	3,7	3,0	0,6	0,2	0,0	-0,2	0,1	0,9	0,0
SUM all projects		3,9	3,9	0,6	4,0	4,4	0,5	3,9	3,1	0,5	0,1	0,5	-0,1	0,1	1,3	0,0

PRE-POST-ACTIVITY COMPARISON // Only those trainees who responded to <u>both</u> surveys (171) How would you assess yourself with respect to the following?	Indic.	PRE			POST			DIFF. POST-PRE			Korr
		M	Mod	SD	M	Mod	SD	M	Mod	SD	
I know how I can learn best	k01a	3,7	4	0,9	3,9	4	0,8	0,2***	0,0	-0,1	,45
I know which settings and methods are best suited for fostering my learning	k01b	3,6	4	0,8	3,8	4	0,8	0,2***	0,0	0,0	,41
I am able to identify my personal learning needs	k02a	3,9	4	0,8	4,0	4	0,7	0,1**	0,0	-0,1	,32
I can easily describe my own competences and qualifications.	k02b	3,4	4	1,0	3,6	4	0,9	0,2*	0,0	-0,1	,44
I am aware of some of my weaknesses as far as learning is concerned	k02c	3,9	4	1,0	4,0	4	0,8	0,1	0,0	-0,2	,45
I know how to find training or learning opportunities	k03a	3,7	4	1,0	3,8	4	0,9	0,1	0,0	-0,1	,56
I know how to get advice which supports my learning	k03b	3,4	4	1,0	3,7	4	0,9	0,3**	0,0	-0,1	,32
I know what motivates or discourages me to learn	k04	4,1	4	0,8	4,1	4	0,8	0,0	0,0	0,0	,33
Groups and social networks can stimulate my learning	k05a	4,2	5	0,9	4,4	5	0,8	0,2	0,0	-0,1	,31
Significant learning processes also take place in group contexts	k05b	4,4	5	0,9	4,6	5	0,6	0,2**	0,0	-0,3	,44
Learning is affected by the socio-cultural and political environment	k06	4,0	4	1,0	4,1	4	0,8	0,1	0,0	-0,2	,46
Learning is important for my personal development	k07a	4,8	5	0,5	4,7	5	0,6	-0,1**	0,0	0,1	,55
One's educational path has an important impact on one's professional career	k07b	4,0	4	1,0	4,1	4	0,8	0,1*	0,0	-0,2	,40
Learning is important for the development of a society	k07c	4,8	5	0,4	4,8	5	0,5	0,0	0,0	0,1	,31
SUM Indicators knowledge (awareness & understanding)	k	3,99	4,14	0,44	4,10	4,21	0,43	0,11***	0,07	-0,01	,63
Learning is an important part of my life	a01	4,5	5	0,8	4,5	5	0,7	0,0	0,0	-0,1	,60
For me, spending time and money on learning is well worth it	a02	4,3	5	0,8	4,4	5	0,7	0,1	0,0	-0,1	,54
In learning activities, I am open towards collaborating with others	a03a	4,3	5	0,8	4,3	5	0,7	0,0	0,0	-0,1	,53
Generally, I am ready to share my views and achievements with others	a03b	4,3	5	0,9	4,3	5	0,8	0,0	0,0	-0,1	,48
I intend to engage in further learning activities on a regular basis	a04	3,9	5	1,1	4,0	5	1,0	0,1*	0,0	-0,1	,55
I am open to question my personal views, values and beliefs when taking part in a learning activity	a05	4,2	4	0,8	4,3	5	0,8	0,1*	1,0	0,0	,41
Even when I encounter difficulties, I motivate myself to carry on learning	a06	3,9	4	1,0	3,9	4	1,0	0,0	0,0	0,0	,71
I am ready to take risks to discover new kinds and ways of learning	a07	4,1	4	0,9	4,2	4	0,9	0,1	0,0	0,0	,46
SUM Indicators attitudes (views & dispositions)	a	4,19	4,38	0,58	4,24	4,75	0,55	0,05*	0,37	-0,03	,72
When taking part in a learning or educational activity, I ensure that it is suitable for my needs	s01a	3,6	4	1,0	3,8	4	0,9	0,2**	0,0	-0,1	,44
I reflect on what I have learned on a regular basis	s01b	3,5	3	0,9	3,5	4	1,0	0,0	1,0	0,1	,54
I can well judge the quality of learning material	s01c	3,7	4	0,9	3,9	4	0,8	0,2***	0,0	-0,1	,47
I am used to defining learning goals for myself	s02a	3,4	4	1,1	3,5	4	1,0	0,1	0,0	-0,1	,37
I reflect on what supported or blocked my learning in a specific context	s02b	3,3	4	1,2	3,5	4	1,0	0,2**	0,0	-0,2	,44
I am able to plan and organise my learning on my own	s02c	3,7	4	1,1	3,8	4	1,0	0,1	0,0	-0,1	,57
I persist with my learning goals, even if it is difficult to combine with daily workloads and routines	s02d	3,3	4	1,2	3,5	4	1,1	0,2**	0,0	-0,1	,49
I am able to judge the quality of my learning processes and outcomes	s03	3,7	4	0,9	3,9	4	0,9	0,2**	0,0	0,0	,47
When learning something new, I am usually able to connect it with prior experience, knowledge and skills	s04a	4,1	4	0,9	4,2	4	0,8	0,1*	0,0	-0,1	,33
I try to apply new knowledge and skills in my private, social and/or professional life	s04b	4,2	5	0,9	4,3	5	0,8	0,1	0,0	-0,1	,38
In learning activities, I consciously choose between different modes of expression and communication...	s05	3,4	4	1,1	3,7	4	0,9	0,3***	0,0	-0,2	,42
I am generally able to adapt to learning demands that come up in quite different contexts	s06	3,8	4	0,9	3,9	4	0,8	0,1*	0,0	-0,1	,52
When planning my learning I build on former learning experiences	s07	3,9	4	1,0	4,1	4	0,7	0,2**	0,0	-0,3	,38
SUM Indicators skills (capacities & abilities)	s	3,66	3,54	0,66	3,83	3,85	0,60	0,17***	0,31	-0,06	,66
SUM all projects (N=171)	-	3,91	4,26	0,47	4,03	4,40	0,46	0,12***	0,14	-0,01	,72
SUM practice projects (n=79)	-	3,83	4,09	0,45	3,93	3,49	0,47	0,10*	-0,60	0,02	,68
SUM satellite projects (n=81)	-	3,97	4,00	0,48	4,12	4,40	0,44	0,15***	0,40	-0,04	,75
SUM trainer courses (n=11)	-	4,12	4,26	0,38	4,14	4,11	0,37	0,02	-0,15	-0,01	,66

2. Fostering *learning to learn* in specific situations

By means of the post-activity survey, trainees were asked to assess the appropriateness of statements covering the 21 research indicators in the areas of knowledge, attitudes and skills in correlation with a range of learning activities and situations significant in non-formal education. Additionally, trainers were asked to consider their perception with regard to trainees' knowledge, attitudes and skills in correlation with the same learning activities and situations.

1. Trainees' competences in various learning situations as seen by themselves

Trainees were presented with a matrix showing statements covering the 21 research indicators in the areas of knowledge, attitudes and skills and nine learning activities and situations. They were asked to judge in which learning situation a particular statement was most strongly appropriate. Respondents were asked to choose not more than two learning situations per statement, and were provided with the possibility to indicate 'in none of these activities'.

The following statements were chosen **most often** (values show the percentages of all possible statement/situation-combinations, excluding the response 'in none of these activities'):

- Significant learning processes also take place in group contexts (5,76%)
- In learning activities, I am open towards collaborating with others (5,54%)
- I am aware of some of my weaknesses as far as learning is concerned (5,52%)

The following statements were chosen **least often**:

- I intend to engage in further learning activities on a regular basis (3,76%)
- For me, spending time and money on learning is well worth it (4,19%)
- When planning my learning I build on former learning experiences (4,21%)

The following situations were chosen **most often**:

- When reflecting by myself or with others (20,55%)
- When applying what I have learned in practice (14,03%)
- In planned activities and exercises with others (13,56%)

The following situations were chosen **least often**:

- When making use of digital or online media (3,17%)
- When consulting with a trainer (6,31%)
- When listening to inputs by experts or trainers (7,29%)

Which aspects of learning competence were trainees developing most strongly in which specific situation⁷, according to them?

- The aspect "I reflect on what supported or blocked my learning in a specific context" is considered to develop most strongly in the learning situation "When reflecting by myself or with others" (89 choices).
- The aspect "I reflect on what I have learned on a regular basis" is considered to develop most strongly in the learning situation "When reflecting by myself or with others" (82 choices).
- The aspect "I am able to judge the quality of my learning processes and outcomes" is considered to develop most strongly in the learning situation "When reflecting by myself or with others" (79 choices).

II..... Trainees' competences in various learning situations as seen by trainers

Trainers were presented with a matrix showing statements covering the 21 research indicators in the areas of knowledge, attitudes and skills and the 9 learning activities and situations, both of which identical to the trainees' questionnaire. They were asked to judge in which learning situation a particular statement was most strongly appropriate for trainees. Respondents were asked to choose not more than two learning situations per statement, and were provided with the possibility to indicate 'in none of these activities'.

The following statements were chosen **most often** (values show the percentages of all possible statement/situation-combinations, excluding the response 'in none of these activities'):

- The trainees are aware that significant learning processes also take place in group contexts (5,98%)
- Sometimes the trainees reflect on what supported or blocked their learning in a specific context (5,50%)
- The trainees reflect on what they have learned on a regular basis (5,38%)
- The trainees are aware of some of their weaknesses as far as learning is concerned (5,38%)

The following statements were chosen **least often**:

- For the trainees, spending time and money on learning is well worth it (3,11%)
- The trainees intend to engage in further learning activities on a regular basis (3,11%)

⁷ Note that the range of situations reflects the variety of possible learning situations across all projects, and that not every learning situation has occurred equally in each of the 24 analysed projects.

- The trainees are generally able to adapt to learning demands that come up in quite different contexts (4,07%)

The following situations were chosen **most often**:

- When reflecting by myself or with others (28,47%)
- When applying what I have learned in practice (14,47%)
- In planned activities and exercises with others (13,56%)

The following situations were chosen **least often**:

- When making use of digital or online media (1,08%)
- When listening to inputs by experts or trainers (3,35%)
- When preparing for the educational activity (5,62%)

Which aspects of learning competence were trainees developing most strongly in which specific situation, according to the trainers?

- The aspect "Sometimes they reflect on what supported or blocked their learning in a specific context" is considered to develop most strongly in the learning situation "When reflecting by myself or with others" (21 choices).
- The aspect "The trainees reflect on what they have learned on a regular basis" is considered to develop most strongly in the learning situation "When reflecting by myself or with others" (21 choices).
- The aspect "The trainees are aware of some of their weaknesses as far as learning is concerned" is considered to develop most strongly in the learning situation "When reflecting by myself or with others" (20 choices).

III. ... Trainees' competences in various learning situations – comparison

In relation to the statements, the values of the post-activity surveys of trainees and trainers show a medium-high level of correlation ($r = 615$) that is statistically significant at the $P \leq 0,01^{**}$ level. In relation to the situations, the values of the post-activity surveys of trainees and trainers show a very high level of correlation ($r = 950$) that is highly significant at the $P \leq 0,001^{***}$ level.

IV. ... Detailed results: learning competence development in specific situations

On the following pages, figures 13 and 14 provide a more detailed overview of the survey results. Mode values – the values occurring most frequently – are marked in different shades of grey, depending on the dimension of the matrix they refer to.

TRAINEES POST-ACTIVITY (N=189; 7.400 possible Responses) "In the top row of the table below you find activities and situations which could have occurred in the educational activity you participated in. Please indicate for each statement on the left-hand side of the table a maximum of two situations/activities (as listed at the top of the table) in which the statement best applies for you. Please note that some statements in the left column might not be relevant /applicable for your project experience. In this case please tick 'in none of these activities or situations'."	situat. 1/10	situat. 2/10	situat. 3/10	situat. 4/10	situat. 5/10	situat. 6/10	situat. 7/10	situat. 8/10	situat. 9/10	situat. 10/10	SUM	Percent (excl. Situat. 10/10)	n	Indicator
	When preparing for the educational activity	In day-to-day contact with other trainees	In planned activities and exercises with others	When reflecting by myself or with others	When creating something alone or in a group	When consulting with a trainer	When listening to inputs by experts or trainers	When applying what I have learned in practice	When making use of digital or online media	In none of these activities or situations				
	"Please tick a maximum of two activities/situations in each row" (cases which selected more than two activities/cases are not included)													
	frequencies													
I know how I can learn best	20	23	33	54	31	23	26	39	10	(17)	276	5,07	172	k01a
I am aware of some of my weaknesses as far as learning is concerned	29	33	28	66	42	10	28	36	10	(16)	298	5,52	184	k02c
I know how to get advice which supports my learning	19	39	10	39	14	75	31	10	24	(18)	279	5,11	180	k03b
I know what motivates or discourages me to learn	38	23	30	61	30	13	25	24	4	(24)	272	4,86	178	k04
Significant learning processes also take place in group contexts	17	66	71	54	45	8	14	18	1	(5)	299	5,76	176	k05b
Learning is affected by the socio-cultural and political environment	21	53	34	28	20	3	31	20	10	(33)	253	4,31	172	k06
Learning is important for my personal development	17	24	23	59	41	6	15	64	8	(16)	273	5,03	178	k07a
Learning is an important part of my life	17	24	23	59	41	6	15	64	8	(16)	273	5,03	178	a01
For me, spending time and money on learning is well worth it	40	18	21	27	22	10	24	43	9	(38)	252	4,19	177	a02
In learning activities, I am open towards collaborating with others	13	62	72	50	56	8	7	12	3	(5)	288	5,54	175	a03a
I intend to engage in further learning activities on a regular basis	16	14	21	21	26	16	32	34	12	(43)	235	3,76	175	a04
I am open to question my personal views, values and beliefs when taking part in a learning activity	14	50	36	75	33	24	15	13	2	(8)	270	5,13	175	a05
Even when I encounter difficulties, I motivate myself to carry on learning	16	20	33	45	30	21	15	29	9	(34)	252	4,27	176	a06
I am ready to take risks to discover new kinds and ways of learning	28	29	47	34	52	11	15	23	12	(17)	268	4,92	176	a07
I reflect on what I have learned on a regular basis	22	27	12	82	11	11	7	57	3	(12)	244	4,54	176	s01b
I reflect on what supported or blocked my learning in a specific context.	15	20	21	89	22	22	11	33	1	(18)	252	4,58	178	s02b
I am able to judge the quality of my learning processes and outcomes	7	21	16	79	16	22	14	47	3	(17)	242	4,41	174	s03
When learning something new, I am usually able to connect it with prior experience, knowledge and skills	24	18	35	48	34	12	18	60	6	(14)	269	5,00	179	s04a
In learning activities, I consciously choose between different modes of expression and communication...	20	31	48	23	49	7	6	24	14	(27)	249	4,35	175	s05
I am generally able to adapt to learning demands that come up in quite different contexts	13	32	52	27	42	6	14	30	8	(23)	247	4,39	172	s06
When planning my learning I build on former learning experiences	58	18	26	29	26	8	9	36	5	(20)	235	4,21	174	s07
TOTAL	464	645	692	1049	683	322	372	716	162	421	5526	-	-	-
(excl. Situat. 10/10) Percent	9,09	12,63	13,56	20,55	13,38	6,31	7,29	14,03	3,17	-	-	100,0	-	-

TRAINER (N=30) "In the top row of the table below you find activities and situations which could have occurred in the educational activity you participated in. Please indicate for each statement on the left-hand side of the table a maximum of two situations/activities (as listed at the top of the table) in which the statement best applies for you. Please note that some statements in the left column might not be relevant /applicable for your project experience. In this case please tick 'in none of these activities or situations'."	situat. 1/10	situat. 2/10	situat. 3/10	situat. 4/10	situat. 5/10	situat. 6/10	situat. 7/10	situat. 8/10	situat. 9/10	situat. 10/10	SUM	Percent (excl. Situat. 10/10)	n	Indicator
	When preparing for the educational activity	In day-to-day contact with other trainees	In planned activities and exercises with others	When reflecting by myself or with others	When creating something alone or in a group	When consulting with a trainer	When listening to inputs by experts or trainers	When applying what I have learned in practice	When making use of digital or online media	In none of these activities or situations				
	"Please tick a maximum of two activities/situations in each row" (cases which selected more than two activities/cases are not included)													
	frequencies													
Trainees know how they can learn best	1	2	3	15	8	7	2	2	0	(4)	44	4,78	28	k01a
Trainees are aware of some of their weaknesses as far as learning is concerned	1	3	7	20	8	3	0	3	0	(2)	47	5,38	28	k02c
Trainees know how to get advice which supports their learning	2	6	2	5	2	18	3	4	0	(3)	45	5,02	28	k03b
Trainees know what motivates or discourages them to learn	5	5	6	12	5	2	3	3	1	(1)	43	5,02	26	k04
Trainees are aware that significant learning processes also take place in group contexts	2	7	12	16	9	0	0	4	0	(1)	51	5,98	28	k05b
Trainees are aware that learning is affected by the environment	1	8	5	8	2	2	6	4	1	(5)	42	4,43	27	k06
Trainees believe that learning is important for their personal development	3	4	2	15	2	3	0	14	0	(2)	45	5,14	28	k07a
Trainees believe that learning is an important part of their life	4	6	1	7	2	3	0	12	1	(5)	41	4,31	27	a01
For the trainees, spending time and money on learning is well worth it	6	2	2	2	0	1	1	11	1	(8)	34	3,11	26	a02
In learning activities, trainees are open towards collaborating with others	1	6	13	9	13	0	1	0	0	(3)	46	5,14	27	a03a
Trainees intend to engage in further learning activities on a regular basis	1	2	1	4	1	5	2	10	0	(7)	33	3,11	26	a04
Trainees are open to question their personal views, values and beliefs	0	7	7	19	2	3	1	2	0	(2)	43	4,90	28	a05
Even when the trainees encounter difficulties, they motivate themselves	0	9	6	9	3	6	2	5	0	(2)	42	4,78	27	a06
Trainees are ready to take risks to discover new kinds & ways of learning	6	3	8	7	13	2	0	5	0	(2)	46	5,26	28	a07
Trainees reflect on what they have learned on a regular basis	0	9	3	21	2	6	1	3	0	(1)	46	5,38	29	s01b
Sometimes trainees reflect on what supported or blocked their learning	2	2	4	21	2	13	1	1	0	(1)	47	5,50	28	s02b
Trainees are able to judge the quality of learning processes and outcomes	0	5	3	16	1	7	2	9	1	(1)	45	5,26	28	s03
When learning something new, trainees are usually able to connect it with prior experience, knowledge and skills	2	2	4	11	5	3	2	10	1	(1)	41	4,78	28	s04a
In learning activities, trainees consciously choose between different modes of expression and communication	2	1	10	5	13	0	0	4	1	(4)	40	4,31	27	s05
Trainees are generally able to adapt to learning demands that come up in quite different contexts	2	1	6	7	5	2	1	9	1	(4)	38	4,07	26	s06
When planning their learning trainees build on former learning experiences	6	2	6	9	5	1	0	6	1	(5)	41	4,31	28	s07
TOTAL	47	92	111	238	103	87	28	121	9	64	900	-	-	-
excl. Situat. 10/10) Percent	5,62	11,00	13,28	28,47	12,32	10,41	3,35	14,47	1,08	-	-	100,0	-	-

6. In dialogue with practice

One of the final outcomes of this project is a handbook on *learning to learn* for practitioners in adult (non-formal) education. During the process of writing the handbook, the editorial team formulated a set of questions, to which the research team responded not only in view of the survey results but also in equal consideration of the analysis reports and the insights from onsite observations and reflection diaries. While possibly atypical for a research report, we include the questions and answers here, as they present most of the insights stemming from the research in a different and complementary format and structure.

1. On self-awareness of learners

1. Did learners already have a self-perception about their learning?

Clearly, yes! One big reservation to this affirmative answer, however: There is, on the one hand, the well-founded assumption that nobody would have participated in the survey or contributed a learning diary without some basic interest in and awareness of learning. It is near impossible to quantify or qualify that more precisely, but interest and awareness clearly exist. And there is, on the other hand, the irresolvable dilemma that we have influenced respondent's self-perceptions about learning from the moment we started asking questions; some might even argue from the moment we announced we would be asking questions. In consequence, we can make some observations about the self-perception of learners while answering the pre- and post-activity questionnaires, but we cannot say anything at all about the self-perception of learners before the activity because their thoughts will have inevitably been shaped by their engagement with the questionnaires. In short: the degree of reflexivity about learning is something that we co-produced by bringing learning into focus.

Overall, the different courses and activities – no matter whether training course, practice or satellite project – attracted participants with a high degree of self-perception and understanding in relation to their learning. Across all three clusters of indicators (knowledge, attitudes and skills) and across most of the 21 individual indicators, respondents showed a high initial degree of self-perception and understanding. This may, in part, be related to the context in which the project took place – nonformal adult education – where (non-formal) learning plays an important and prominent role; participants may have been used to these formats and forms of learning. It may, in part, be connected with the wide range of lifelong-learning-programmes and initiatives through which participants may have been used to reflecting about their learning. In short: the learning offered through the different activ-

ities clearly resonated with participants' perceptions and beliefs about learning already from the outset.

There is a clear hierarchy in the pre-activity self-assessment: attitudes (views & dispositions) are rated highest (M=4,2 – on a six-level Likert-type scale ranging from 0=*does not apply at all* to 5=*fully applies*), knowledge (awareness & understanding) lower (M=3,9) and skills (capacities & abilities) lowest (M=3,6). Participants judged the value of learning very highly – learning is important for my personal development, learning is important for the development of a society, learning is an important part of my life – while their knowledge and, even more so, their skills leave room for improvement.

Three comparatively underdeveloped areas stand out: **a. capacities and abilities related to reflection on learning**, the two indicators are (S1) capacity to reflect on the object, purpose and impact of learning, both as a concept and practice and (S2) capacity to reflect, analyse and evaluate one's learning, including strategies, plans, processes and outcomes; **b. awareness and understanding of one's own learning competences and needs**, the indicator is (K1) awareness and understanding of one's learning preferences, including styles, approaches, methods and environments; and **c. capacities and abilities related to learning modalities**, the indicator is (S5) capacity to engage in and relate to different ways of communication as part of collective learning processes.

For all three areas, the (loosely) corresponding values and attitudes are assessed highly – let us take the last aspect of learning modalities as one example. Respondents are generally open towards collaboration with others (M=4,3). They are also ready to share their views and achievements with others (M=4,3), and to take risks to discover new kinds and ways of learning (M=4,1). But they have difficulties to choose consciously between different modes of expression and communication depending on the specific situation (M=3,4). Respondents are, in other words, willing to extend their specific, personal sets of learning modalities, but have trouble choosing adequate ways of engaging with new situations.

II. Did learners develop their self-perception about learning? If so, how?

Clearly, yes! Again, a word of caution: while the changes in learner's self-perception are statistically highly significant, these changes don't look so exciting in numerical terms (+0,1) and may not mean a great deal in reality; it's practically impossible to judge that. One has to keep in mind though that most projects were not about *learning to learn* per se, but about running training courses on human rights education or about employment training to aid job search. Learning and *learning to learn* played – beyond the questionnaires – a major role only in very few projects, a minor role in

most projects and even no role at all in some other projects. Moreover, most projects were short, some extremely short. It would be unrealistic to expect that a two-hour session on learning embedded in a training on human rights education would dramatically alter the self-perception of learners.

Across all indicators, the change in self-perception – and more broadly, the development of learning competence – is small but highly significant. This overall increase signifies that a measurable process of *learning to learn* has taken place. The increases are highest in the areas that were originally assessed lowest – mostly in the indicator blocks ‘skills’ and ‘knowledge’. The attitudes of respondents changed least; but they were also the highest indicator group to begin with. In all three comparatively underdeveloped areas – capacities and abilities related to reflection on learning, awareness and understanding of one's own learning competences and needs, and capacities and abilities related to learning modalities – several skills improved, or more precisely: the self-perception of the level of several skills increased. Generally, this had led to a better overall understanding of learning and thus to a result of *learning to learn*: "I know how I can learn best" is one of the indicators with the highest increase.

Interestingly, the difference in outcomes according to the type of educational activity included in the project are noticeable, and somewhat counterintuitive: the satellite projects showed the highest change of self-perception and self-assessment across all indicators, followed by the practice projects and trailed by the two training courses at the beginning of the project. One likely reason is that self-assessment generally becomes more critical as the engagement with a subject deepens: certainly, the two training courses explored *learning to learn* most intensively, which may have contributed to a higher level of critical self-reflection and self-perception. At the same time, the focus of the different activities on *learning to learn* was also different: the training courses were exclusively focused on *learning to learn*, practice projects to a lesser extent and satellite projects often very little if at all; the *learning to learn* component became less visible and may therefore have been less a subject of initial or direct reflection before the educational activity, possibly resulting in higher increases through the activity. These thoughts feed one of our main conclusions stemming from the research: that reflection about learning and *learning to learn* benefits from time-lag (more about that later).

2. On collective and collaborative learning

1. Is co-operation with peers appreciated?

Absolutely and unequivocally: yes! Three indicators in particular clearly show that co-operation with peers is highly appreciated: (K5) awareness of the capacity of

collective modes of learning, including peer groups and communities of practice, (A2) willingness to engage in one's own learning, both individually and collectively, and (A3) readiness to contribute to the learning of others, both individually and collectively.

Four related statements from the questionnaires are: "Groups and social networks can stimulate my learning" ($M=4,1$), "Significant learning processes also take place in group contexts" ($M=4,3$), "In learning activities, I am open towards collaborating with others" ($M=4,3$), and "Generally, I am ready to share my views and achievements with others" ($M=4,3$).

The two first statements are related to the knowledge indicator (K5) awareness of the capacity of collective modes of learning, including peer groups and communities of practice. Both experienced a significant increase in the post-activity questionnaires: "Groups and social networks can stimulate my learning" ($M_{pre(171)}=4,2 : M_{post(171)}=4,4$), "Significant learning processes also take place in group contexts" ($M_{pre(171)}=4,4 : M_{post(171)}=4,6$).

The latter two statements are related to the attitude indicators (A2) willingness to engage in one's own learning, both individually and collectively, and (A3) readiness to contribute to the learning of others, both individually and collectively. There is practically no overall change when comparing pre- and post-activity responses: "In learning activities, I am open towards collaborating with others" ($M_{pre(171)}=4,3 : M_{post(171)}=4,3$), and "Generally, I am ready to share my views and achievements with others" ($M_{pre(171)}=4,3 : M_{post(171)}=4,3$).

The changes that do occur are at the lower end of the scale: learners who originally assessed that their own readiness to engage and share with others was low or very low considered this attitude to have slightly improved after their activity in question.

This confirms the earlier observation that most of the participants in the project's activities – most of the responding participants that is – have some degree of familiarity with the non-formal education sector's approaches and practices, which rely heavily on co-operation and collaboration; furthermore, they do not seem to be overly restricted by the often individual and competitive nature of test-based classroom education.

Something that the surveys do not show and which we cannot qualify because it has not appeared in enough of the observed projects, is how strongly some circumstantial factors influence the degree to which the generally positive attitudes towards co-operation with peers translate into practice. One decisive factor seems to be the general learning environment: if the overall situation hinders learning in gen-

eral, co-operation happens less easily, probably obviously so. Another decisive factor seems to be group constellation and, related to that, power structures: if learners find themselves in group constellations which overpower them, or in which their role does not correspond to their own expectations, co-operation happens less easily, too. A third decisive factor seems to be general workload: if learners need to take care of things other than the activity they are attending, they seem to be more inclined to do so during phases of co-operation with peers in smaller groups.

II. Are there specific things that are learned better with/from peers?
Are specific situations/methods mentioned which support learning with others?

The research did not address the aspect of specific *subjects* that are learned better with/from peers. We did, however, look at situations (mostly through the surveys) and methods (mostly through the observations) in support of *learning to learn* in general, and also more specifically in support of peer learning.

In the surveys, we used a matrix to match different aspects of *learning to learn* across the three indicator domains (knowledge, attitudes, skills). For each aspect, participants were asked to identify not more than two of in total nine different learning situations in which each given statement applies best to them.

The responses to this question confirm the strong social orientation of the learning approach ubiquitous among respondents: the statements "Significant learning processes also take place in group contexts" and "In learning activities, I am open towards collaborating with others" were chosen most across all nine learning situations. Both aspects play an essential role in learning situations (2) in day-to-day contact with other trainees, (3) in planned activities and exercises with others, (4) when reflecting by myself or with others, and (5) when creating something alone or in the group.

When it comes to methods, it has firstly become clear – and not surprisingly so – that most of the quality standards connected with non-formal adult education, whether intrinsic or explicit, are preconditions for successful processes of *learning to learn*. This aligns well with theory, which considers *learning to learn* largely as a process of metacognition. In other words: if a particular learning process is constrained in any way, or even completely unsuccessful, metacognitive processes of reflection generally suffer from the same constraints and limitations.

Secondly, the findings suggest that *learning to learn* benefits from long-ranging learning cycles. Several activities opted to organise relatively short and succinct sessions on learning and/or *learning to learn*, followed – in the tradition of the sector – by a unit or at least a moment of reflection. Frequently, participants had diffi-

culties to extrapolate, from such a comparatively short learning experience, any meaningful insight about their learning process. In other words, and as alluded to before, a longer time-lag – longer than usual in the sector – between experiencing learning activities, on the one hand, and reflecting profoundly on that experience, on the other hand, tends to support the willingness for critical reflection and thought as much as the clarity of insight.

The deeply personal character of learning – and reflection about learning – has led to recurring dilemmas and problems. Participants repeatedly showed signs of, and occasionally expressed, hesitation to share their personal reflections on their individual learning goals and preferences, successes and failures, troubles and shortcomings with others. The resulting situation almost is a dilemma: while participants generally favour collective and collaborative learning, they tend to be more hesitant, in some cases outright declining, to engage in collective and collaborative modalities of learning about learning, or *learning to learn*.

Finally, there is one aspect connected to collaborative learning worth some special attention, namely that participants are most ready to take risks to discover new kinds and ways of learning in two situations, namely (3) in planned activities and exercises with others, and (5) when creating something alone or in the group. This increased readiness to assume a risk is obviously also connected with a generally safe learning environment, but it is nonetheless remarkable that it seems to be easier for respondents to take risks together with others.

3. On planning and organising learning

1. What do learners see as challenging in planning and organising learning? Are they actually really planning and organising their learning?

Several indicators address the planning and organising of learning, among them (S2) capacity to reflect, analyse and evaluate one's learning, including strategies, plans, processes and outcomes, (S3) capacity to autonomously manage one's learning, including planning, organisation, regulation and sustainment (including the capacity to identify and make adequate use of education, training, counselling and guidance opportunities), and (S7) ability to construct and manage one's learning in relation to prior learning and life experiences.

Generally, most aspects of planning and organising learning relating to these indicators were among the ones with the lowest initial self-assessment:

Planning & organising learning // Indicators: knowledge, attitude, skills	0	1	2	3	4	5	Mean	Mode	Dev
<i>PRE-COURSE QUESTIONNAIRE (N=340)</i>	does not apply at all					Fully applies			
I am able to plan & organise my learning on my own	2,1%	2,9%	13,5%	23,8%	33,5%	24,1%	3,6	4	1,2
When planning my learning, I build on former learning experiences	1,5%	1,5%	8,5%	21,2%	41,8%	25,6%	3,8	4	1,1
I know how to find training or learning opportunities	1,5%	2,1%	11,8%	27,1%	37,4%	20,3%	3,6	4	1,1
When taking part in a learning activity, I ensure it is suitable for my needs	1,8%	1,8%	10,0%	27,4%	37,4%	21,8%	3,6	4	1,1
I am able to identify my personal learning needs	1,2%	0,3%	3,2%	25,0%	50,0%	20,3%	3,8	4	0,9
I am used to defining learning goals for myself	1,2%	4,4%	14,7%	28,5%	35,0%	16,2%	3,4	4	1,2
I am able to judge the quality of my learning processes and outcomes	0,9%	2,4%	7,4%	27,6%	43,2%	18,5%	3,7	4	1,0

One dilemma cutting across the entire project educationally and the research strand methodologically is the different interpretation of what respondents consider to be learning. Very often, the notion of learning remains – not necessarily in learning practice, but often in terms of association – strongly linked to formal education, to instruction and repetition, to being taught by a person or a book. Self-motivated learning often occurs, however, when there is a motivation to learn something, and as a result, someone learning how to sail would often not consider a sailing lesson as learning per se, but rather as training for the sailing license.

This dilemma is not easily resolved – not in education, not in research – and may in fact not be resolvable at all, recognising that the underlying questions are basically of ontological nature.

This also means that while someone might not make plans to learn, they might very well make plans on when, where and how to take sailing lessons...

The self-assessment of most of these aspects increased post-activity:

Planning & organising learning // Indicators: knowledge, attitude, skills	0	1	2	3	4	5	Mean	Mode	Dev
<i>POST-COURSE QUESTIONNAIRE (N=189)</i>	does not apply at all					Fully applies			
I am able to plan & organise my learning on my own	0,0%	3,8%	7,5%	22,0%	39,8%	26,9%	3,8	4	1,0
When planning my learning, I build on former learning experiences	0,0%	0,0%	2,1%	19,3%	49,7%	28,9%	4,1	4	0,8
I know how to find training or learning opportunities	0,0%	1,1%	6,9%	27,0%	46,0%	19,0%	3,8	4	0,9
When taking part in a learning activity, I ensure it is suitable for my needs	0,0%	1,6%	6,9%	21,2%	49,7%	20,6%	3,8	4	0,9
I am able to identify my personal learning needs	0,0%	0,5%	0,5%	20,7%	55,3%	22,9%	4,0	4	0,7
I am used to defining learning goals for myself	0,0%	3,7%	10,2%	33,2%	35,8%	17,1%	3,5	4	1,0
I am able to judge the quality of my learning processes and outcomes	0,5%	1,6%	3,7%	23,3%	47,1%	23,8%	3,9	4	0,9

What the surveys do not show is a major difficulty we observed at practically all practice projects – participants had a really hard time to make a clear distinction between planning what to study, and planning what to learn. Being aware that the learning outcome of an educational activity is often different than the actual learning process and not always predictable, it was difficult to identify, for example, learning goals for the day.

The learning diaries of participants often show that struggle: what a diary records in the morning as the plan for the day is often the subject of inquiry; what it shows with some distance, however, is generally the impact of learning, which may only be remotely connected to the topic at the forefront of the learning process.

Can (the metacognitive part of) learning (to learn) be planned at all?

4. On reflection and assessment

*!..... What are different perceptions of learners on reflection?
Are there preferred modalities (individual, collective) and/or tools?*

Three indicators address reflection and (self-)assessment specifically – all three of them focused on skills: (S1) capacity to reflect on the object, purpose and impact of learning, both as a concept and practice, (S2) capacity to reflect, analyse and evaluate one's learning, including strategies, plans, processes and outcomes, and (S6)

ability to evaluate and review one's perceptions and beliefs, in particular those directly or indirectly affecting one's learning.

The following table provides an overview of the pre-activity questionnaire statements pertaining to reflection and self-assessment relating to these three indicators:

Reflection & assessment // Indicators: skills	0	1	2	3	4	5	Mean	Mode	Dev
<i>PRE-COURSE QUESTIONNAIRE (N=340)</i>	does not apply at all					Fully applies			
I reflect on what I have learned on a regular basis	2,1%	2,4%	11,5%	35,6%	33,8%	14,7%	3,4	3	1,1
I reflect on what supported or blocked my learning in a specific context	1,8%	5,0%	17,4%	24,7%	34,7%	16,5%	3,4	4	1,2
I am able to judge the quality of my learning processes and outcomes	0,9%	2,4%	7,4%	27,6%	43,2%	18,5%	3,7	4	1,0

As can be seen, the initial self-assessment of respondents before their activity in question was very low in comparison to most other aspects and indicators. This has not changed much in the responses to the post-activity questionnaires either:

Reflection & assessment // Indicators: skills	0	1	2	3	4	5	Mean	Mode	Dev
<i>POST-COURSE QUESTIONNAIRE (N=189)</i>	does not apply at all					Fully applies			
I reflect on what I have learned on a regular basis	0,5	2,2	10,2	33,9	38,2	15,1	3,5	4	1,0
I reflect on what supported or blocked my learning in a specific context	0,0	2,1	11,2	34,2	35,8	16,6	3,5	4	1,0
I am able to judge the quality of my learning processes and outcomes	0,5	1,6	3,7	23,3	47,1	23,8	3,9	4	0,9

In short, one could say: participants like and are committed to learning, they appreciate and utilise the social potential of collective learning, but they are not used and/or educated to reflect on their learning process or outcomes.

It is interesting that the trainers, who were asked to assess how much trainees reflect in what they have learned on a regular basis, are slightly more positive than trainees – even more so as the trainers were generally *more* critical than trainees.

Our observations confirm what these numbers hint at: the strategies and methods employed to stimulate and encourage reflection were generally falling short of their ambition.

The situation-statement matrix (see chapter 5.2) makes this very plain: there is really only one learning situation in which reflection plays a role – situation (4) when reflecting by myself or with others. In other words: most trainees reflected on their learning only when a session or moment had been organised specifically for that purpose.

The methods employed for reflection heavily relied on writing and talking and seemed in comparison less imaginative than the creativity of the sector usually allows and commands. Through this approach, some training teams encountered a peculiar problem remarked upon (not only but especially) by the trained psychotherapist in our research team: repeatedly, the climate of reflection conversation, such as debriefing rounds, suggested a level of privacy that did, in reality, not exist. It made several participants, and sometimes fellow trainers, uneasy and is not unlikely to have prevented the level of trust aimed at by the creation of intimacy in the first place. This suggests that – in several cases – the activities did not find the right balance between, on the one hand, treating learning and *learning to learn* as the clearly personal subject it is and, on the other hand, providing a safe space for exchange and reflection that allows each trainee to decide individually how personal it should get. Consequently, adequate methods and approaches for reflection of learning processes and outcomes need to be further developed, alongside with the respective competences of trainers and educators.

5. On motivation

1. How do learners motivate themselves for learning? Are they successful?

Four indicators address motivation specifically, namely (K4) awareness of one's attitudes related to learning, including own perceptions, beliefs, values, aspirations and motivations (and how these are shaped), (A1) commitment to and positive appreciation of learning as an on-going practice, (A6) willingness to sustain one's curiosity and motivation for learning, and (S3) capacity to autonomously manage one's learning, including planning, organisation, regulation and sustainment.

The responses to the pre-activity survey show that learning is overwhelmingly considered an important part of respondents' life from the outset. People largely intend to engage in learning on a regular basis and generally believe they know what motivates or discourages them to learn. They seem to manage reasonably well to keep their motivation going, but their learning goals tend to suffer from daily workloads. The responses to the post-activity survey indicate that this situation has been slightly strengthened by the non-formal adult education activities.

6. On facilitating learning

!..... Do facilitators see a different role for themselves?
Do learners see a different role for facilitators?
What is seen as different? What is seen as challenging?

A first starting point is the observation that among those activities that addressed *learning to learn* explicitly, the majority relied on a standard repertoire of non-formal methodology to address *learning to learn*: discussion groups, individual reflection, self-perception, self-assessment, learning diaries, focus groups; occasionally utilising metaphors such as the river of learning as a starting point and, in one case, wrapping it around appreciative inquiry.

A second starting point is the observation that during most sessions that addressed *learning to learn*, trainers did generally not change their approach to facilitation as compared to using the same methods aimed at learning in relation to another topic.

A third starting point is the observation that several of the methods employed to address *learning to learn* seemed to work less powerfully and less reliably than trainers as well as trainees were used to. This could relate to the timing, to the quality of the discussion, to the easiness of engagement, to the quality of confidentiality.

In other words: something about the – deeply personal – topic **learning** seems to change the way learners are willing to engage. Only occasionally did this break to the surface in that a session went sideways, but it was often tangible nonetheless. It astonished trainees and irritated trainers, but there was hardly enough time to explore where this came from and why this was so.

We do not really have any good response to this either in the sense of a complete analysis, but we have a few pointers. Firstly, learners were confronted with the invitation to take risks to discover new ways of learning and to question their views, values and beliefs while learning about learning. One respondent described the resulting dilemma succinctly with "What's wrong with my learning?!" It may be fun to discover new techniques of sailing or explore a new sailing boat, but it seems to be less fun to discover new techniques of learning or explore new learning environments. People did not simmer with excitement, instead they often noted exhaustion and anxiety. Secondly, learners seemed to question, at least inwardly, the authority of peer learners and trainers to question their own ways of learning. The authority for that was never negotiated (but also never fully challenged). Thirdly, to several participants the meta-level of learning about learning was just too aloof. Fourthly, learning for the purpose of *learning to learn* seems to carry, for some, the connota-

tion of learning for the sake of learning. It is not a long stretch to imagine that this connotation does not bear well.

An important dimension of *learning to learn* that works differently from the general practice of non-formal education is *time*. Processes of metacognition require differently timed cycles of experiencing and reflecting.

We have pointed at the often relatively quick sequence of learning cycles before in another context, and the fast-paced approach to exploring learning returns here. When it comes to the facilitation of learning, it may be particularly interesting to consider that numerous participants felt the issue of learning was overly reflected when there was nothing (yet) to reflect about.

Several trainers and participants noted that *learning to learn* sneaked into some activities practically unannounced, and that the level of personal reflection and personal questioning required for the *learning to learn* sessions came unexpected and was then in part also not very welcome. It seems very clear from the comments as well as the observations that any engagement with *learning to learn* must be absolutely voluntary and can only be meaningful when started intentionally.

Taking together our observations of the different practice projects, we formulated hypotheses about numerous aspects that support the development of learning competence and foster *learning to learn*, which we developed further into five sections. Section II "Educational structures and relations" addresses the role of facilitators most directly:

The development of *learning to learn* is supported by

- *trust, respect and appreciation between and among educators and learners;*
- *clarity and mutual understanding about the ownership of the learning outcomes;*
- *the development of a sense of ownership in relation to the learning process;*
- *educators being competent learners and, thus, serving as models for learners;*
- *educators pro-actively accepting, while not abusing, their function as role models;*
- *a mutually rewarding reciprocal partnership between educators and learners;*
- *clearly defined roles of educators & learners;*
- *a supportive and empowering role of educators;*
- *transparency about roles, functions, hierarchies and power relations;*
- *openness about and appreciation for questioning and changing roles, functions, hierarchies and power relations;*
- *group norms that are openly negotiable, but also binding once negotiated;*
- *structures and relations allowing educators and learners to intervene and engage without feeling restrained by time pressure, group size or programme setting.*

7. Main insights

1. Learning to learn is a method of reflective action

The literature reviews have shown that – the fuzziness of the concept notwithstanding – *learning to learn* is predominantly understood as a method-in-action: people have to engage in the activity itself – learning – to learn about it. This project started from the same assumption and was designed to explore approaches aimed at fostering *learning to learn* in educational practice. The experiences of this project demonstrate that engaging in learning needs to be adeptly complemented by reflecting about learning to successfully foster *learning to learn*.

2. Social learning approaches support meaningful reflection about learning

The methodological approaches of adult non-formal education extensively rely on and utilise social modalities of learning. The resulting collective learning experiences and subsequently shared reflections have a tangible effect and notably support meaningful cognition. For most learners involved in this project, joint discussions of shared experiences were the most powerful catalyser for reflection.

3. Profound reflection about learning requires new approaches

In adult education, most reflection approaches draw on a well-established set of instruments and follow a sequence rooted in a widely shared understanding of learning generally associated with David Kolb's model of experiential learning (Infed 2001). For fostering *learning to learn*, however, the chronological sequence of *experience – reflection – generalisation – application* might need to be modified. The experiences of this project have shown that short learning experiences are less likely to provide for meaningful processes of reflection about learning, and that the development of learning competence is likely to benefit from an extension of the intervals between (learning) action and reflection (of learning processes) and from a shift away from the established sequence and proximity of action and reflection towards time-delayed reflection.

4. Learning development and learning assessment need separate instruments

It is common practice in adult non-formal education to employ instruments such as self-assessment questionnaires for two purposes concurrently, namely both for the (self-) assessment of learners' competences *and* as a basis for the development of those competences. This duality of purpose tends to result in distortion: learners often consider their competences differently when reflecting on personal development

(How good would I like to be?) as compared to assessing how good they currently are (How good am I in comparison to the standard in the field?). The experiences of this project showcase that a separation of purpose and the application of distinct instruments greatly benefits the two related, but ultimately independent processes.

5. Simplistic assumptions about learning styles are deceptive

Learning styles, despite extensive and comprehensive criticism, continue to frequently inform adult education practice. The experiences of this project demonstrate that simplistic assumptions about individual learning styles are misleading. Learning differences exist less between people, and more between contexts – and these go far beyond the modality of the content matter: they have to do with learners and their current state of mind and mood, their level of exhaustion or energy, the timing and structure of learning activities, the content, the educators, the relation and level of trust between the actors involved, the environment, the spoken and unspoken expectations, and more aspects of this kind of nature.

6. Focusing on learning *how* to learn is too restraining

Similar to the *learning to learn* discourse, educational practice can occasionally drift towards a focus on learning **how** to learn, most commonly by working on learning techniques. This is a rather narrow and limiting approach: the literature reviews have underlined that there is no direct or circumstantial evidence to argue that how to learn is any more important than what to learn, why to learn, when to learn, where to learn, with whom to learn or whether to learn. The experiences of this project confirm that a restrictive focus on one or two aspects of *learning to learn* not only lead to a neglect of equivalent dimensions, but also risk that learners fail to improve their own learning holistically.

7. Established learning patterns need to be extended, not broken

Several of the educational teams involved in the project referred to the ‘unlearning’ of old learning patterns which needed ‘to be broken’ before participants could embrace new learning approaches. The experiences of this project suggest that unlearning – e.g. changing and modifying – established learning patterns, which are commonly shaped by formal education, is more effective when integrating rather than completely neglecting or even renouncing familiar learning approaches. In other words, adult pedagogy and didactics should not, as a rule, destabilise learners but should use their existing resources more effectively.

8. Learning to learn does not necessitate an exclusive focus on learning

This project has developed educational approaches to work with *learning to learn* as a method-in-action, whereby people engage in learning activities to learn through them about learning processes. The different practice and satellite projects have shown that the thematic focus of learning activities is not restricted to learning itself. It became evident that with adequately designed reflection sessions and instruments, learning activities with a focus on other subject matters can also provide useful – if mediated – perspectives on learning.

9. Taking learners from implicit to deliberate learning fosters learning to learn

As noted earlier, many participants in the practices analysed as part of this project had some difficulty in deducing meaningful insights on learning that embrace the complexity of *learning to learn* from one learning experience only. Cascading sequences of learning experiences exploring several aspects of a learning dimension, such as creativity in learning, were much better suited to aid substantial reflection by taking participants consecutively from stages of implicit learning to stages of deliberate learning.

10. Situated learning environments do not replace individual learning references

The educational approaches developed within this project to foster *learning to learn* make, in conformity with the principles of adult education, extensive use of collective learning modalities. The situated learning environments created through this approach did not, however, require learners to distance or even dissociate themselves from their own learning references and preferences. The experiences of this project suggest that social learning situations should attempt to accommodate personal starting points and enhance them with a complementary collective dimension.

11. Learning tends to defy all-embracing planning and necessitates power shifts

It lies in the nature of a project aimed at developing methodological approaches to foster *learning to learn* to plan sessions on learning extensively in order to design them optimally. Throughout the project, educational teams consequently had to deal with the dilemma that learning environments can be designed meticulously and learning activities can be planned very thoroughly – but the learning process of participants can at best be roughly anticipated. The resulting ambiguity of dealing with *learning to learn* calls for a distinct approach to facilitation, in particular because it necessitates a shift of power to learners who (need to) take responsibility for their learning.

12. Comfort zones are likely to change when reflecting on learning

While learning has an increasingly acknowledged social dimension, it also remains a highly personal experience. Educational teams of activities within this project were frequently confronted with debriefing and reflection sessions during which participants reacted more sensitively regarding individual aspects of their learning process. Most participants seemed generally to consider learning and the underlying processes as highly personal, and were often hesitant and occasionally reluctant to share insights into their own learning process quite as openly as expected. Taken together with the recommended shift towards cascading experiences and time-delayed reflection, approaches as well as tools for reflection on learning may well benefit from adaptation and improvement accommodating both social and personal dimensions of learning.

8. An educational framework for learning to learn

After the initial review of the qualitative analysis of all practice projects, the research team formulated a set of hypotheses about aspects that support the development of learning competence and foster *learning to learn*, which were subsequently further developed, including at the evaluation seminar of the “Learning to Learn” Project, to a set of (1) educational principles and foundations, (2) educational structures and relations, (3) educational context and content, (4) educational approaches and methodologies and (5) educational environments and settings. Some of the aspects outlined below are considered to foster suitable learning environments as a basis for exploring *learning to learn*, while others are considered to be specifically relevant for fostering *learning to learn* and are indicated as such.

I. Educational principles and foundations

The development of learning competence is supported by

- a diverse group of learners,
- learner-orientation, in particular in view of the needs and interests of the learners;
- a programme design and implementation that meets learning needs;
- transparency of learning objectives, planned methodology and learning process;
- voluntarism of learners, meaning that learners participate voluntarily and by choice;
- confidentiality, meaning that learners can trust in particular the confidentiality;
- safe learning spaces allowing for trial and error and learning without fear.

Learning to learn is particularly fostered by

- a programme design and flow in consideration of diverse learning preferences;
- empowering learning spaces allowing to question one's own previous learning.

II. Educational structures and relations

The development of learning competence is supported by

- trust, respect and appreciation between and among educators and learners;
- clarity and mutual understanding about the ownership of the learning outcomes;
- the development of a sense of ownership in relation to the learning process;
- educators pro-actively accepting, while not abusing, their function as rolemodels;
- a mutually rewarding reciprocal partnership between educators and learners;
- clearly defined roles of educators and learners;
- a supportive and empowering role of educators;

- group norms that are openly negotiable, but also binding once negotiated.
- structures and relations allowing educators and learners to intervene and engage without feeling restrained by time pressure, group size or programme setting.

Learning to learn is particularly fostered by

- educators being competent learners and, thus, serving as models for learners, in particular about and in relation to *learning to learn*;
- transparency about roles, functions, hierarchies and power relations, and
- openness about and appreciation for questioning and changing roles, functions, hierarchies and power relations, allowing for and facilitating responsibility shifts.

III. Educational context and content

The development of learning competence is supported by

- clearly specifying the contexts in which educational activities are embedded;
- the choice of a tangible aspect, question or dilemma;
- the perceived closeness of the educational activity to real life concerns;
- the perceived sense of a need for change and the potential for change;
- the effort to explore an aspect, question or dilemma from several perspectives;
- allowing for several different, even divergent, points of departure to be(come) relevant for and benefit from an educational activity.

Learning to learn is particularly fostered by

- complementing individual perspectives on learning with a collective dimension.

IV. Educational approaches and methodologies

The development of learning competence is supported by

- combining and balancing individual learning and learning in groups (in particular in small groups);
- learning in groups with a balance between commonalities and differences – meaning a balance between homogeneity and heterogeneity (providing for a feeling of security as well as the opportunity of learning from differences);
- providing opportunities to test and revise different learning strategies;
- providing activities in which feedback can be given and received regularly;
- a rhythm of learning that can adapt to learning and group processes;
- a flow of learning across activities that is seen as smooth and natural;

- an approach that allows for over-steering as well as understeering different programme elements and sequences;
- a diversity of methods, including:
 - interactive, communication-based and activity-based methods;
 - methods encouraging to learn with and from peers.

Learning to learn is particularly fostered by

- building on and/or relating to previous learning experiences – particularly allowing time and space to unlearn previously acquired ways of doing specific things;
- reflection (individually and in groups) of what has been learned and, more importantly, how it has been learned, and of what has contributed to the learning, e.g. with respect to motivation, learning preferences etc.;
- exploring and questioning assumptions about learning directly and pro-actively;
- choices of methods that do not exclusively reinforce learners' perceptions about their own and other people's learning;
- avoiding generalisations about learning approaches and styles while acknowledging their relevance as well as contextuality;
- building an experiential sequence of educational activities that take learning from implicit and accidental to tacit and deliberate – including an appropriate balance between action and reflection;
- a diversity of methods, including:
 - methods contributing to self-awareness, in particular with respect to one's learning preferences, one's strengths and weaknesses;
 - methods providing for observing others in their learning and trying out their approaches and methods;
 - methods daring to confront established learning patterns;
 - methods encouraging to try out new learning approaches and strategies.

V. Educational environments and settings

The development of learning competence is supported by

- a collegial, trustful, open and empowering learning atmosphere;
- a learning environment that reflects a positive attitude towards learning;
- a learning environment that mirrors the promise of and demand for safety;
- a learning environment in which learners can turn to others for guidance;
- a learning environment in which learners can turn to others for support;
- a learning environment that can flexibly respond to changes on short notice;
- a time-planning and management that leaves sufficient time for all phases;
- providing informal spaces, settings and times beyond the planned programme;

- a clear agreement on how to manage communication beyond the activity itself, such as work-related emails or personal social networking activities.

Learning to learn is particularly fostered by

- a learning environment inviting learners to explore, experiment with and reflect on diverse learning strategies, instruments, approaches and preferences.

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