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## Rural Action Learning – promoting competences and strengthening participation

Development, testing and evaluation of a new concept of out-of-school learning in the region

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**Abstract:** *On-site learning in the own region has a high educational potential, which should be utilised by promoting the participation of adults, young people and children at regional level. In order to reach this objective, the concept of Rural Action Learning was developed, tested and evaluated in this research project. The evaluation results show that regional action-oriented learning promotes the identity formation and the acquisition of participatory competence. It contributes effectively to the participation at regional level with particular emphasis on an education for sustainable development. A two-group pre-test and post-test design was used to evaluate the effectiveness of Rural Action Learning. Participants in learning activities were asked to complete a questionnaire before and after the activity in order to detect changes in the characteristics of regional identity and participatory competence. In addition, interviews with organizers of learning activities provided comprehensive data to identify factors that influence the effectiveness of these measures.*

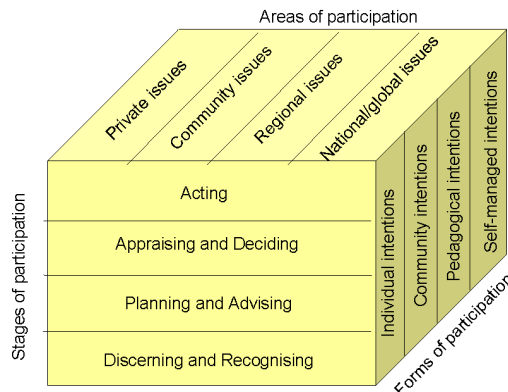
**Keywords:** *regional learning; action learning; regional identity*

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## Introduction

The motivation to develop, test and evaluate a new concept of regional learning outside normal school activity was based on two premises: on the one hand, the assumption that regional participation is necessary, and on the other, the conviction that participation must be promoted through education.

The first premise touches on the central idea of the concept of sustainable development. According to this, everybody should have the possibility of a fair share in material, natural and cultural goods - in both a narrow and generational context. The implementation of this dual idea of fairness is tied to the preservation, improvement and re-establishment of natural fundamentals, for each of these forms the basis of a socioculturally equitable and economically secure existence, for both present and future generations. The realisation of this overall concept requires the involvement of all individuals in considering and implementing innovative forms of living and working together. Such a participation in the sense of sustainable development needs to be understood in a multidimensional way: the participation cube makes clear the various stages, forms and areas (Figure 1). Thus, participation touches on both community and individual actions, relates to societal as well as private life and encompasses various grades of involvement in the constitution of the living environment of the individual. The requirements for participation and for the results of such are democratic and constitutional structures which create space for self-determined thinking and action, as well as the acquirement of key competences (Rychen and Salganik 2003), which enable such self-determined thinking and action.



**Figure 1. The participation cube: ways of individual participation in the constitution of the living environment**

Source: Schockemöhle 2009, with reference to Abs

With regard to the second premise: unrestricted access to education and the orientation of education to the objective of enabling the participation of each individual are indispensable steps towards sustainable de-

velopment. Schools and universities represent as no other institutions the places of 'public education' (Focali 2007, p. 153), in which hope for the improvement of both individual and collective circumstances is placed. At the same time, the objectives which schools in particular need to aspire towards are in many cases already formulated in the sense of Education for Sustainable Development (ESD) (c.f. DGFG 2007, KMK/DUK 2007, NAT 2003). However, there is often a lack of practical concepts which can deliver to both teachers and pupils the answers to the questions of 'how' and 'what' arising from the educational process.

In the field of research in environmental education, there has long been a discussion concerning tasks, contents and methods (Barrett et al. 2005, Harenberg and de Haan 1999, Jensen and Schnack 1997, Leal Filho 2005, Nagel et al. 2006, Reid et al. 2008, Rohwer 2000). The work presented in this paper is tied in with these aspects. Within this framework, a concept of education was developed, tested and evaluated which has the objective of promoting participation and which presents the necessary didactical tasks and challenges for its practical implementation.

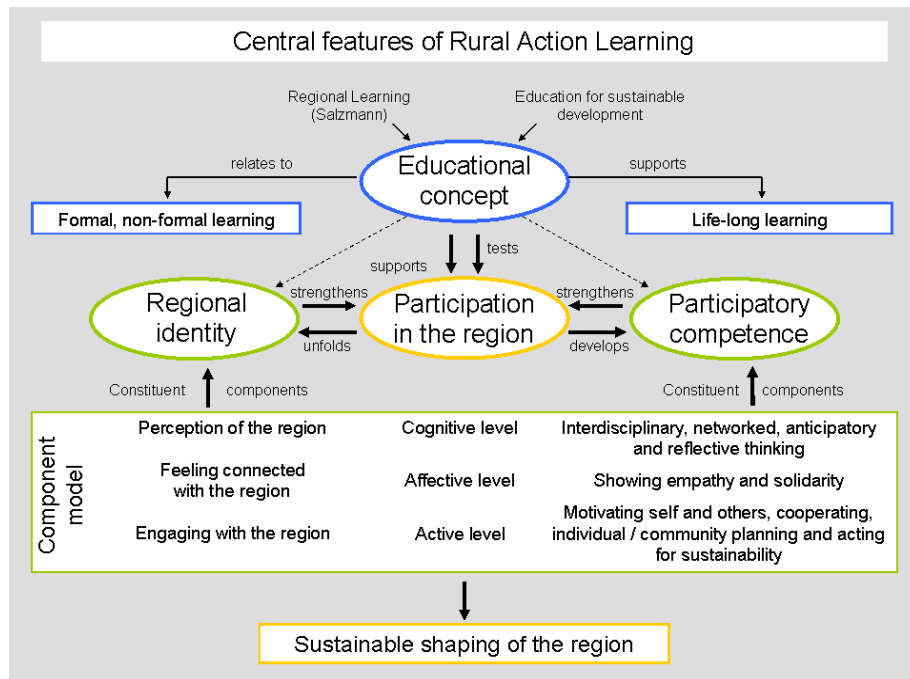
The new concept carries the name 'Rural Action Learning'. A central feature of the concept is the orientation towards action-oriented learning in the region which takes place outside the school. As regional places of learning, for example, agricultural or craft enterprises, locations on moorland, woodlands, water courses or business centres are used. The testing of Rural Action Learning takes place by means of various teaching goals which were developed based on the concept and were carried out at regional places of learning. Because the focus of the concept is on formal and non-formal learning, the teaching goals are set up with respect to children, young people and adults in schools and universities as well as other situations.

The evaluation study which follows on from the testing is intended to assess the effectiveness of the concept with regard to its objectives. In this case, participants in learning activities as well as the organizers of those measures (e.g. farmers, teachers, entrepreneurs) were questioned. The evaluation of the theoretically developed concept as an educational strategy for sustainable development was undertaken on the basis of these questionnaire results. The work presented here entered the field of empirical teaching and learning research with this remit. Because of its orientation towards the general principle of sustainable development, it is assigned to the research area of ESD.

### **Central features of Rural Action Learning**

Rural Action Learning is an educational concept which was developed on the basis of regional learning in accordance with Salzmann et al. (1995) and ESD (Harenberg and de Haan 1999). The development, and the subsequent evaluation, was carried out using the following main criteria: objectives, contents, methods, original and medial encounter, didactical principles and organization

of the learning environment. The response of Rural Action Learning to these criteria is located in the field of tension between the conceptional differences and similarities of regional learning in accordance with Salzmann et al. (1995) on the one hand and ESD on the other.



**Figure 2. Central features of Rural Action Learning**

Source: Schockemöhle 2009

The concept is aimed at promoting the regional identity and participatory competences of children, young people and adults. The conceptualisation underlying these constructs is made clear through the model of the components of regional identity and participatory competence (Figure 2). Through the assignment to cognitive, affective and active levels, the components acquire a systematic relationship. The analytical definition of the concept of participatory competence reflected therein is oriented towards the corresponding competence model of Harenberg and de Haan (1999). In regard to the use of the term 'regional identity', it should be noted that this has already been the subject of a controversial discussion, particularly in the field of geography (Blotevogel et al. 1987, Danielzyk and Krüger 1990, Lalli 1989, Weichhart 1999). The work presented here interprets the term in the sense of spatially oriented identity as used by Weichhart (1990). In this way, it relates to one of the fundamental socio-psychological conceptions of identity, that is, personal identity or self-identity (Erikson 1989, Krappmann 1975). Regional identity is understood as a component of personal identity; it refers to the influence of spatial-physical circumstances on the development of identity and there-

fore on knowledge, convictions, ways of thinking, values, norms, behaviour patterns and actions which enable the individual to find orientation in social, ethical and physical space.

This focusing on the two main categories of participatory competence and regional identity can be justified in that taken together, they enable participation (Harenberg and de Haan 1999, p. 20). A significant feature of Rural Action Learning now is that the acquisition of participatory competence and the building up of regional identity is not a precondition of successful participation. Rather, the concept is based on the assumption that both features develop and unfold only in regional participation, which can be integrated in various areas and forms as well as at different stages (Figure 1). Here it is assumed that there is a close interdependency between the creation of regional identity and the acquisition of participatory competence such that both factors mutually condition and strengthen each other in the process of regional participation. Thus, the building up of knowledge, conviction, ways of thinking, values and behavioural patterns, which according to Erikson (1989) constitute identity; imply as it were the acquisition of participatory competence. In addition, participatory competence developed in such a way, along with regional identity, facilitates a continuation of the involvement in the formation of the individual's own local space (Figure 2). Therefore, Rural Action Learning promotes the testing of participation within the framework of learning activities and in this way contributes to the future shaping of regions.

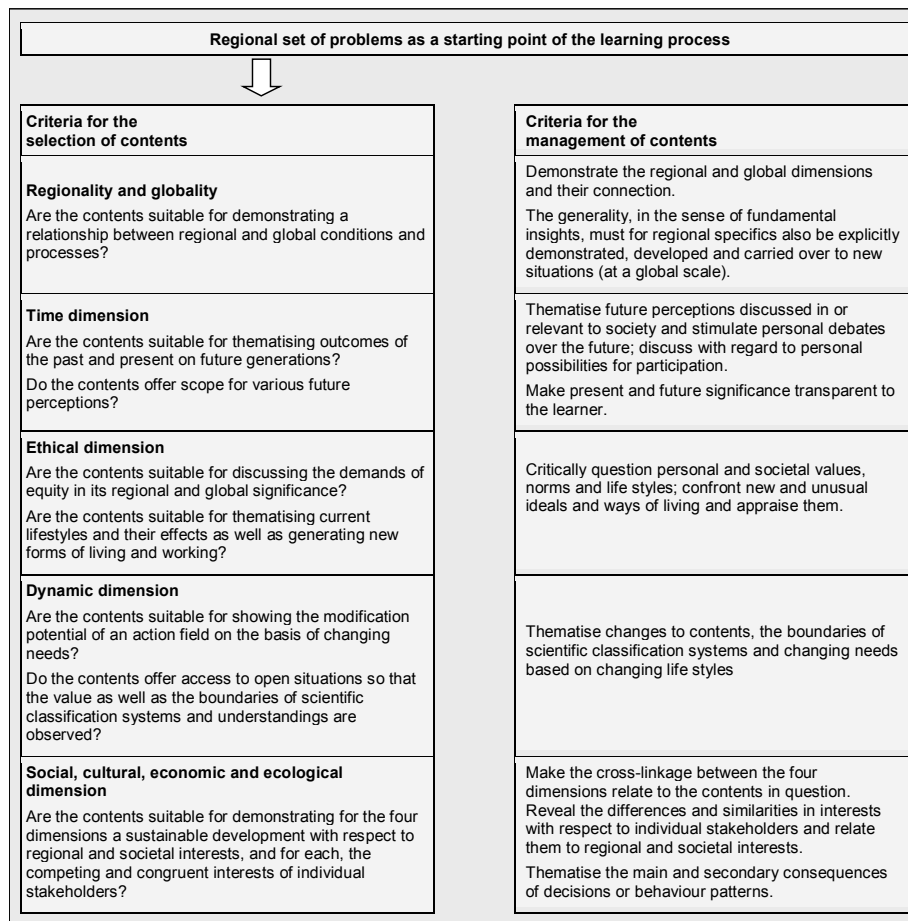
What are the consequences of the goals of Rural Action Learning on the related concept of the learning activities? In line with the main criteria for concept development referred to above, the following section will explore further the constitution and implementation of educational measures so that a picture of Rural Action Learning can be clearly sketched out.

In referring to Salzmann et al. (1995) and the central subject area of ESD, regional phenomena and characteristics relevant to sustainability invariably represent the starting point of the learning process. These can refer, for example, to subject areas such as regional materials and economic cycles, local transport, residential development and land use. The actual selection of contents is done by means of specific selection and control criteria (Figure 3).

In order to unfold the pedagogical potential of regional places of learning in out-of-school situations, action-oriented methods (beside the original encounter and including problem, situational and system-oriented learning in an interdisciplinary context) are an indispensable element of Rural Action Learning. To make this clear, the significant features of action-oriented learning according to Gudjons (2008) and Wöll (1998) are briefly listed here:

- Holistic learning;
- Self-sufficiency and self-activity in learning;
- Target-oriented and organised learning aligned to the creation of a product of activity;

- Orientation to the experiences, interests and aptitudes of participants as well as their daily and future activity situations;
- Opening of the educational institution via learning to actual problem situations;
- Presentation and discussion of the product of activity in public or in the educational institution;
- Reflection over action goals, execution and consequences as well as their evaluation;
- Transfer of the achieved knowledge to situations in daily life or lessons.



**Figure 3. Selection and management criteria with regard to the contents of Rural Action Learning**

Source: Schockemöhle 2009, referring to EDK 2007, p. 49

The action-oriented methods applied in Rural Action Learning are based on partner and group work as social forms and on various, for each target group properly selected forms of activity, such as exploration, project, learn-

ing stations, didactical games, experimentation or scenarios techniques. The implementation of the learning activity at the regional location such as a crafts enterprise or in a residential quarter of the town requires a duration of from three or four hours up to several days, plus time for preparation and follow-up processing.

The focus of Rural Action Learning on action-oriented methods has largely been mentioned and appraised by different authorities already as promising success and as being effective with respect to target setting (Dyment 2008, pp. 241 et seq., Hart 2008, pp. 19 et seq., Læssøe 2008, pp. 144 et seq., Nagel et al. 2006, p. 35; Schusler and Krasny 2008, pp. 268 et seq.). However, Meyer (2004, S. 80ff.) points out that the effectiveness of action-oriented learning has until now only been empirically investigated at a basic level. Within the framework of this project, therefore, empirically investigated statements on the effectiveness of action-orientation in Rural Action Learning will be made on the basis of the evaluation study.

## Testing and evaluation of the concept

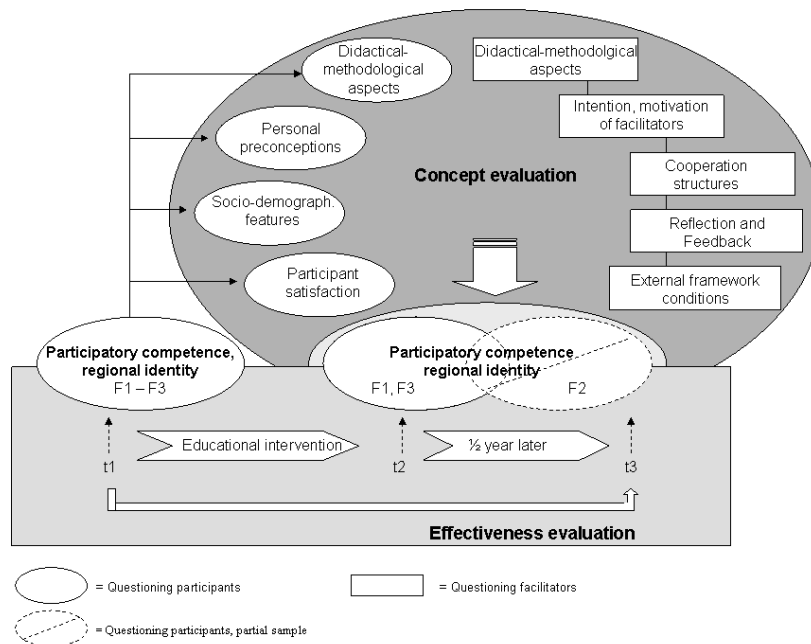
In order to test whether Rural Action Learning is able to effectively promote regional identity and participatory competence, there was a need for practical trialling. This took place within the EU project 'ALICERA' (Action Learning for Identity and Competence in European Rural Areas; Schockemöhle 2007, pp. 6-11) as a field trial, that is, in the practice of out-of-school regional learning. In the five participating European project regions - Brittany, Latvia, Lower Saxony, Tirol and West Hungary, learning activities were developed and carried out based on the didactical aims of the concept. The contents related to the subject of agriculture and food supply. The evaluation of randomly selected learning activities took place in the period of August 2006 to February 2007.

Underlying the evaluation was a complex evaluation design (Figure 4). The evaluation of effectiveness - the recording and assessment of data with regard to the effectiveness of learning activities - was carried out on the basis of a questionnaire study using a two-group pre-test and post-test plan. Participants in the learning activities were questioned immediately before an activity (point  $t_1$ ), immediately after the activity ( $t_2$ ) and then six months later ( $t_3$ ) using a questionnaire form in order to investigate changes at cognitive, affective and activity levels. The random selection of test persons was done by drawing them from a cluster sample, that is, in the participant project regions, a random selection of groups (e.g. school classes, recreational groups) was fully surveyed in the investigation period.

Because there were three different target groups for the survey - children (9-12 years), young people (13-16 years) and adults (17 years or older) - it was necessary in each case to design three age-specific questionnaires for the pre-



tests and post-tests. Additionally, experiment and control groups were set up for each age group. Here, participants in Rural Action Learning activities, characterised by a high degree of action orientation, made up the particular experiment groups. The control groups were recruited from participants in out-of-school regional learning projects with a very low level of action orientation. The groups were formed using the written information by the organizers of the educational measures in line with the central didactical guidelines which supported each evaluated measure in the form of a memo. In total, 2,134 participants were questioned.



**Figure 4. Evaluation design of the evaluation study**

Source: Schockemöhle 2009, with reference to Bittner 2003

The questionnaire study also provided data for the concept evaluation. In this case, factors needed to be recorded and assessed which influenced the effectiveness of the activities. In order to get detailed and fundamental information on influencing factors, a parallel interview study was carried out. The interviews and the documentation were carried out by the author indicated on the first place; the evaluation of the data took place in adherence to intercoder reliability with two encoders.

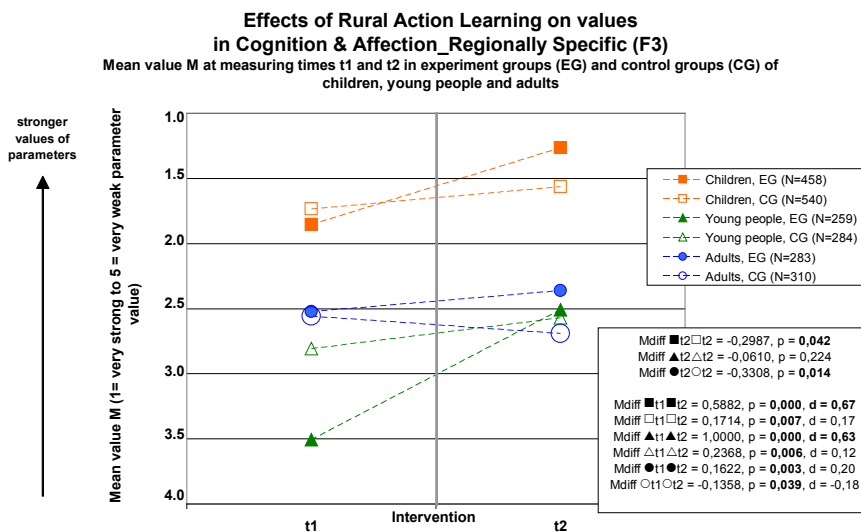
The triangulative procedure was intended to produce data for the purpose of complementarity which would be mutually complementary and make a deeper interpretation possible. In all project regions, the organizers were questioned. The job of recruitment was facilitated through partner institutions

which had good access to these groups via the offer of qualifications in the field of out-of-school, regional learning. In total, 18 people took part in the interview study.

## Effectiveness of Rural Action Learning

The results of the questionnaire study prove that with respect to the stated objectives, Rural Action Learning is extremely effective. For most of the measured parameters (components of regional identity and participatory competence, Figure 2), the experiment groups indicate significantly positive changes across the age divisions. The only exception is found in the parameter values at active levels for children, which were only improved slightly through Rural Action Learning (metrologically affected investigation error). In the control group, both slightly positive and slightly negative changes are found but these are mainly of low significance.

The direct comparison of the parameter values following intervention between experiment and control groups indicate that it is predominantly the participants in Rural Action Learning who show stronger parameter values than the control groups. Parallel to this, the effect size (in accordance with Cohen) indicates a clearly greater level of effect in the case of Action Learning measures than for learning activities with less action orientation. Overall, it is found that the degree of action orientation in a learning activity has a strong influence on the effectiveness of measures.



**Figure 5. Effects of Rural Action Learning on values of 'Cognition & Affection\_Regionaly Specific'**

Source: Schockemöhle 2009

This statement will be substantiated using the example of the measured changes in the value of cognitive and affective parameters of regional identity (perception/recognition of the region, connection with the region; brought together in the test scale 'Cognition & Affection\_Regionally Specific', Cronbachs Alpha 0,860, 17 items) (Figure 5).

On the effectiveness of Rural Action Learning, the following hypothesis was stated: **Effects hypothesis 1:** Rural Action Learning brings about in the short-term stronger values in the parameter Cognition & Affection\_Regionally Specific than an out-of-school regional educational measure with a lower degree of action orientation ( $H_1: M_{2EG} < M_{2CG}$ ).

In describing the results according to Figure 3: the mean value (M) for children in the measuring period  $t_2$  was found in the experiment group (EG) to be  $M_2 = 1.26$  and in the control group (CG) to be  $M_2 = 1.56$ . The difference amounts to  $M_{diffEG-CG} = -0.2987$  for an approximately equal starting value in the measuring period  $t_1$ . This result is with probability  $p = 0.042$  significant. The situation is different with the young people sample: with  $p = 0.224$ , no clear difference in the parameter values between experiment and control groups can be found. However, it should be noted here that there is no homogeneity of variance between the experiment and control groups with regard to the variable. The Levene test is with  $p = 0.003$  significant. The noticeably high standard deviation from  $SD = 1.28$  in the experiment group and  $SD = 1.13$  in the control group, plus the particularly high mean value difference in the measuring period  $t_1$  confirm similarly the variance heterogeneity. In order to be able to compare the extent of the effect of a measure from Rural Action Learning with an effect from a learning activity with less action orientation, the effect size  $d$  is calculated in accordance with Cohen. The results show that with  $d = 0.63$ , a large effect with Rural Action Learning in the case of young people can be proven, whereas in the control group, there was no appreciable effect with  $d = 0.12$  (c.f. Bortz and Döring 2006, p. 627).

For the adult group, with  $p = 0.014$  there is a significant mean value difference between the experiment group and the control group. It is striking here that in the control group, there is a higher mean value ( $M_2 = 2.69$ ) after the intervention compared to before the measures ( $M_1 = 2.55$ ), meaning that the educational intervention had a counter-productive effect (interpreted as a negative attitude to the measure at the post-test in the period  $t_2$ ).

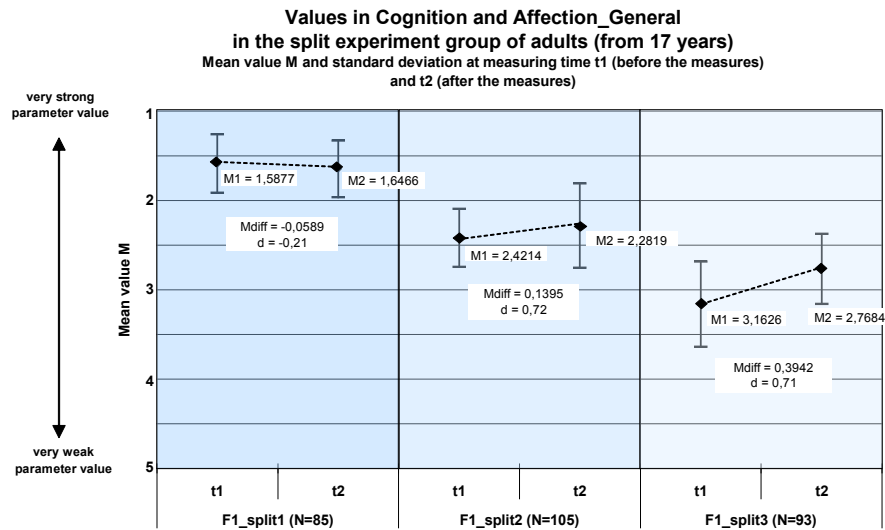
In summary, the effects hypothesis 1 can be accepted for participating children and adults, while for young people it must be rejected. For young people, a much greater effect can be established in the experiment group than in the control group.

**Effects hypothesis 2:** Participation in an educational measure under Rural Action Learning in the short term results in strong changes in the parameter Cognition & Affection\_Regionally Specific ( $H_1: M_1 > M_2$ ).

In consideration of parameter changes in Cognition & Affection\_Regionally Specific, highly significant results for the experiment groups can be proved in all samples: for children, the mean value changes from  $M_1 = 1.8529$  to  $M_2 = 1.2647$  ( $p = 0.000$ ) and for young people, the mean value decreases from  $M_1 = 3.5079$  to  $M_2 = 2.5079$  ( $p = 0.000$ ). For adults, the initial mean value of  $M_1 = 2.5226$  decreases to  $M_2 = 2.3604$  ( $p = 0.003$ ). In all three target groups, therefore, Rural Action Learning results in stronger values in perception of the region and in regional connectedness. The effects hypothesis 2 is therefore accepted. In particular, the young people group responds especially well to the measures: with  $M_{diff} = 1.00$ , this group shows the greatest parameter changes, although it should be noted that the parameter values prior to the measures were particularly weak. Here, the essential differences in the answer behaviour before and after a learning activity, measured on the answer frequency per scale point, are found especially in the cognitive area. That is, in reference to statements about knowledge of the region, more answers move along the scale in the desired direction after the measures than in the case of statements about connectedness with the region. This is also true for the answer behaviour of children and adults. In the affective segment, desired changes can also be achieved but these are at a lower level than in the cognitive area.

## The influence of personal preconceptions

The personal preconceptions of the test subjects with reference to participatory competence and regional identity were recorded immediately before the measure in order to test whether the extent of the parameter values prior to the learning activity had an influence on the effectiveness of the measures. For this purpose, in each age group, the auxiliary variables X\_split1, X\_split2 and X\_split3 are created. These variables are based on a frequency analysis. The splits have a threefold graduation and each contain the lower, middle and upper tercile of the particular experiment and control group, subject to a weak (split 3), middle (split 2) or strong (split 1) value in the corresponding variable on the part of the test subject. The quantitatively produced data stock clearly indicates that the strength of the parameter values which the participants show prior to a measure will exert a strong influence on the effectiveness of Action Learning activities. Thus, participants with middle to weak parameter values are far more effectively supported than participants who before the measures were already marked by a high participatory competence and strong regional identity. This relatively unsuccessful response from the 'competent' participants indicates that in this particular category of persons, only very minor positive parameter changes can be established following the measures and even negative parameter changes may be found (Figure 6). While it cannot be assumed that the educational measures themselves cause the loss or forfeiture of abilities, skills, attitudes etc. and with that, the weaker parameter values which were measured here, it is more likely that the measures induced boredom, discontentment and rejection by participants with the stronger values; this was reflected in the answer behaviour during the written inquiry.



**Figure 6. Values in Cognition & Affection\_General, before (t<sub>1</sub>) and after (t<sub>2</sub>) the measures, in the split experiment group of adults (from 17 years)**

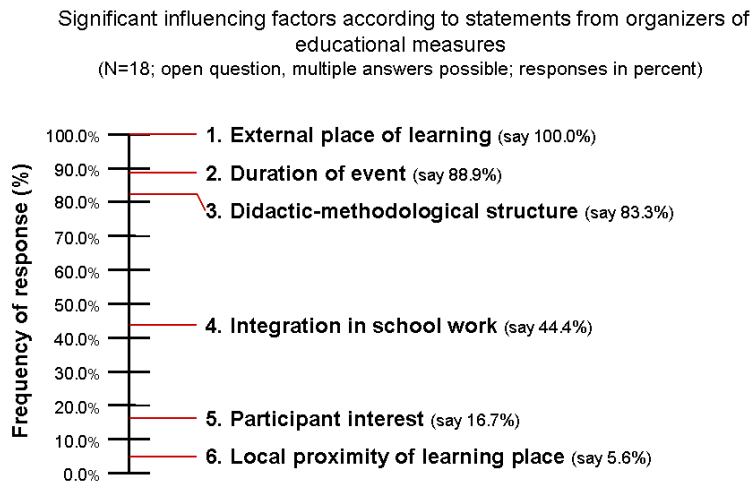
Source: Schockemöhle 2009

### **Assessment of the effectiveness of measures by the interview partners (organizers of learning activities)**

These and other results of the questionnaire study were compared with data from the interview study. It can be established that the answers of the organizers of the learning activities (Figure 7) only partly match the results of the participant inquiry. Thus, the interview partners accord the didactical structure - and therefore the degree of action orientation also - a high level of influence on the effectiveness of the measures. It should be noted here that this result is barely reflected in practice. According to the interview partners, action-oriented learning is only seldom carried out; class discussions conducted through guidance and questions are the dominant form of lesson in out-of-school regional learning activities.

For the most part, however, the data from the interview study is a complement to the quantitatively produced results. There are also contradictions between the two. This is particularly the case with the influence of the out-of-school learning location, that is, the effects of the original encounter in itself on the effectiveness of the measures. All of the interview partners declared themselves to be convinced that the personal, immediate and intensive experience at the regional place of learning such as an agricultural enterprise prompted strong parameter changes. The questionnaire study results relativise these estimates in that they show clearly that learning on site is only effective in combination with action-oriented learning in the sense of the set objectives.

## Which factors have particular influence on the effectiveness of the educational measures?



**Figure 7. Factors which exert influence on the effectiveness of measures according to statements from interview partners**

Source: Schockemöhle 2009, referring to EDK 2007, p. 49

## Evaluation of the concept Rural Action Learning

On the basis of the evaluation results and with the aid of the criteria for concept development, an evaluation of the concept is presented here. Statements will be made as to whether the theoretically conceived concept can be confirmed or must, at least in part, be modified. In this section, only a selection of the acquired knowledge can be presented.

Evaluation of the aims: learning activities which were developed based on the concept of Rural Action Learning successfully enable the promotion of participatory competence and regional identity in those who take part and at all age levels. Younger participants tend to show stronger parameter changes than adult participants. In addition, the concept of the close interaction between regional identity forming and the acquisition of participatory competence is empirically confirmed by correlation tests. In consideration of the influence of personal preconceptions about the achievement of objectives, it can be established that until now, the concept does not sufficiently take into account the differentiated requirements of the participants. Corresponding detailed definitions need to be made in order to give ideas for differentiations, for example, with regard to objectives, contents and methods.

Evaluation of the methods: the theoretical focus on action-oriented methods has proved to be justified. The degree of action-orientation exerts a very high influence on the success of the measures. The discrepancy seen in this relation-

ship between theory and practice must not lead to a weakening of the concept but should instead result in greater efforts carried out to give action-oriented learning more weight in the practice of out-of-school regional learning.

Evaluation of the significance of the original encounter: the original encounter is overestimated in the concept as an influencing factor. The evaluation results clearly show that the immediate, personal experience is connected in its intensity with an active self-acquisition and therefore can only unfold its potential in combination with action-oriented learning. A modification of the concept is needed in which the necessity for the targeted design of the original encounter is emphasised. The development and propagation of teaching and learning material which among other things would encourage self-motivated and independent on-site learning appears sensible.

**Rural Action Learning supports the acquisition of participatory competence and regional identity formation, when ...**

- ... on-site learning is set up towards the didactical-methodological principles of action and problem orientation as well as system and situation orientation learning.
- ... within the learning activity, large and small action-oriented forms such as projects, station learning, learning games or experiments are applied.
- ... the original encounter is complemented through the use of media and materials so that independent learning is enabled.
- ... participants are supported at different levels in accordance with their existing values of participatory competence and regional identity.
- ... participants visit regional places of learning, not just once but repeatedly over several subsequent days and/or over a longer period.
- ... learning activities are restricted to not just the on-site performance but are also prepared and followed up. In particular, the articulation and reflection of the results through presentation and follow-up work are significant steps in the process of reaching the objective.
- ... there is close cooperation with regional partners in training and education, and on the other hand, a vital educational network with diverse offers for life-long learning in the region can be established.
- ... cooperation with partners in both formal and non-formal areas can be established.
- ... life-long learning can be realised by the organizers of learning activities themselves, for example through access to professional and further training on the subject of 'Learning in the Region'.
- ... quality criteria for the work of the organizers are established and accepted by them.
- ... evaluation of the measures is constantly carried out with respect to objectives and quality criteria and the results are used for the further development of the concept and its practical implementation.

**Figure 8. Guidelines on Rural Action Learning**

Source: Schockemöhle 2009

## Future prospects

These and further evaluations lead into a process of pooling and consolidation of propositional guidelines for Rural Action Learning containing the functions of quality criteria (see overview in Figure 8). They are available above all for

the dissemination of the understandings gained in this work to out-of-school regional learning in practice. Together with other teaching and learning material yet to be developed which will specifically take up the aspects of differentiation and action-orientation, along with measuring instruments which will enable the self-evaluation of learning activities, the guidelines will develop into a tool-box which organizers can use for particular learning activities. In this way, the transfer of the results will be supported in practice.

With regard to the significance of the understandings gained for future empirical teaching and learning research, there are several implications for contents and methods. Above all, it would appear necessary to research more thoroughly into the dimensions and value stages of the components of regional identity and participatory competence in order that more precise statements on the targeted support of participants can be made.

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