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# IMPLEMENTATION OF ASSESSMENTS FOR LEARNING IN ELEMENTARY SCHOOL PHYSICAL EDUCATION PRACTICE

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#### **Abstract**

Assessment for Learning (AfL) strategies can be regularly used to gauge and respond to student progress in an international school learning environment. In its various forms, assessment is crucial for helping students to learn, better understand their learning process, and should be an ongoing means of learning feedback. The aim of this study was to determine the possible opportunities for implementing AfL in elementary school physical education classes. AfL provides feedback on what has been done well, what is understood and how to progress. For each of the key skills in physical education, clear performance criteria could be articulated in the form of a teacher's and child's rubric. Examining the reflections of six PE teachers on their experience in working with AfLs, it was proved that implementing AfL in elementary school PE practice encourages and enables students to assess their own learning and progress. This method of assessment also helps teachers to improve individual student learning and not just record or identify which learning stage a student resides.

**Keywords:** physical education, assessment for learning, scenarios, rubrics, learning advice.

#### Introduction

There is an increasing awareness of the importance of providing youth with meaningful and enjoyable physical activity experiences. Movement and play are focal points of young people's lives and are critical to all aspects of their growth and development. The unique learning opportunities in physical education in schools can be engaging and motivating for students and allow them to acquire the knowledge, skills, understandings, and attitudes that enable them to enhance their quality of life through active living.

At the same time, physical education makes an important contribution to the overall education of students. Students who participate in regular physical education classes enjoy enhanced memory and learning, better concentration, and increased problem-solving abilities. They are willing to take appropriate risks, and they have a positive attitude towards self and others. Physical education fosters appreciation for skills such as co-operation and teamwork, and contributes to the development of positive personal and social behaviors that improve school climate and students' academic success (FIS, PE Rationale, 2010).

No less important is the contribution that physical education can make to imparting the knowledge, skills, and attitudes necessary to incorporate physical activity into lifelong pursuits, including daily routines and recreational and career activities. Indeed, physical education contributes to students' future capacity to lead active, healthy, responsible, and productive adult lives, allowing them to maximize their personal enjoyment of life and to minimize their risk of developing health problems associated with a sedentary lifestyle.

Bearing all this in mind, the Physical Education Department at the Franconian International School (Erlangen, Germany) developed and accepted the following FIS PE Mission: "Motivating and supporting all students to develop the physical, emotional, cognitive and social skills that will enable them to live healthy, active lifestyles" (FIS, 2015).

A progressive pedagogical approach that has been recently introduced at the Franconian International School defines that all teachers and departments should be striving for best practice to enhance learning within the entire community. In everyday practice, this allows teachers to model the ideas of lifelong learning and risk taking so that student learning is preeminent in thought and action. Based upon the Mission and the FIS Learning and Teaching Principles, an effective PE lesson was determined in order to help PE teaching staff with curriculum delivery. When planning, implementing and evaluating PE instructional processes, the teachers are encouraged and supported by the FIS Senior Leadership Team to do this by engaging (among others) in the following:

- working collaboratively with colleagues,
- trailing and evaluating new or different learning and teaching strategies,
- sharing strategies with peers,
- reflecting on one's own practice and its impact.

The Learning Goals are, of course, vital in the entire PE instructional process. However, they only set out *what* students should learn but not *how*. Recent research findings influenced the understanding of process of learning itself, which in the end significantly contributed to changes in creating exciting learning opportunities for students. For the PE teachers at the FIS these changes opened a completely new horizon allowing students to take responsibility for their own learning.

In this context, an innovative approach to teaching and learning in PE practice included also some key criteria for assessment. The FIS Curriculum Glossary defines assessment as "a device to inform all stakeholders of the learning that is taking place against specific goals and criteria" (FIS, Curriculum Glossary, 2014). The FIS PE department strongly believes that the following elements are crucial to executing successful assessment (Wiliam & Rubin, 2011):

- 1. sharing learning intentions with students;
- 2. eliciting evidence of achievement through on-the-spot assessments;
- 3. providing feedback to students that move learning forward;
- 4. activating students as learning resources for one another;
- 5. activating students as owners of their own learning.

The FIS wants students to be independent learners. Therefore the school-wide Learning Principles were developed in order to "allow students to become deep, engaged, active learners rather than passive participants in their schooling" (IPC, 2015). In consequence, since there is a close match between the objectives of AfL implementation and the PE Mission of the FIS, assessments for learning became an important part in all phases of the physical education instructional process.

## Method

The purpose of this case study was:

- 1. to examine the current state of AfL implementation in PE classes, and its' efficiency related to student learning,
- 2. to review the implementation of AfL in PE classes,
- 3. to define adequate opportunities for the future usage of AfL in this area.

The study was a part of a self-assessment process within the PE department which refers to the 10-year-accreditation visit in 2015. Focused on daily experiences and reflection upon them, this study was carried out during the regular departmental meetings and routines at the Franconian International School, Erlangen (Germany).

Six physical education teachers were involved in curriculum delivery throughout the school year and could all equally contribute to this examination. The observed physical education instructional processes included all elementary school physical education classes (Grade levels 1 through 5 with a total of 230 boys and girls, aged 6-11). All the student participants followed, in generally, the International Primary Curriculum (adopted by the FIS in school

year 2005/2006), and the newly developed FIS Physical Education Curriculum based on a developmental continuum. This new PE approach is very supportive to the IPC PE specialist program, and allows students to work directly on specific benchmarks (skills or behaviors) and, in upper grades, set personal goals to achieve stage and phase improvements. The amount of PE teaching time was set from two to four lessons per week, depending on the grade level.

Obviously, addressing everyday situations in physical education classes and the implementation of Assessments for Learning within these situations was the main focus. To accomplish this study, a critical examination of teachers' experiences relating to Assessment for Learning was made throughout and following the school year 2014/15 with recommendations for further implementation of AfL into everyday physical education practice in an international context.

#### **Results**

The Franconian International School Physical Education department first implemented Assessments for Learning into the instructional practice in school year 2014/15 with the aim to further enhance student learning. Nonetheless, this was related to some significant philosophical and practical changes to the PE program. Reflection, feedback, authentic assessment, individualized goal-setting, and real-time reporting became key elements of a PE lesson and the learning of the students that year. Students were assessed throughout the school year using a procedural assessment approach, in other words, assessment and learning were ongoing. The majority of assessments were formative, which means, during all classes and at all times. Standardized comparative performance evaluations were not emphasized as an assessment method.

The foundations for teaching and learning, which occurs in FIS elementary school physical education, were on one hand the IPC PE learning goals and on the other hand the FIS PE learning outcomes. These all could have actually been criteria against which the assessment took place in practice. However, there were too many learning goals to assess and therefore some choices had to be made.

The complete list of learning goals included not only skills that refer to things students are able to do but also knowledge, behaviors and understandings. While knowledge refers to factual information, understandings adverts to the consideration of big ideas and these are always developing. The IPC program says "You can't teach understanding, but can provide a wide range of different experiences through which children's understanding can deepen" (IPC, Assessment for Learning, 2014, p.33). Knowing that assessment for learning is actually skill-based it was decided not to assess knowledge and understanding at this stage of implementation.

As a result of an overall consideration, the FIS PE department decided to only implement formative assessment forms throughout the year, and then reflect on them in hindsight.

Guided by the preset IPC learning goals and targets as well as the FIS PE learning outcomes related to physical and personal development, the teaching team collaboratively made a choice in favor of the most important ones for each age-range of students as shown in Figure 1 to Figure 5.

Skill to be assessed (IPC learning target) <sup>a</sup>	Skill to be assessed (FIS PE learning outcome) $^b$
1.3 be able to repeat and develop simple actions 1.5 be able to apply movement in sequence 1.6 be able to apply rules and conventions	Safety 1.2.1 explain the value of safety guidelines while responding appropriately to safety instructions Dynamic Movements 1.2.2. move through general space while maintaining control; exhibit effective form for specific dynamic movement skills  Tactile Coordination 1.2.3 exhibit effective form while executing specific tactile movement skills  Teamwork 1.2.12 work cooperatively with others during physical action

a selected from IPC Physical Education Specialist Course Milepost 1 (IPC, PE - MP 1, 2015).

FIGURE 1. FIS Grade One PE Teaching and Learning Goals, 2014-2015

While the IPC program is divided into Mileposts, the FIS PE curriculum is phase-based. For this reason it was necessary to link learning goals accordingly to grade (age) levels. The FIS PE teaching staff attempted to establish assessments for learning that are aligned to both curricula. All selected teaching and learning goals for Grade One are shown in Figure 1.

Since Grade Two and Grade Three are both part of the IPC Milepost 2, it made sense to evenly distribute IPC learning targets among these two grade levels. The detailed overview is shown in Figure 2 and Figure 3.

Skill to be assessed (IPC learning target) $^a$	Skill to be assessed (FIS PE learning outcome) $^b$
2.4 be able to plan actions and movements 2.5 be able to take part in a range of individual, pair, small group and team activities 2.8 be able to apply expressive movements in sequence 2.9 be able to improve performance through analysis, observation and repetition	Dynamic Movements  1.3.2 move through general space, incorporating directional change  Rhythmic Movements  1.3.5 combine chosen isolated and whole-body movements into patterns  Teamwork  1.3.12 exhibit respect for others during physical

a selected from IPC Physical Education Specialist Course Milepost 2 (IPC, PE - MP 2, 2015).

FIGURE 2. FIS Grade Two PE Teaching and Learning Goals, 2014-2015

<sup>&</sup>lt;sup>b</sup> selected from FIS Physical Education Developmental Continuum Phase 1 Stage 2 (FIS PE Continuum Template, 2015).

<sup>&</sup>lt;sup>b</sup> selected from FIS Physical Education Developmental Continuum Phase 1 Stage 3 (FIS PE Continuum Template, 2015).

Skill to be assessed (IPC learning target) <sup>a</sup>	Skill to be assessed (FIS PE learning outcome) <sup>b</sup>
<ul> <li>2.3 be able to choose appropriate skills and movements to suit a task</li> <li>2.6 be able to perform a range of activities with control and coordination</li> <li>2.7 be able to apply tactics in competitive situations</li> </ul>	Dynamic Movements  2.1.2 exhibit effective form for executing specific dynamic movement skills  Tactile Coordination  2.1.3 exhibit effective form for executing specific tactile movements  Teamwork  2.1.12 exhibit respect and encouragement for others during a variety of types of physical action Participation  2.1.10 partake in medium-level to high-level movement actions

a selected from IPC Physical Education Specialist Course Milepost 2 (IPC, PE - MP 2, 2015).

FIGURE 3. FIS Grade Three PE Teaching and Learning Goals, 2014-2015

The IPC Milepost 3 program is designed for students aged 9 - 12 years which in this case covered Grade Four and Grade Five. The IPC learning targets were, once again, distributed among both grade levels accordingly.

Skill to be assessed (IPC learning target) <sup>a</sup>	Skill to be assessed (FIS PE learning outcome) $^b$
<ul> <li>3.5 be able to plan their own performance</li> <li>3.8 be able to identify the features of a good performance</li> <li>3.9 be able to evaluate their own performance</li> <li>3.11 be able to apply the rules and conventions of a range of sports and activities</li> </ul>	Dynamic Movements  2.1.2 exhibit effective form for executing specific dynamic movement skills  Tactile Coordination  2.2.3 exhibit effective form to propel and obtain various objects with control  Leadership  2.2.11 exhibit leadership in selected physical actions  Teamwork  2.2.12 exhibit respect and encouragement for others during a variety of types of physical action

<sup>&</sup>lt;sup>a</sup> selected from IPC Physical Education Specialist Course Milepost 3 (IPC, PE - MP 3, 2015).

FIGURE 4. FIS Grade Four PE Teaching and Learning Goals, 2014-2015

<sup>&</sup>lt;sup>b</sup> selected from FIS Physical Education Developmental Continuum Phase 2 Stage 1 (FIS PE Continuum Template, 2015).

<sup>&</sup>lt;sup>b</sup> selected from FIS Physical Education Developmental Continuum Phase 2 Stage 2 (FIS PE Continuum Template, 2015).

Skill to be assessed (IPC learning target) $^a$	Skill to be assessed (FIS PE learning outcome) <sup>b</sup>
<ul> <li>3.1 be able to perform with control, coordination, precision, and consistency</li> <li>3.6 be able to participate in small-side team games</li> <li>3.7 be able to use tactics to improve their own performance and that of a team</li> <li>3.10 be able to refine and improve their performance based on their understanding of what is needed</li> </ul>	Fitness  2.3.7 partake in medium-level cardiovascular actions that enhance physical health  Goal-setting and Reflection  2.3.9 identify the relationship between the developmental continuum and the importance to set personal goals  Participation  2.3.10 partake in a variety of medium-level to high-level movement actions  Personal Health  2.3.13 examine the relationship between physical action and healthy living

a selected from IPC Physical Education Specialist Course Milepost 3 (IPC, PE - MP 3, 2015).

FIGURE 5. FIFS Grade Five PE Teaching and Learning Goals, 2014-2015

In order to analyze sources of assessment evidence being used during the course of the year the teachers completed a self-assessment survey (Wiggins & McTighe, 2010, p. 18) rating their "level of use" on the following scale:

4 = frequent use

3 = use sometimes

2 = occasional use

1 = do not use

Each of the following assessment methods and tools were listed in the survey:

selected-response format (e.g. multiple-choice, true-false) quizzes and tests written/oral responses to academic prompts (short-answer format) performance assessment tasks, such as:

- o extended written products (e.g. essays, reports)
- o visual products (e.g. posters, visual presentations using various apps)
- o oral performances (e.g. oral report, foreign language dialogues)
- o demonstrations (e.g. skill performance)

long-term, "authentic" projects

portfolios - collections of student work over time (e.g. e-Portfolios)

reflective journals or learning logs

informal, ongoing observations of students

formal observations of students using observable indicators or criterion list

<sup>&</sup>lt;sup>b</sup> selected from FIS Physical Education Developmental Continuum Phase 2 Stage 3 (FIS PE Continuum Template, 2015).

student self-assessments peer reviews and peer response groups.

From the survey results it could be identified that all six teachers rated only two assessment tools with a "4" (i.e. frequent use): *performance assessment tasks* and *informal, ongoing observations of students*. Since the teachers involved were all satisfied with the evidence collected, the assessments tools seemed to be chosen appropriately for the desired results.

Understandably, choosing a form of assessment was not enough. In order to effectively implement them, first it was necessary to construct task scenarios. These would become examples of the skill in action. Knowing that they help teachers to develop a shared knowledge and awareness of what each of the skills mean, task scenarios were assigned collaboratively within the PE department. The scenarios used in this case study clearly identified which skills were practiced in a particular activity.

### Example 1:

(Be able to take part in a range of individual, pair, small group and team activities – IPC PE Skill 2.6)

In the IPC unit "Saving the World – Rainforests" PE Task 1, the children work in groups to plan and perform a dance to represent the rainforest. The children share their ideas and work in their groups to plan, practice and improve movements for their dance. Each group can then perform their dance to the rest of the class. If time allows, groups could work together and try to incorporate all ideas into the whole class dance performance.

## Example 2:

(Be able to plan their own performance – IPC PE Skill 3.5)

In the activity "Invent a Game", the children work in group of 3-4 to create a new game. Each group is given 2-4 pieces of equipment (for example balls, hula-hoops, skipping ropes, benches, cones, or no equipment). The children share their ideas when creating a game that uses all of the pieces of equipment and includes all of the students who are going to play the game. Each group presents and shows off their game to the rest of the class. In presentation the children need to explain the rules and show how to include all players in the game. After all groups present their games, the class can try them out.

Consequently, they are two possible ways in using scenarios. If the skill that was aimed to be assessed was detailed in an activity currently being done, the activity could be used to assess the student's learning. Clearly, identifying examples of the skills in action by reviewing what activities are occurring at that particular moment or being planned for the future is just one way of using performance task scenarios. An additional opportunity would be to construct

completely new scenarios considering the set of stem statements (Wiggins & McTighe, 2010, p. 29).

In the next stage of implementation, clear performance criteria for each of the chosen skills were articulated in the form of a teacher's and student's rubric. Both teacher and student rubrics related directly to a certain skill at a particular age level and were not exchangeable between skills.

Teacher rubrics had a clear explanation of a student's learning-in-action within one particular learning stage. These rubrics detailed exactly how a student performs in each level of progression. For example (Figure 6), when assessing a skill in accordance with IPC learning goals, these levels were differentiated between "beginning", "developing" and "mastering".

## Example:

(Be able to take part in a range of individual, pair, small group and team activities – IPC PE Skill 2.6)

#### Teacher Rubric:

Beginning	Developing	Mastering
The child needs to be directed to work individually, as a pair, in a group or in a team.  He/she doesn't participate well and seems unsure what his/her role is in each situation.	The child participates well in all types of activity, whether individual, as a pair, in a small group or in a team.  The child does need some direction to adapt to each situation, particularly his/her role in a team or group.  The child also needs some directions when working individually.	The child is happy to participate in activities individually, as a pair, in a group or in a team and adapts well to each situation.  The child is confident in his/her role and is happy to participate both as a team member and to take the role as leader or as part of an ensemble.

#### FIGURE 6. Teacher's Rubric

The context of student's rubric for the specific skill was actually identical to the teacher rubrics only written in an age-appropriate, simplified language so that students could understand them. These rubrics were used to enable students to actively get involved in the assessment process and share ownership of their learning. By using student rubrics, each child could individually assess his/her own learning, which as a result, made him/her aware of how they were developing their skills.

# Example 1:

(Be able to take part in a range of individual, pair, small group and team activities – IPC PE Skill 2.6)

I'm getting used to it	I'm getting better	I'm really getting it
2	1	***
My teacher helps me to work in PE class.     I'm not sure what to do when we create a dance sequence.     I have trouble thinking of ideas for the Rainforest dance.	I like working with friends in PE class. When I work by myself, I sometimes have trouble thinking of ideas. I like working in groups but don't like it when nobody listens to me or does what I say.	<ul> <li>I like working with a friend or in a group in PE class.</li> <li>I know that if I am a group leader I have to be fair and do what's best for the whole group.</li> <li>I have lots of ideas when I work individually.</li> </ul>

FIGURE 7. Student's Rubric (Example 1)

# Example 2:

(Be able to exhibit effective form for executing specific tactile movements – FIS PE Skill 2.1.3)

I'm getting used to it	I'm getting better	I'm really getting it
<u>*</u>	1	***************************************
I can throw a small ball using an overhand movement. I sometimes lose my balance and have to practice a whole body movement I have to practice throwing when working with a partner or in a group.	I can throwballs of different size and weight using overhand movement. I don't usually lose my balance. I like learning new movements and how to throw in different ways.	I can throw balls well in lots of different ways. I can throw with control and using the whole body movement. I can do this without any help. I can show other children how to do an overhand throw.

FIGURE 8. Student's Rubric (Example 2)

Analyzing the usage of teacher and student rubrics as a part of the Assessment for Learning process in elementary school physical education made it possible to identify opportunities for their implementation in all ranges of actions as well as in all segments of one particular physical activity (i.e. before, during and after). The rubrics could also successfully be combined with a variety of assessment methods: oral, visual and written.

Learning advice eventually completed the whole Assessment for Learning process. It was used as an additional assistance tool to give students concrete practical suggestions on how to further progress and develop a particular skill. The learning advice was proved to be of a great importance since it provided specific information about the ways students could consolidate their learning and move from one stage to another on the developmental continuum. This advice is always skill-specific, it might address range of individual, group or whole class activities, it could be formal or informal, written or in a verbal form. This is also where parents could possibly get involved in a learning process (i.e. parent reflection). However, with or without parents involved, the learning advice definitely becomes the action steps for both students and teachers.

#### Example:

# "How can I progress from Beginning to Developing?"

Try working with different partners instead of always working in the same group. When working in a team, tell the other children something that you do well. Ask them to share things that they do well. Can you work together to make the best team? Think about all the different "jobs" in a team. For example, when playing a sport like football there are defenders, attackers and a goalkeeper. Why is it important that everyone knows their job and sticks to it? Think about activities you do individually, in a pair, in a group or as a team. How do you prefer to play and why?

Observe another team and tell your teacher something that they do well.

Observe another team and tell your teacher something that they could improve.

# "How can I progress from Developing to Mastering?"

Next time your class does a team activity, let everyone take a turn at being team captain. What can you learn from the different ways children lead the team? What works better?

When working individually, observe other children before you begin, to help you with ideas of what to do.

Make sure you understand the task or game well before you begin. Take a few minutes to think about your strategy and what you are going to do. If there is something you are not sure about, ask your teacher or other children.

Observe another pair - what are they doing well? What can they improve? Swap pairs, so that you are now working with one of the children you observed. Give each other your feedback and try out your ideas. Do you work better now?

FIGURE 9. Learning Advice (Example)

In summary, following the IPC advice in combination with the Understanding by Design approach it was agreed on to take three factors into account when choosing which learning goals to assess. Identifying the desired results in answering the question "What do we want students to take away from this learning?" pointed first to the fact that the chosen learning goal must be of crucial importance to physical and personal development of our students. Consequently, all the targeted knowledge, skills and sub-skills, as well as understandings were listed and then those skills were picked out that teachers thought were essential or at least highly desirable in the PE area.

The next key factor when choosing learning goals to be assessed was their complexity. By no means, teaching and learning time should have suffered due to assessment implementation. With this in mind the acceptable evidence was determined.

Third, it was emphasized that the assessment results should allow and support practical action for improvement. This however could only take place when students and parents were given feedback that included learning advice.

Finally, it had to always be clear what the purpose of the particular assessment actually was.

#### **Discussion**

This case study examined the teaching practices in the area of physical education by actively including elementary school students in their own learning process by introducing and implementing Assessments for Learning in their PE lessons.

Since the examination was concluded by the FIS PE teachers themselves, based upon the school teaching and learning principles, it was obviously an advantage to the school and students involved, to prove that using learning portfolios (i.e. individual student developmental continuums including numerous AfL evidences) to monitor and direct student progress on selected learning goals is the most effective method.

Formative assessment, in general, proved to be an extremely valuable tool in PE practice, especially when used to improve student learning. Another advantage is that it is a continuous, ongoing process, and when regularly used it provides feedback to both students and the teacher. The students benefit from Assessments for Learning by refining their skills, while teachers can use them as a foundation on which to base future planning and practice.

All the FIS PE teachers involved in this study were on the same page concluding that assessments for learning should be central to their goal of guiding the students through the learning process.

Still, from experiences made and from a judgement about implementing assessments for learning in physical education practice at the elementary school level the conclusion was drawn that applying assessments for learning in routine PE classes is very time-consuming. Not only the appropriate time slots need to be allocated but also the whole structure needs to

be reconsidered. This includes identifying adequate scenarios, considering and creating rubrics, reflections (teacher's, student's and possibly parent's), giving feedback as well as communicating learning advice.

This paper clearly points out that implementation of Assessments for Learning in physical education instructional practice in elementary school resonates well with the student-oriented approach as well as the learning-focused approach. If implemented according to teaching and learning principles Assessment for Learning can be effective in:

improving student learning as well as teaching practice;

involving frequent opportunities for students to be assessed in authentic contexts:

engaging learners in the reflection of their learning;

providing evidences of students' knowledge, skills and understanding.

The FIS PE teaching staff also believes that assessments for learning should be accurate, fair, honest and reliable. They should be modified to suit individual students if necessary. Their form should be user-friendly for both teachers and students. Assessment for Learning should always be positive and should encourage student growth and development. It should be challenging, but still engaging, relevant and significant. It should also be cumulative, consistent and valid. Assessment for learning should be able to cover a broad spectrum of understanding, knowledge and skills, while being linked to or suited to the tasks undertaken. Last but not least, Assessment for Learning should be clear, concise and as culturally neutral as possible.

This should not be only relevant to elementary school physical education, but could also apply to all curricula and subject areas.

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