



WELLBEING IN OUR SCHOOLS: INTERNATIONAL PERSPECTIVES



CIDREE

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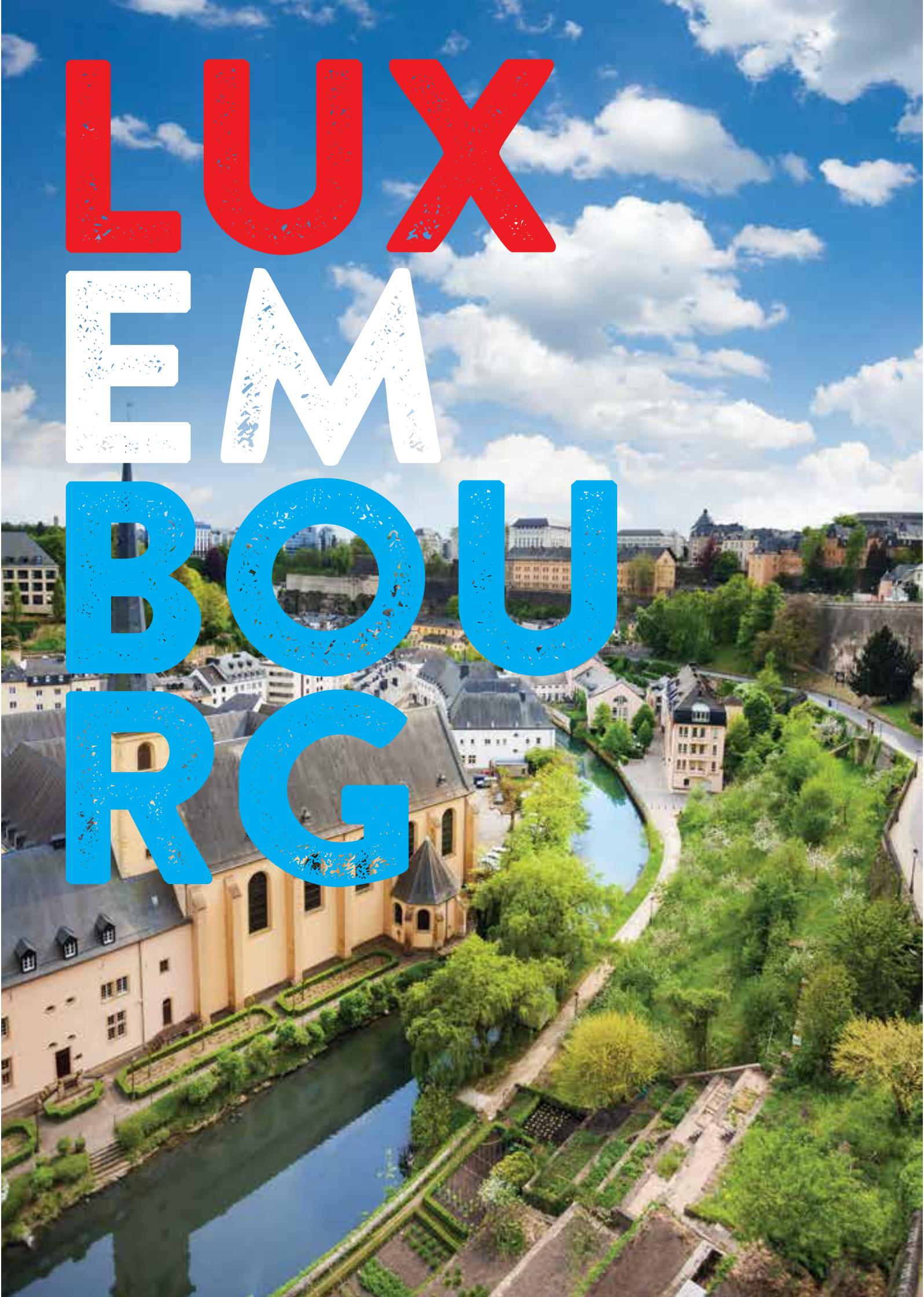
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ABSTRACT



The project 'active schools' in Luxembourg was conducted for two years (2014–2016) in three elementary schools and extended to ten primary schools from 2016. The participating schools and their respective child care centres committed to undertake at least 15–20 additional minutes of physical activity each day. To facilitate this, teachers and childcare workers were provided free sets of exercise cards and materials for different modules. In the first year of the project, the schools concentrated on 'active breaks', which was then extended in the second year to 'active learning' activities which develop and enrich learning.

The project was scientifically monitored and evaluated by the University of Luxembourg. The results were more than satisfactory as active learning relaxation phases were found to be used predominantly 5 to 10 times a week. This high frequency points out that these activities were equally popular with teachers and students.

Similarly, the feedback from the parents showed that they had noticed positive changes in children who now have more pleasure in sports, better coordination and most parents see progress in school and classroom climate. In June 2017, those schools that prioritise exercise in their daily school routine received the "clever move" label in recognition of their efforts.

Key words: active learning schools, physical activity, exercise, clever move

LUXEMBOURG: Active Schools

(Pilot Project “clever move”)

CONTEXT

Children attending primary school in Luxembourg have an average of 2.5 hours of physical education (PE) per week. This proportion falls to 2.2 hours per week at the lower secondary level and to 1.6 hours per week at the upper secondary level. Such initiatives by the Association of the Physical Education Teachers (APEP) to introduce 3 hours of PE per week, failed as it was not deemed possible to reduce the curriculum time allocated to academic subjects.

As part of a research project in 2006 (Bös, K. et al), a survey was carried out in Luxembourg into health, motor skills and physical and sporting activity amongst children and young people. The investigation, which was conducted in three age groups (9, 14 and 18-year-olds), unfortunately confirmed a Europe-wide trend: poor motor skills, inactivity and health risks amongst children and young people have been increasing at an alarming rate over recent years. Physical activity as a part of daily life and sporting activities during leisure time and in clubs decrease considerably as children grow older, replaced by a considerable increase in the daily consumption of television and preoccupation with games consoles, computers and smartphones.

As a result, 15% of the primary-school girls in the study and 20% of the boys were overweight or obese. 18% of the children and young people report suffering from headaches, followed by 14% who suffer from sleep disorders and 13% who suffer from backache. 20% of the children and young people undergo regular medical treatment. (see Bös, K. et al., 2006)

The Health Behaviour in School Aged Children (HBSC) Study from 2013/2014 confirms this evolution and Luxembourg is not well positioned in the international ranking.

In recent years, additional arguments have come to light which underline the importance of physical activity at school: the transformation of childhood, the alarming state of the health of children and young people, a lack of focus and behavioural problems as well as findings from research into education and development in respect of the importance of exercise.

The correlation between motor skills, physical and sporting activity and health has long since been established as fact, yet it is proving extremely difficult to increase time allocation for PE and thus the overall number of lessons in school. It therefore makes logical sense to explore other ways of getting children moving whilst they are at school. The concept of active breaks raises concerns if they are perceived to be at the expense of language and maths teaching and the pupils' cognitive development. There are, however, a number of studies which show that exercise optimises not only physical fitness but also mental performance.

One sophisticated quasi-experimental study was conducted between 1970 and 1977 in Trois-Rivières (Québec, Canada). 546 primary schoolchildren were assessed over 6 years. One issue examined was the impact of an hour per day of vigorous taught PE on overall academic performance. The control group received only the standard programme of 40 minutes per week of PE, and despite a 14% loss of time for academic instruction, the overall school performance of the experimental group improved significantly relative to the

controls. Even the Weschler Intelligence Scale for Children scores showed small but significant advantages for the experimental students on both verbal and non-verbal items. In standardised examinations, experimental students attained higher scores in maths despite the fact that maths teaching time was reduced by 33 minutes per week. Other studies found that regular physical activity is linked to greater school satisfaction and a reduced dropout rate. When taken together, the available data suggests that in primary school an additional 60–90 minutes per day of physical activity can be provided without jeopardising academic performance. Active students compensated for a reduction in teaching time with greater efficiency of their learning process.

THE ACTIVE SCHOOLS PROJECT

The *active schools* concept arose from the progressive education movement, which emphasises sensory and active learning. The term *active schools* dates back to the Swiss educationalist Urs Illi who used it in the mid-1980s with particular reference to the primary sector. With a rationale based on medical and healthcare concepts (exercise as a health resource) as well as development and learning theory concepts (exercise as a part of child development, exercise as an additional sensory and experiential channel), the fundamental goal is to ensure that there is more physical activity in the traditional “sedentary school”. School can be changed by bringing a rhythmic structure to lessons that is child-oriented, appropriate to what is being taught and learner-friendly, with active, independent learning and active breaks, appropriate furnishings and by having active, inclusive and healthy organisational structures. (Abeling, I and Städtler, H., 2008).

Some of the positive impacts of physical activity include the better embedding of learning as a result of moving and using all the senses, increased cerebral blood flow, beneficial effects on children’s physical and mental development, improved coordination and balance resulting in fewer accidents and higher self-esteem,

development of social and communication skills, improved classroom atmosphere, a developing sense of confidence and wellbeing, reduced tension and stress, a better balance between work and relaxation in the school day and an increase in performance and concentration.

OPPORTUNITIES FOR IMPLEMENTATION

Physical activity can be introduced alongside learning to support it, with the use of relaxation minutes or phases, dynamic sitting or learning stations. It can also, however, be a tool to develop and enrich the learning taking place, which means learning by and whilst doing physical activity, such as counting or memorising whilst moving.



Larochette, Luxembourg: cycle 2, 2014

The term “active break” implies that breaks between lessons are explicitly spent playing and taking part in physical activity. To enable this to happen, pupils should be introduced to particular types of games (e.g. during PE lessons) and the playground should be redesigned appropriately if necessary. Finally, the phrase “active school life” places emphasis on the importance of those aspects of school life related to activity, including sports days or meetings, excursions and school trips which can be organised in collaboration with external partners, such as sports associations or (in Luxembourg) Maison Relais (MR) or child care centres.

Active schools also need to be considered within the context of a school’s development and profile-building, as a school-wide implementation

of the concept involves the participation of all teaching staff and sometimes requires investment in the internal and external design of the school. Integrating the concept into the school development plan is therefore recommended. Focussing on its strengths and without great expense, the “Active School and MR” project is achieving results.

DURATION AND FOCUS OF PROJECT

The “Active School and MR” project in Luxembourg was conducted for two years (2014–2016) in three primary schools (Angelsberg, Larochette, Nommern), involving 524 pupils and 54 teachers and with the hope of extending it to more schools throughout the country.

The participating schools and MRs committed to undertake at least 15–20 additional minutes of physical activity each day. To facilitate this, teachers and childcare workers were provided free of charge with sets of exercise cards and materials for different modules.

Staff from the project schools and educators from the MRs received training in the different strands of active schools, which enabled the concept to be implemented. Two three-hour workshops focusing above all on practice were planned for the first year of the project, with one workshop in the following year. The further training was organised and certified by the National Training Institute of Education (IFEN) in Luxembourg.

In the first year of the project, the schools focused primarily on physical activity as a tool to support learning. This was expanded in the second year to incorporate activity to develop and enrich learning and which was also reflected in the further training programmes.

In the MRs, there was a focus on physical activity during homework time. In Luxembourg, homework forms an integral part of the learning process in daily school life. Homework based on

physical activity is particularly suitable for motivating children to do more exercise outside school. All subjects can set activity homework which might be reading whilst balancing, relaxation techniques before starting or challenging movement tasks, such as juggling.

SPECIFIC EXAMPLES

Some examples will illustrate how easily and quickly physical activity can be integrated into the classroom without the need for space or outlay on materials.

Active breaks

Active breaks are breaks in lessons during which specific exercises are carried out. The transition from calm to active phases is more pupil-oriented and conducive to learning and can reinvigorate the lesson. Exercises can be used:

- when concentration begins to wane
- when there are signs of fatigue
- when pupils are restless and apathetic
- to activate, relieve and relax
- to reduce stress.

There are different types of active breaks, categorised by Müller & Baumberger (2004) as those which “mobilise the joints”, “activate the muscles”, “restore concentration” and “promote wellbeing”.



Nommern, Luxembourg: cycle 1, 2016

Active learning

Active learning means structuring lessons in such a way that pupils acquire lesson content by experiencing, thinking and doing and are able to link different aspects of their learning. Content that is learned in this way becomes more firmly embedded in the child's memory. Reading, counting and writing in school can also involve movement, such as hopping on letter mats, counting with large dice or making sentences using word tiles.



Larochette, Luxembourg: cycle 4, 2015

EVALUATION

The Institute of Applied Educational Sciences within the University of Luxembourg offers methodological and scientific support to the project through bi-annual assessments using tests and questionnaires. With regard to the anticipated effects, pupils' social and learning behaviour was paramount. Here are the results:

Teachers' process evaluation

This reveals that relaxation periods and certain types of active learning were used most frequently. The teachers' evaluations of how well these were put into practice are fairly self-critical and are certainly not over positive. As for the possibility of setting active homework, this was hardly ever used. Teachers rated pupils' acceptance of active lessons as good or very good.

Relaxation periods (fig. 1) were chiefly used up to 5 times per week or from 5 to 10 times per week. This is a good rate of uptake and indicates that this element was popular with teachers and pupils. By summer 2015, over 40% of teachers still saw room for improvement in terms of how they were putting this into practice. Later results, however, reveal that an increasing number of teachers indicate that they are now using this type of active lesson well or very well in the classroom.

Regarding the extent that the various building blocks of the active lessons were accepted by the pupils, the teachers reported that this was very good as far as the relaxation and relaxation periods, as well as the active learning were concerned. For the few times they distributed homework assignments, the teachers indicated that students did not like these too much. It should be noted that the impressions vary widely and that there were also a low number of cases.

Pupils' process evaluation

In principle, the results of the process evaluation show that a clear majority of the pupils – often over 80% – regularly took part in the active learning during the entire investigation period. Most pupils enjoyed participating in the physical exercises – even if more than 60% at a somewhat lower level.

The answers to the second question "Have you always participated in the exercises?" are comparable to those of the first question. More than 80% of pupils confirm that they have taken part in the active learning, except the 4th measurement in May 2016, where this figure drops to 75%. This figure is slightly higher in Nommern where the pupils report a participation rate of between 84% to 91%. Considering this rate by cycle, a lower participation can be observed particularly in Cycle 4 where between 73% and 83% of the pupils report that they have always participated in the active learning, with this value dropping to 60% at the last measurement point. In Cycle 2, the value is initially over 90% but falls to 79% and 77% at the 3rd and 4th measurement points.

Figure 1. Teachers’ process evaluation results for the “relaxation period” element – frequency of use (left) and assessment of quality (right). Bund A., Scheuer C. (2016)

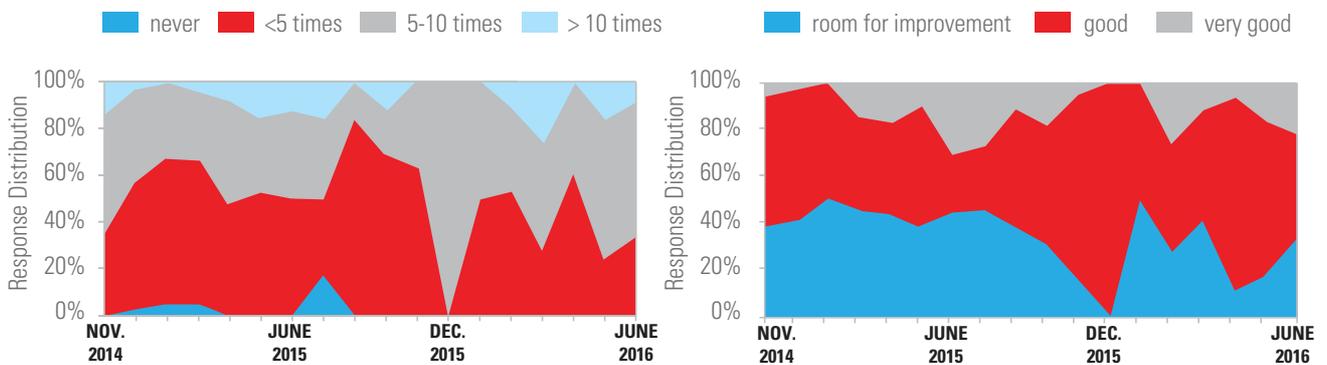


Figure 2. Teacher perception of the evaluation process – student acceptance of the different blocks.

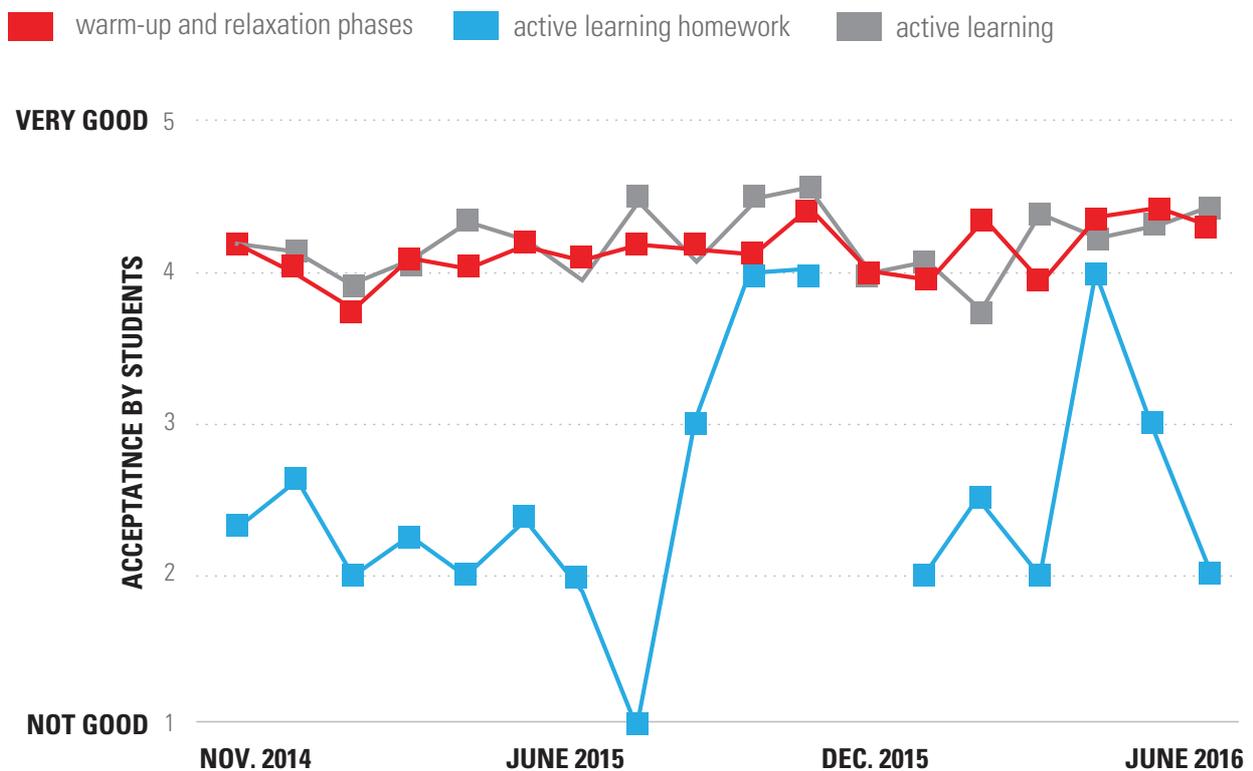


Figure 3. Pupils’ process evaluation results by school and cycle – Bund A., Scheuer C. (2016)

“Did you enjoy taking part in the physical exercises?”

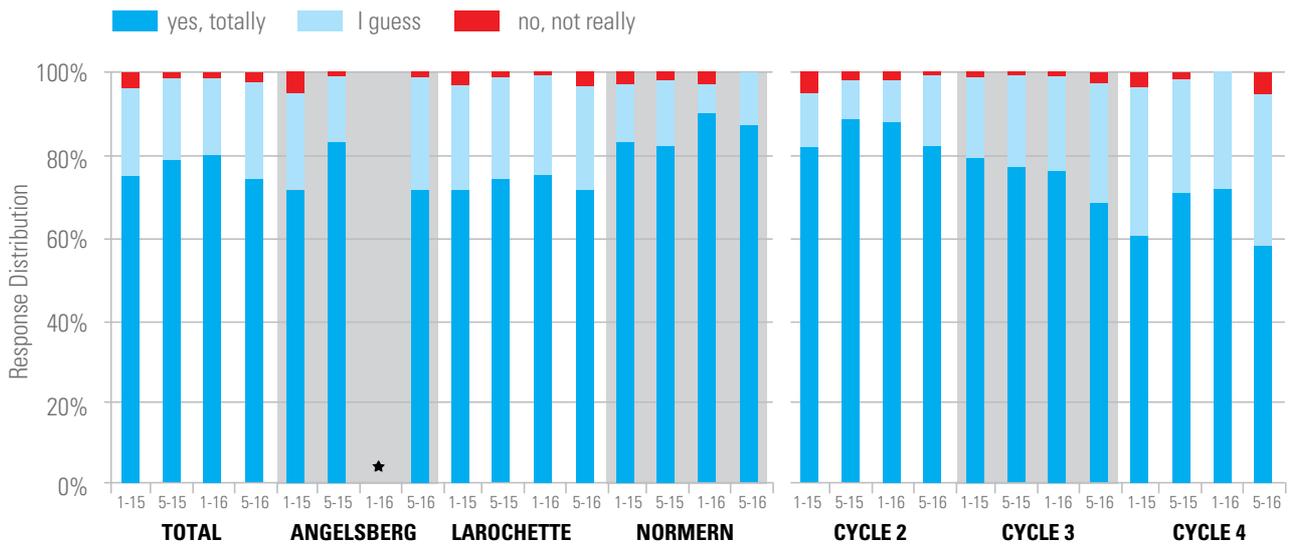
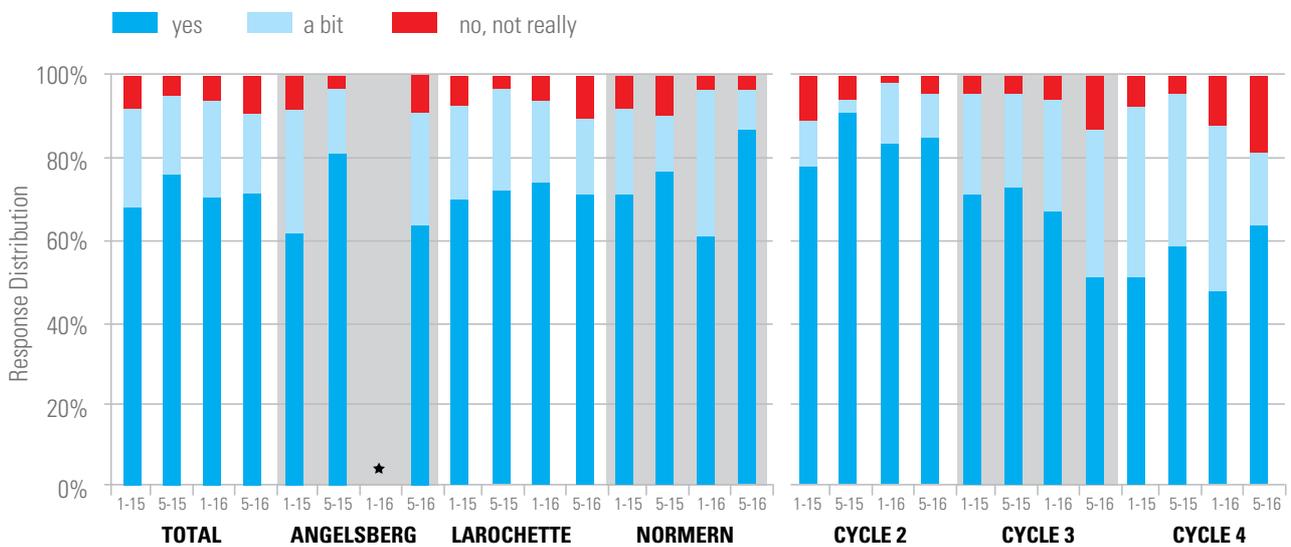


Figure 4. Pupils’ process evaluation results by school and cycle

Did you always participate in the physical exercises?



Parents' questionnaire:

The results of the parents' questionnaire are broadly very positive. Between 60% and 70% of parents responded "yes" or "sometimes" to the items and indicated that they had noticed positive changes in their children. For example, 67% of parents think that overall, their children now enjoy more, both sports and exercise as well as PE in school. 61% also think that they have noticed better coordination. The majority of parents see improvements in the atmosphere at school and in the classroom. In each case, slightly over 60% state that their child now prefers going to school and has a better relationship with teachers and classmates. In addition, their child talks about school more often (63%) and generally seems more even-tempered (62%). In contrast, only 46% of parents agreed with the item about anxiety before tests. 64% and 63% of parents think that

their child has more self-confidence when dealing with the academic pressure of school and their classmates. A somewhat lower percentage of parents (58%) report that their child is better at managing anger. The median rate of agreement for items about sport and exercise is 65%, for school and classroom atmosphere 58% and for self-confidence and anger management 62%.

Examining these results by the different school cycles, findings reveal in particular, that parents of Cycle 1 children report seeing positive effects as a result of active lessons. 85% and 78% of these parents think that their children now enjoy sport and exercise more and also enjoy PE more. In most cases, considerably more than 60% state that aspects of the atmosphere at school and in the classroom have improved, as well as their child's self-confidence.

Table 1. Results of parent questionnaire by cycle. Bund A., Scheuer C. (2016)

ITEM	"YES" OR "SOMETIMES" (%)			
	CYCLE 1 N = 14	CYCLE 2 N = 68	CYCLE 3 N = 73	CYCLE 4 N = 86
I have noticed that my child				
... enjoys sport and exercise more now.	85.7	69.1	69.8	60.5
... is more coordinated now.	71.4	58.8	61.6	60.4
... has more fun in PE now.	78.5	72.1	63.0	65.1
Mean values for sport and exercise	78.5	66.6	64.8	62.0
... prefers going to school now.	64.2	70.6	57.6	55.8
... has a better relationship with teachers now.	71.4	64.7	61.7	62.8
... is less anxious before tests now.	35.7	47.1	48.0	45.4
... is generally more even-tempered now.	71.5	64.7	56.1	65.1
... talks more about school now.	71.5	70.6	64.4	55.8
... has a better relationship with classmates now.	71.4	60.3	56.2	61.6
... finds it easier to make friends at school now.	64.3	52.9	48.0	59.3
Mean values for school and classroom atmosphere	64.3	61.5	56.0	57.9
... has more self-confidence when dealing with academic demands now.	71.4	63.2	71.2	58.1
... has more self-confidence when dealing with classmates and/or friends now.	78.6	63.2	64.4	62.5
... is better at managing their behaviour now when something irritates them.	64.2	61.7	57.6	54.6
Mean values self-confidence and anger management	71.4	62.7	64.4	58.4

Note: The answers "no" and "not sure" account for the missing percentage points.

CONTINUATION AFTER PROJECT PHASE

Following the end of the two-year pilot phase, the project was extended at the start of the 2016 academic year to a total of 10 schools of Inspection Area 17. Participation is still on a voluntary basis: the aim is to motivate schools about the concept and inspire a move towards “active lessons” (cf. Schratz, 2003, p.34 The Innovation Cube). Teachers from the pilot schools presented their experiences to the 7 schools which stimulated the teachers’ interest. The latter then took part in further training before the start of the new academic year. Interested teachers were offered further professional training on “Active learning” which primarily focused on the role of activity in developing and enriching learning.

At the same time, a task group was set up for the new academic year with the long-term aim of expanding the “Active school” project nationwide. The team comprises a number of teachers from various cycles and schools, a representative from the Maison Relais, a representative from the Ministry of Education and the support teacher who is in charge of coordinating the group. To implement the overarching project, the group is working concurrently on several tasks:

- Establishing a name and a logo for the project
- Developing a label with corresponding criteria for schools and for the Maisons Relais centres
- Setting up an internet platform to inform and exchange information, as well as setting up a website in the second phase
- Organising a campaign day where schools are presented with the “active learning” label.

The task of developing a logo has been outsourced to an external company. Thus, active learning schools become “clever move”.



Official Logo

Schools which prioritise exercise in their daily school routine receive the “clever move” label in recognition of their efforts. An online questionnaire is used to identify schools which fulfil the following criteria:

- 3/4 of teachers commit to integrating 20 minutes of daily physical activity into their lessons.
- The school meets the number of PE lessons set out in the curriculum
- The school guarantees each child’s right to activity time (e.g. gymnastics, swimming, breaks, etc.).

Figure 5. School Questionnaire

Questionnaire: "Active Schools and Maison Relais"

1. Coordination

School		Cycle	
Date		Coordinator	

2. Active learning

Have you heard of the "Active learning concept"? Tick one of the following answers.

- Yes, we know this concept and we implement it.
- Yes, we have heard of it but we do not know the details.
- No, we do not know this concept.
- Yes, we know this concept and would like to implement it, but we have a problem to do so.
-

Do relaxation periods take place?

- Yes, _____ minutes per day. No

Are there "active learning-friendly" furniture and material in your classroom?

- | | |
|---|---|
| <input type="checkbox"/> Adjustable desks | <input type="checkbox"/> Bouncing ball |
| <input type="checkbox"/> Adjustable chairs | <input type="checkbox"/> Juggling ball |
| <input type="checkbox"/> Gym (sitting) balls | <input type="checkbox"/> Towels |
| <input type="checkbox"/> Enough place for movement | <input type="checkbox"/> Balance boards |
| <input type="checkbox"/> Balance / stability cushions | |

Quarterly meetings are held to ensure that the further training mentioned above does not fade out and that “active lessons” are embedded long-term in the daily routine of the individual classes. At the meetings, each participant briefly outlines the situation of the cycle at their school and reports on positive developments as well as potential stumbling blocks. Based on the experiences of the pilot schools, possible approaches for overcoming these hurdles are suggested in the plenary session. Each teacher then presents an activity that has been particularly popular with pupils. The coordinator collects activities that have proved to be effective and their contents and graphics are then reviewed by a task group and later uploaded to the Internet platform as examples of best practice. As part of a second phase of the project, they will be made available to the public at www.clevermove.lu.

EXPERIENCES FROM THE SCHOOLS

According to the cycle coordinators, the project was well-received by teachers in most of the schools after an initial period of readjustment. At the start, teachers had difficulty in incorporating active breaks systematically into their lessons and would often forget to do so because of a lack of time. Experience shows that fixed times for activity breaks are beneficial when starting out. Furthermore, the teacher can choose a different pupil each week to remind them about the breaks. Another alternative would be to integrate the breaks into a large timetable hanging on the classroom wall or door. Thus, a ritual gradually develops: after a short period of familiarisation, pupils automatically ask about their activity breaks.

This project focuses primarily on cycles 2 to 4, where traditional “sedentary lessons” are common. In cycle 1, children are physically active on a regular basis during lessons. The project has, however, continued to raise awareness of the importance of physical activity.

“At the start, I didn’t worry too much about how often we were doing the different physical activities. But after a very short time, my pupils started reminding me every day because they wanted to do something active.” (Teacher C2.2 Mersch)

“The active learning exercises make the pupils and me laugh, which in itself leads to the next lesson being more open, more fun and pleasant” (Teacher C2.1 Bissen)

“After the active learning break, I can concentrate better” (Pupil C3 – Saeul)

“With the active learning games, our brains get a rest and becomes fitter” (Pupil C2.2 – Bissen)

“My brain becomes cooler and I can think better after” (Pupil C2.2 – Bissen)

“Since we started regularly doing the active learning exercises, I find it easier to integrate the active learning breaks in my schoolday routine. It simply fits there” (Teacher C2.2 – Bissen)

“I love the active learning breaks, because that’s just different than sitting on the chairs all the time. And we almost always do great and funny things” (Pupil C4.1 – Angelsberg)

There is a huge initial enthusiasm from teachers and the challenge is to ensure that this leads to the regular integration of active learning in the school timetable. To encourage this, regular reminder emails to participants have proved to be helpful. The task group coordinator then sends a weekly activity to individual teachers in the district on “active breaks” or “active learning”. It is also important to discuss the project regularly during weekly staff meetings. Exchanging ideas at least every 3 weeks is highly recommended. Many schools created a folder containing the activities received, others made use of the local server or the Cloud (Onedrive, Dropbox, etc.) to exchange resources.

Activity days, trips and sporting activities are being planned for the future as part of the “clever move” project.



CONCLUSION

Firmly embedding active breaks in teachers' practice raises the importance of physical activity as a tool for developing and enriching learning. The interest in and the demand for active learning are specially increasing in the upper cycles (3 and 4), because teachers with pupils in this age group are caught between "more active lessons" and "the pressure of time and the curriculum". Yet all the teacher feedback confirms that the activities were popular with pupils from the very start, leading to pupils increasingly requesting physical activity during lessons. This observation was also confirmed in the university research findings: about 80% of all pupils reported that they like and regularly take part in active learning lessons.

This positive trend is further reflected in the survey of parents where about 60% of them mention the benefits of active learning. They realise that their children experience more fun in movement and in sport and that their eye movement coordination improved. Moreover, the parents report that the children prefer to go to school and find that both the classroom climate as well as the relationship between the teachers and the pupils significantly improved.

Following this pilot phase, the Ministry of Education, Children and Youth intends to gradually roll out the project at the national level, by encouraging all primary schools and after-school child care centres to enrol in the project and adapt it to the local context so that all pupils can benefit from the value-added generated by "clever move".

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