Promoting Social Skills Through Initiative Games in the Classroom and Assessing Their Effects

Jule Hildmann[1] **and Hanno Hildmann**[2]
[1]Ludwig-Maximilians-Universität, Munich, Germany
[2]University of the West of Scotland, Paisley, UK
jule.hildmann@gmx.de
hanno@cypherpunx.org

Abstract: *Adventure* or *initiative games* are one of the methods frequently applied in experiential education, a holistic approach to facilitate personality growth, which has established itself in various educational contexts. The main goal of initiative games is to promote social and personal skills. Generally, a group of participants is presented with some kind of problem or challenge that needs to be mastered. This can take place in an outdoor or indoor setting and usually requires effective group interaction and creative thinking to be completed successfully. The lead author has examined the impact of initiative games in regular school lessons on the growth of social and personal competence in students over a period of three years. The aim was to test the efficiency of the approach within the restricting conditions of a classroom setting. The evaluation of the intervention was conducted with a combination of quantitative and qualitative methods. The findings suggest that the presented approach does in fact promote social and personal skills already after a brief intervention phase. Some of the methods chosen created certain difficulties in regard to the experimental setting. These difficulties are presented and we suggest ideas how computer based methods could be a valuable alternative for the evaluation of social skills and behavioural development in comparable settings.

Keywords: Adventure initiative games, experiential education, problem solving, social skills, personality growth

1. Experiential education

Experiential education is a holistic approach in pedagogics, which has established itself in various educational contexts, from drug and violence prevention for youngsters to professional team trainings and therapeutic sessions (Heckmair/Michl 2004, Gass 1993; and others). Its main objective is to help participants discover and/or enhance personality growth, namely social and personal skills such as creative thinking, problem solving, or effective team behaviour (see section *2.2.* below for details).
Experiential education differentiates itself from other educational concepts through a number of underlying principles, that are also proven to be the key stone to this approach's success (compare Rehm 1999):

▪ *Learning with Head, Heart and Hand*: a combination of cognitive, emotional and practical or multi-sensorical learning techniques is employed to convey learning contents.

▪ *Challenge by Choice:* each participant is allowed to decide which challenge s/he wants to take on and to what extent.

▪ *Full Value Contract*: the group members agree to certain rules, such as respecting each other and being open to change.

▪ *Self responsibility & self regulation of group dynamics*: Participants are given as much responsibility for themselves, the course of the activities and group decisions as possible.

Although frequently combined with outdoor activities such as climbing, hiking or canoeing, the principles and basics of experiential education can also be implemented in activities with little or no requirements towards technical gadgets or locality. Next to the aforementioned outdoor sports are among the methods used in this approach a wide range of trust activities, ropes courses and the broad field of *adventure* (and/or) *initiative games*.

2. Adventure initiative games

In variation to this term, several others are found in the standard literature, such as *cooperative adventure games*, *initiative problems* or plain *initiatives* (Rohnke 1989; Rohnke/Butler 1995; Sonntag 2002; Reiners 2003; Gilsdorf/Kistner 2003). Trainers tend to use the term *exercise* rather than *games* when presenting them to participants, since playing games is often regarded not only as a childrens' activity but – in adults – as childish and is therefore often met with resentment in professional trainings (Hildmann 2008a).

The technical task that is the core of an initiative game is often embedded in an adventurous story such as getting lost in a desert storm or finding oneself in a tropical jungle after a plane crash. The purpose of this is to enhance the game aspect of the activity and aid the participants to unleash their creativity for the problem solving process (CEP 2009). Also, it helps being at ease, because not rarely, a certain amount of playful silliness is required to complete the task within the story compounds (Rohnke 1989).

Figure 1: Plastic cups and string make an adventurous team challenge

2.1 Structure

The general structure of initiative games is quite simple and reoccurring in most examples:

- A situation and setting is created by the facilitator by telling a frame story and/or arranging a real situation (blocking a path, tying a rope across a stream, etc.).

- The group is given all (safety) instructions and rules for the challenge. Ideally, this includes that the group members decide when they as a team are content with the result and inform the trainer that the activity is now terminated (nota bene: this can be the case without being completed successfully in terms of the original rules!).

- The trainer retreats a few steps to not distract the attention of the group. Until the end of the activity, s/he only interferes when the physical or emotional safety of one or more persons seems in danger or when addressed by the group with safety questions. The trainer does *not* give hints on how to solve the problem! This is an essential part of the social learning process!

- When the activity is ended, the trainer will resume his/her leading function and engage activities for reflection or transference of the learning increase, if appropriate.

Several variations are possible:

- The group is asked to verbally work out a strategy before they are allowed to start the actual activity.

- Some or all members of the group are 'handicapped' (blind-folded, legs or hands tied together, etc.)

- Verbal communication is prohibited.

- The game entails several rounds or phases of increasing difficulty.

- And others, depending on group parameters as well as creativity of the facilitator.

In many cases, strings of initiative games are arranged, with one activity following the other in an action–reflection pattern (see *Project Adventure*, USA). Naturally, other factors such as developmental stages of social groups have to be taken into account as well.

By principle, initiative games can also be constructed for single persons (obviously then not-cooperative), for example for therapeutical purposes (Gass 1993; Hildmann 2008b). But they are very rarely use in that way, since the vast majority of experiential education programmes simply is designed for groups.

2.2 Goals

Initiative games can be considered as 'serious games', since their objective is to facilitate team development and personality growth. Amongst others the following are goals commonly found (e.g. Rohnke 1989; Rohnke/Butler 1995; Gilsdorf/Kistner 2003):

- Developing team spirit (i.e. identifying with the team and its rules, values and goals)

- Increasing the effectiveness of communication

- Finding out about individual roles and their particular assets

- Putting individual strengths to the best possible use for the team

- Effective cooperation (i.e. reaching decisions, strategies and agreements fast, goal-oriented and in a socially agreeable manner)

- Team work, attributing individually to reach a shared goal

- Offering and accepting help

- Achieving a team goal even with

- simultaneous parallel tasks

- restricted means

- missing pieces of vital information

- hindered communication

- time pressure

- or other interference factors or handicaps.

- creative problem solving (which can be an individual as well as a team objective).

Which of these goals can be set and the extent to which they can be achieved, depends on a variety of parameters: number and age of group members, their usual working or social context, shared background, possible handicaps or psycho-social interference factors, such as open or hidden conflicts. In addition, duration and other components of the programme, skills and abilities of the facilitator(s), even weather conditions can have a distinctive positive or negative effect on the progress and outcome of a programme(CEP 2009).

The lead author, being an outdoor & social competence trainer as well as a school teacher, developed a teaching approach combining elements of experiential education with regular lesson contents, to implicitly promote social and personal competences in the class room. This concept, the *Experiential Teaching Approach* (ETA), is considered an *approach* rather than a teaching *method*, since it functions on a higher level than they do: It aims for half-abstract goals such as social competence, it is based on a humanistic and systemic view on the learner and employs a number of different methods itself, adventure initiative games being the most prominent of them.

3. Study design

Following the research question to what extent initiative games could be effectively transferred into an everyday classroom setting and deliver regular curriculum contents, a qualitative experiment was designed using a mixed-method setup. Additionally, ten single case studies were conducted, aiming at a more in-depth look at the strengths and weaknesses of this approach.

3

Figure 2: Virtually any topic can be turned into an initiative game

The findings and implications were supposed to achieve the highest possible level of practical applicability. Thus, the intervention was tested with a high proximity to everyday conditions, including a few restricting factors many teachers and lecturers are faced with: rigid timetables, an overboarding curriculum, restricted means and locations, reluctant parents, students with various special needs and/or no interest in their academic career, and so on. The idea was that if the approach could prove itself under deplorable – albeit unfortunately realistic – conditions, it should easily be implementable in the majority of schools and advocational training centres.

The test group consisted of 34 eighth graders (19m, 15f) at a specialized school for hard-of-hearing and d/Deaf students. Many of them attended the school not due to a hearing impairment but because of other special needs, mainly behavioural or emotional challenges. This is not an uncommon practise in Germany, where the study was conducted.

Two control groups were gathered, consisting of (a) students at schools for special needs (N= 115) and (b) regular school students (N= 194). Both control groups did not receive any kind of intervention and merely filled in the questionnaires needed for a base line comparison of the groups.

4. Intervention

An intervention phase with four eighth grade classes of different performance levels was conducted over a six month period. During this time, the lead author instructed the classes for 90 to 180 min per week, following the curriculum in the subjects History, Vocational Preparation, Art and Physical Education. The usual topics were covered in this period, but with the following adaptations:

- At least one adventure initiative game was conducted per lesson.

- The working principles of experiential education as listed in chapter 1 were followed consequently, e.g. by getting students physically engaged instead of having them merely sit, talk and read.

- Several subjects were combined (e.g. History and Art).

- Where applicable, the school yard or gym was used instead of the classroom.

Table 1 provides a detailed example of one intervention unit (consisting of two 90 min lessons) to illustrate the practical application of these parameters:

Table 1: Detailed example of one intervention unit

Topic:	Castles
Location:	Art room
Lesson outline:	*Arriving* marking on a prepared chart (ritual at the start of every intervention unit). topics: (a) My mood right now and (b) My feeling towards this group today. *Active acquisition of theory* Browsing preselected books for pictures of castles. Each pupil writes down at least eight features of castles (e.g. crenelations, draw bridge) Reading out to each other and demonstrating features with pictures *Initiative game I* students divided into small groups.

	instruction: "build a castle" criteria: it has to fit onto your desk you are free to use whatever material you find no material may be destroyed (torn, cut, broken or the like) time allowed: 10min Remember to include the features you collected. When completed, you will present your castles to the class in a 'castle tour'. *Presenting* Constructors give 'castle tours' to fellow students, present and – where needed – explain their work. Each castle is photographed. *Creating ones own work sheet* Instruction: Make a rough draft of your castle. Include only the important details. Afterwards, make a legend explaining the features. Teacher is double-checking for mistakes. *Cleaning up* The groups sort away their own material and clean their desks. When finished, they help others. *Reflection* Just briefly. Creating link to following lesson (see below).
Topic:	**Castles**
Material:	books about the Middle Ages Chart "My mood right now" & "My feeling towards this group today" Random material at hand Blank sheets of paper Pens and pencils
after a brief recess, a second 90 min lesson is conducted:	
Location:	Gym
Lesson outline:	*Initiative game II* instruction: again, "build a castle". Two groups two castles With whatever material you find Big enough for the group to sit or stand in 15 min time *Sociometric reflection* Answers are given by positioning oneself on an imaginary scale between the two castles. Questions: (a) How much did you contribute to the progress? (b) How content are you with your group's result? *Enacting castle life* Students 'move into' their castles. Two scenes are enacted: (a) Royal reception (incl. banquet, jesters,...), (b) battle (possibly conquest, definitely reconciliation. Caution: harmless weapons only!) *Cleaning up* The groups sort away their own material. When finished, they help others. *Evaluation* Marking on a prepared chart (ritual at the end of every intervention unit). Evaluated competences: cooperation, problem solving, self organisation and endurance. Brief discussion.
Material:	Various sports instruments found in a gym. Evaluation chart

Figure 3: Castles in the art room

Figure 4: Castles in the gym

5

In the unit presented here, the two initiative games happen to follow the same instruction and principle (i.e. build a castle with whatever material you find). This was not the case in all units, but it demonstrates the great variability of initiative games, because the two games in this unit vary in a number of factors, such as size of groups, size of resulting objects, employed material and consecutive activity.

5. Methods

The evaluation of the intervention was conducted with a combination of quantitative and qualitative methods. All of them were administered to the experimental group, but only the questionnaires included the control groups as well.

5.1 Teacher interviews

Half-standardised interviews were conducted with seven teachers at the end of the intervention phase (Interview-I) and with three of these teachers again after another six months as follow-up (Interview-II). The other four teachers were not available for Interview-II because of long-term illness, pregnancy or because they were no longer teaching this class.

In Interview-I, the teachers were asked

- about intervention related changes in the students as a group.

- about intervention related changes in the students as individuals.

- about the strengths and weaknesses of the approach from the teachers' point of view.

- what they deemed necessary for the approach to be spread and implemented broadly.

Interview-II investigated

- what became of the changes reported in Interview-I.

- whether the teachers continued to practise the approach, and if they did not,

- the reasons that kept them from doing so.

All interviews were recorded either on audio or video tape, transcribed and evaluated with the *qualitative contents analysis* technique by Mayring (1995).

5.2 Questionnaires

Figure 5: Questionnaire on social and personal skills

Several standardizes questionnaires were considered for use, but none matched the specific needs of this study – especially regarding the poor level of language comprehension of the participants. Therefore, multiple choice questionnaires were newly designed for the sub-groups (a) students, (b) parents and (c) teachers, separately. The main indices measured were *Problem Solving Ability* (PSA) and *Positive Self-Concept* (PSC). The questionnaires were filled in by each participant at three points of time: At the start of the intervention phase (in the case of the experimental group as pre-test), at the end of the intervention phase six months later (post-test) and a third time after another five to six months (as follow-up).

5.3 Parents' feed back

In a letter following the end of the intervention phase, parents were kindly asked to state any changes they have observed in their child over the past six months. Also, they were encouraged to give any additional feed back about the project, if they desired. A fill-in form with return envelope was enclosed.

5.4 Students' feed back

At the end of the final lesson in each class, students were asked to reflect on (a) what they have learned in this project and (b) whether lessons should be conducted like this more frequently. Answers were recorded on tape, transcribed and also subjected to a qualitative contents analysis, although on a smaller scale than the teacher interviews.

5.5 Individual goals

The teachers were free to define individual goals for any student they chose. These were written down and handed to the examiner. Students were not informed about these goals to prevent resistance or self-fulfilling prophecies.

After completion of the intervention phase, teachers were asked to rate the progress of their students in regard to the goals set for them. Rating options were:

- (0) 'no significant improvement'

- (1) 'significant improvement in intervention units *without* generalisation of effect to other teachers lessons'

- (2) 'significant improvement in intervention units *and* considerable generalisation of effect to other teachers' lessons'.

5.6 Additional methods

A number of additional methods were employed in the evaluation process. Among these were a daily self-evaluation of the students (see unit outline in table 1) and comments on social behaviour and work attitude in the report cards. Video recordings intended for behavioural analysis were also collected but turned out to be an unsuitable method for this experiment (see section 8), and were therefore discarded during the intervention phase.

Further details on the additional methods shall be omitted in this publication due to restricted space.

6. Results

The total number (N) of participants can be found in table2. Percentage is shown in brackets.

Table.2: Number of participants (N), percentage in brackets

	experimental group	Control groups		total total
		Special Ed students	regular school students	
students	34 (9,9)	115 (33,5)	194 (56,5)	343 (100)
parents	34 (15,7)	91 (42,1)	91 (42,1)	216 (100)
teachers	7	11	6	21
classes	4	11	9	24

Again, only the questionnaires were conducted with all groups, all other methods were only used on the experimental group.

6.1 Interviews

Due to restricted space, only a representative selection of statements can be included in this paper.

Outcome of interview-I:

Intervention related changes in the students as a group and as individuals

- Students became more active and involved in the lessons.

- Attention span and motivation grew.

- Cooperative interaction increased.

- Group communication became more effective and orderly.

- Quiet students contributed more to the class action and shared their ideas.

- Endurance and frustration tolerance improved in most students.

Strengths of the approach

- It is actually fun and at the same time effective.

- Literally *every* pupil – and even their teachers and parents – can profit from it.

- It does not require special material, locations, extra lesson time or other conditions a school would have trouble providing.

Weaknesses of the approach

- The structure of the activities needs to be transparent for students. Else, they 'get lost' in a freedom of choice and space they are not used to – and create chaos.

- Interested teachers will need theoretical and practical training to master the approach effectively.

For a broad implementation of the approach, teachers rated the following as vital:

- A certain amount of theoretical and practical instruction for those teachers interested

- The support of the school administration

In addition, the following were considered helpful albeit not truly essential:

- A network of active colleagues

- Written out instructions for the activities

- A somewhat flexible time schedule

Outcome of Interview-II:

Further development of the changes reported in Interview-I

- The general social climate among the students improved.

- Communication is more open and positive.

- The project's positive effects remained at a constant level.

Did teachers continue to practise the approach?

> *"No, I didn't know how to".*

> *"Yes, in physics and sports. The approach suits me, so I found it quite easy".*

6.2 Questionnaires

A total of 1157 questionnaires were returned, digitalised and statistically evaluated using Excel and SPSS.

In neither sub group (students, parents or teachers) within the experimental group did the comparison between t1, t2 and t3 reach a significant level. Equally small were the differences between the experimental and the two control groups, although in one index (PSA) in the teachers' questionnaire, the experimental group had a tendency (p=,091) towards higher results than the control group b with regular school students.

6.3 Parents' feed back

Of the 34 parents who were sent the letters after the end of the intervention, only 15 returned them, some of them left blank.

Have you observed any changes in your child during the past six months? If yes, please state of what kind.

Table 3a: Parents' feed back, question 1

Parents' answers	Counts of answers
Sometimes	1
Not really. S/he was just as always.	2
No.	7
No answer	5

Do you have any other feed back to this project?

Table 3b: Parents' feed back, question 2

Parents' answers	Counts of answers
We always welcome activities and projects that improve the social climate.	1
It was a lot of fun.	1
The assignments were sometimes difficult.	1
No.	7
No answer	5

6.4 Students' feed back

To question (a), what students have learned in this project, answers of 31 students were collected. Following are the answers in summary and how often they were stated (max. 1 count per topic and student):

Table 4a: Students' feed back, question 1

Students' answers	Counts of answers
I / We...	
did [certain adventure initiative game].	14
learned a lot about [the subject].	12
had fun.	10
experienced and saw the benefit of team work.	7
helped each other.	5
did team exercises.	2
took responsibility for each another.	2
practised working independently.	2
learned a lot [without further specification].	2
were allowed to experiment a lot.	2
were allowed to make our own decisions.	1
interact more respectful.	1
learned a lot about our behaviour in class.	1
learned to be open to new experiences without being scared.	1

Question (b): Should lessons be conducted like this more frequently?

Table 4b: Students' feed back, question 2

Students' answers	Counts of answers
Yes	28
No.	2
Don't know.	4

6.5 Individual goals

Table 5 provides a list of the 13 individual goals set by the teachers for selected students, as well as their ratings.

Table 5: Individual goals and teacher ratings

Student + individual goals	0	1	2	Comment
Student A				
improve concentration span	X			For this reason, student A has been in behavioural therapy for quite some time.
increase endurance			X	
reduce lack of sense for personal space and boundaries		X		
Student B				
develope initiative			X	Student B is an autist.
learn to share ideas	X			
reduce oppositional behaviour		X		
Student C				
mehr Selbstbewusstsein, seine eigenen Ideen bzw. Vorstellungen zu artikulieren			X	Student C has a strong case of dyslexia.
reduce lethargy and increase level of activity and initiative			X	
Student D				
develop more team spirit		X		Student D shows a high level of aggressive social behaviour, physical restlessness and a short attention span.
improve ability to concentrate	X			
increase endurance		X		
Student E				
improve frustration tolerance		X		
Student F				
improve frustration tolerance		X		

0 = no significant improvement

1 = significant improvement in intervention units *without* generalisation of effect to other teachers' lessons

2 = significant improvement in intervention units *and* significant generalisation of effect to other teachers' lessons.

Of 13 goals, three were rated as *no significant improvement*, five showed *significant improvement in intervention units* but no general effect, while in another five goals, students had shown *significant improvement in intervention units* and *significant generalisation of effect to other teachers' lessons.*

A full report and unabbreviated results of all methods can be obtained from the authors or in Hildmann (in review).

7. Implications

The evaluation of the interviews indicate clearly that employing adventure initiative games in regular school lessons has a positive effect on several social and personal competences in students –

cooperation skills, effective group communication, endurance and frustration tolerance, to name but a few. This covers short term as well as medium term (six months follow-up) improvement.

Not all students were capable of reflecting on their own development, but those who were, made statements that supported the teachers' judgement.

Considering the choice of particularly 'difficult' students for the *individual goals*, the ratio of improvement is satisfying.

In the teachers' point of view, initiative games can be connected to curriculum contents with little or no demand to material, locality or time budget. Also, all teachers agreed that the approach should be implemented more broadly in schools. Yet, to achieve this, some practical and institutional conditions would have to be met as well as suitable training courses administered.

According to their feed back sheets, parents did not take much notice of their kids' development. This may have a simple reason: It could be argued that the students' increase in competences is *context based*, i.e. restricted to school lessons and interactions. This hypothesis might be supported by the fact that this is where the external influence (i.e. the intervention) took place while the students' family life was deliberately left untouched. This question however would have to be investigated in further research.

8. Methodological considerations and proposition

It is unfortunate, that the questionnaires did not yield any better results, but considering the following factors, this is not surprising:

- Many participants of the study (students *and* parents!) have a poor level of written language comprehension. So, it has to be expected that an uncertain number answers are more or less faulty.

- The items in the questionnaire had to be relevant to the students' lives and able to alter significantly within six month of regular life and school year. Arguably, this was not achieved.

- The intervention reached the students at minimum level, within regular lessons and without fancy material or spectacular outdoor activities commonly associated with experiential education.

We therefore conclude that questionnaires, multiple-choice or other, were an inefficient and inadequate method for this study.

Figure 6: Mobile device based games can be used to assess attitude and behavior

As mentioned in section 5.6., the video recordings intended for behavioural analysis also turned out to be a poor method for this experiment: The video camera could not sufficiently be moved and turned during lessons, thus missing relevant parts of the students' actions. Also, its presence was not received well by the students and induced interference behaviour such as posing in front of or hiding from the camera. For these reasons it was decided to discard this method in later intervention methods.

The authors suggest that the identified shortcomings could be partially circumvented by the use of electronic assessment mechanisms. The second author has recently presented work that uses mobile device based games to assess and evaluate the players (Bitterberg/Hildmann/Branki 2008;

1

Hildmann/Boyle 2009) without having to rely on rigid and intrusive observation devices such as a sturdy video camera used in the study described above. Nowadays, high-performance recording devices are embedded in standard mobile technologies like mobile phones or laptops. While user consent for this recording is of course required, the inconspicuous inclusion of the camera into the phone removes the reported uneasiness of the subjects during the recorded initiative games. Additionally, the quality (especially for audio recordings) as well as the identifiability of individual subjects is much easier as the dominant recording will be of the person carrying the device.

The methods would have to be hand tailored to meet the specific needs of the actual needs of the practitioners – teachers, social care takers and the like – and the study they are needed for. This requires a close cooperation of a computer scientist and the practitioner. If this is respected, a variety of complex implementations are achievable, as has been demonstrated recently by the second author (Hildmann/Uhlemann/Livingstone 2008 and 2009).

9. Conclusion and outlook

The findings suggest that the examined approach does in fact promote social and personal skills in students already after a brief intervention phase and despite restraining conditions. We therefore conclude that it is (a) possible and (b) successful to use adventure initiative games in a regular classroom setting in order to promote social and personal competence. A broad implementation in schools is possible if certain organisational conditions are met.

Further research might investigate long term effects as well as the influence of teacher personality and other factors constituting the Experimental Teaching Approach rather than 'plain' adventure initiative games. The attempt to draw a straight line between these two will have to be made.

Regarding study methods, future scientists investigating social skills and behaviour might be advised to make use of the presented by technological innovations in the electronic sector.

From a practitioner's point of view and to aid the implementation of adventure initiative games in the classroom, a teacher training course needs to be designed, a compact handout written and a selection of activities and lessons made available for easy copying. All of these have already been accomplished by the authors. What interested teachers might need to do in addition to completing a training is to create a platform for exchange of thoughts, experiences and successfully conducted lesson outlines.

References

Bitterberg, T., Hildmann, H. and Branki, C. (2008) "Using resource management games for mobile phones to teach social behaviour", Paper read at International Conference on Techniques and Applications for Mobile Commerce (TaMoCo08), Glasgow, Scotland, January.

CEP Centre for Experiential Education and Pedagogics Volkersberg (Eds.) (2009). *SimpleThings – Adventure Initiative Games with Everyday Means*. CEP Press, Bad Brückenau.

Gass, M. (1993) *Adventure Therapy: Therapeutical Applications of Adventure Programming*, Kendall & Hunt, Dubuque.

Gilsdorf, R. / Kistner, G. (2003[12]), *Kooperative Abenteuerspiele 1. Praxishilfe für Schule, Jugendarbeit und Erwachsenenbildung*, Kallmeyer, Seelze-Velber.

Heckmair, B. / Michl, W. (2004[5]). *Erleben und Lernen. Einführung in die Erlebnispädagogik*. Reinhardt, Munich.

Hildmann, H. and Boyle, L. (2009) "Evaluating player's attitudes and behaviour through mobile device based serious games", Paper read at IADIS International Conference on Mobile Learning 2009, Barcelona, Spain, February.

Hildmann, H., Uhlemann, A. and Livingstone, D. (2008) "A mobile phone based virtual pet to teach social norms and behaviour to children", Paper read at The 2nd IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning (Digitel 2008), Banff, Canada, November.

Hildmann, H., Uhlemann, A. and Livingstone, D. (2009) "Simple mobile phone based games to adjust the player's behaviour and social norms", International Journal of Mobile Learning and Organization (IJMLO), Special Issue on Emerging Mobile Learning Environments for Industries and Pedagogies, ISSN (Online): 1746-7268 - ISSN (Print): 1746-725X

Hildmann, J. (2008a) "SimpleThings. Erlebnispädagogik mit Alltagsgegenständen", erleben & lernen, Nr. 3/4, pp 45-47.

Hildmann, J. (2008b) "Über Tische und Bänke. Einfache Übungen aus der Erlebnispädagogik für den Einsatz im therapeutischen Kontext", Paper read at the 24. Fachtagung für Psychologinnen und Psychologen an Einrichtungen für Hör- und Sprachgeschädigte, Leipzig, Germany, October.

Hildmann, J. (in review) "Problems are Chances in Disguise. Promotion of Competences through Experiential Education in the Class Room". Dissertational Thesis at the Ludwigs-Maximilians-University Munich.

Mayring, P. (1995) "Qualitative Inhaltsanalyse". In: Flick, U., Kardorff, E.v., Keupp, H., Rosenstiel, L.v. and Wolff, S. (Eds.) Handbuch Qualitative Sozialforschung. Grundlagen, Konzepte, Methoden und Anwendungen, Beltz, Weinheim, pp 209-213.

Rehm, M. (1999) "Evaluationen erlebnispädagogischer Programme im englischsprachigen Raum. Eine Übersicht über 65 Studien". In: Paffrath, F.H., Salzmann, A. and Scholz, M. (Eds.) Wissenschaftliche Forschung in der Erlebnispädagogik. Tagung Hochschulforum Erlebnispädagogik, Augsburg 14. November 1998, Ziel, Augsburg, pp 153-172.

Reiners, A. (20036) "Praktische Erlebnispädagogik. Neue Sammlung motivierender Interaktionsspiele", Ziel, Augsburg.

Rohnke, K. (1989) "Cowstails and Cobras II. A Guide to Games, Initiatives, Ropes Courses, & Adventure Curriculum", Kendall & Hunt, Dubuque.

Rohnke, K. and Butler, S. (1995). "Quicksilver. Adventure Games, Initiative Problems, Trust Activities and a Guide to Effective Leadership", Kendall & Hunt, Dubuque.

Sonntag, C. (2002). "Abenteuer Spiel – Handbuch zur Anleitung kooperativer Abenteuerspiele", Ziel, Augsburg.

1