EVALUATION OF COMPETENCES AND SKILLS IN PHYSICAL EDUCATION

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Summary
The curricula sets up a number of educational attainment targets for the students. These targets are a necessary prerequisite if you as a teacher want to evaluate how the targets are attained. However not all attainment targets are easily evaluated.

Different methods are required for different types of educational targets. Especially the more moderate and long term educational targets can be difficult to evaluate in a traditional way, for instance by measurement or observation. Different evaluation methods are therefore needed for these types of targets.

In Denmark, the Ministry of Education has opened a national website, where the teacher can find examples of, and inspiration for of how to evaluate each educational target mentioned in the curriculum.

UCC has been a part of the development of this website. In this work, a number of evaluation tools and methods have been developed, that suggest ideas for how to evaluate the different kinds of attainment targets.

The presentation will briefly explain about the development of the website: www.evaluering.uvm.dk, and will define which challenges there are in developing methods that can be used for evaluation of competences and skills in physical education, and in addition some examples will be given of how to evaluate those forms of competences and skills that are not easily evaluated.

Presentation

1. Competences and skills and evaluation in physical education
To define competences and skills in physical education can be a very delicate matter. The core of Physical Education is to develop competences, skills and knowledge in body movement. To define specific athletic performing skills is not so hard. For example: “Be able to perform the different techniques within track and field”. In the view of how to evaluate these skills according to when the student has achieved the competences, skills and knowledge, you can evaluate for instance by measuring how far, how fast, or how many techniques the student is able to perform. If the definition of the skill and the actual performance is identical, you can establish that the person has learned the skill. 
But when it comes to define the more moderate competences, skills and knowledge, for example: “Be able to show understanding of the meaning of fair play” or “To understand the connection between physical activity and theory”, it gets more complicated. These kinds of competences are connected to personal behaviour and personal expressions and are derived from personal experiences, tacit knowledge and mental reflections. These competences, skills and knowledge are therefore anchored to bodily experiences and as well representing a mental, subjective state of mind. To define and evaluate these kind of competences are therefore much more complex. 
In physical education you can even define competences with a view to long-term self development. For example: “Realize the meaning of life long physical activity” or “Value qualities according to different kinds of sports”. To make a precise definition of when these competences are achieved is close to impossible.
The examples above are all taken from the Danish curriculum for the school.

2. Physical education attainment targets in the curriculum
The curriculum sets up a number of educational attainment targets for the students. These targets are a necessary prerequisite if you as a teacher want to evaluate how the targets are attained. However, all attainment targets are, as mentioned above, not easily evaluated.

Often you can divide the attainment targets of the curriculum into different types of targets:

<table>
<thead>
<tr>
<th>Behavioral targets</th>
<th>Long term educational targets</th>
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The targets in the curriculum are often formulated in a general and an ideal way. When it comes to the teacher’s actual planning, these targets are therefore meant as guidelines. In terms of evaluation of these types of targets, it can be difficult in a specific and strict way to evaluate, if a target is attained or not.

These educational attainment targets can therefore be used to give an overview when planning the teaching for a shorter or longer period, to ensure which targets from the curriculum that have been included in the period of teaching.

You can define the targets in the curriculum as a kind of

• Educational teaching targets

3. Evaluation – an internal pedagogical method to improve the learning of the students

As teacher you have to evaluate how the educational attainment targets are achieved. In this case it is meaningful to use evaluation as an internal pedagogical method that can improve the teaching in order to reach the educational attainment targets. This means that the evaluation is not only the final assessment of the whole education, but that evaluation is a part of the daily pedagogical work, which can uncover how the students learn. Based on this understanding, the teacher can better plan the next step of a teaching period.

In this work as a teacher, you have to define more specific targets for the individual student or a small group of students.

These types of educational targets are based on the educational attainment targets, but are connected to the particular student.

These types of targets are what we can define as

• Educational learning targets

They are characterized by being very specific targets and may even be formulated of the student himself.

For example (all the examples of teaching targets taken from the Danish curriculum):

• Educational teaching target:
  
  “Be able to act with different types of balls with as well hands as feet”

• Educational learning target:
  
  “Be able to do an inside kick in football”

• Another example of a more moderate formulated target:
  
  Educational teaching target:
  
  "Be able to show capability of corporation and social attention related to different physical activities”

• Educational learning target:
  
  “Create and perform dances and choreographies - self made or made of others”

• Educational learning target:
• “Be able to create a choreography in an constructive corporation with three other students, where every student has to take part”

4. Evaluation methods for attainment targets

Different methods are required for different types of educational targets. Especially the more moderate and long term educational targets can be difficult to evaluate in a traditional way, for instance by measurement or observation. Different evaluation methods are therefore needed for these types of targets.

Website of evaluation I Denmark

In Denmark, the Ministry of Education has opened a national website, where the teacher can find examples of, and inspiration for, how to evaluate each educational target mentioned in the curriculum.

University College Capital (UCC) has been a part of the development of this website. In this work, a number of evaluation tools and methods have been developed that suggest ideas for how to evaluate the different kinds of attainment targets.

The construction and development of the website: www.evaluering.uvm.dk

Who? - A syndicate

• COWI - Main leading of the project
• CSC - Programming the website
• @ventures - Systemizing and analysing the digital and internet based national test
• Public - Webdesign
• VIA University College
• University College Capital/ Department of Didactics and Learning
- Both organizations have designed and developed the pedagogical content of the website

UCC’s contribution:

• Designing and structuring the content of the website
• The pedagogical and professional educational content
• Articles about evaluation in general
• Articles that can inspire and give examples to teachers on how to evaluate in all subjects and topics represented in the school
• National tests

National tests
Danish/reading (2., 4., 6., 8. level)
Mathematics (3., 6. level)
Physics/Chemistry (7. level)
English (7. level)
Geography (8. level)
Biology (8. level)
Danish as a second language

Collaboration with external partners:

• Private companies
• The Ministry of Education
• Universities – research institutions
• Teachers from the Danish Primary and lower Secondary School

The content of the website
There are around 30 articles related to the theme Evaluation in general
These are divided into following subthemes:
• Evaluation culture, including experiences from other countries
• Evaluation and pupils with special educational needs
• Guidance to evaluation focusing on how to gather valid information about learning processes and learning results

There are more than 200 articles representing all subjects and topics in the school that all gives inspiration and examples how to evaluate the current teaching. All attainment targets from the curriculum are represented in the articles. 21 of these articles relates to physical education.

5. Challenges in developing methods that can be used for evaluation of competences and skills in physical education
• Systematic evaluation (at all levels) requires data gathering
• Evaluation is an integrated part of the teaching profession
• Evaluation has to be meaningful for those are a part of it
• How to make it possible for teachers to have resources and time to care about evaluation

Need of a common understanding of words and concepts connected to teaching
• attainment targets (curriculum)
• teaching targets
• learning targets

The dominating and current focus of evaluation is that the pupils are at the centre and focus is on their learning related to the curriculum attainment targets, the teaching targets and individual learning targets. From this, the teacher has to develop and adapt his teaching.

It is very important that the teacher can use the evaluation in a meaningful way. The pedagogical follow-up is about adjusting the teaching in order to make it possible for the pupil to achieve the targets.

This means that learning processes are connected to the particular pupil and that the teaching has to reach the needs of educational development of each pupil.

6. Examples of how to evaluate those forms of competences and skills that are not easily evaluated
From the Danish curriculum:

The body and its possibilities
The teacher must ensure that the students have appropriated knowledge and skills that make the student able to:
• control fundamental movements; walk, run, jump, hop on one leg, twist and turn
• make simple balance acts and crossfunctions
• develop fundamental gymnastic skills
Values of sports
The teacher must ensure that the students have appropriated knowledge and skills that make the student able to:

- collaborate with one or more persons in traditional games
- know and recognize physical differences between yourself and other persons
- tell about experiences or situations, in which movement is the main action
- show abilities of cooperation and social attention in physical activities

Traditions and culture within sports
The teacher must ensure that the students have appropriated knowledge and skills that make the student able to:

- know the meaning of sports throughout different historical times
- know other cultures’ traditions regarding sports

Examples of evaluation tools and methods:
- A radical behavioral target
  - control fundamental movements, to walk, run, jump, hop on one leg, turn and twist (2nd grade - 8 years old)

Evaluation tool “Observation” – a registration table to make notes for each pupil

<table>
<thead>
<tr>
<th>Be able to</th>
<th>Peter</th>
<th>Mia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hope on one leg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Put weight on the arms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How to use the results
The teacher now knows which pupils who have motor skill problems and need motorical traning. The teacher’s planning of the coming teaching period therefore includes special activities that support this training for these pupils.

Moderate behavioral targets
Ex. 1:
- know and recognize physical differences between yourself and other persons (9th grade 15 years old students)

Evaluation tool: “Portfolio” - The students own registration of learning targets and how they are achieved. Video is used as registration tool.

The teacher plans a period of football. The students shall in their working portfolio write down their targets of the period. The students are training in groups to achieve their targets and are given the task to videotape their skills. From this is made discussions of how to recognize physical differences between the students. What makes a technique perfect according to strength, motor control and physical experiences?

Ex. 2:
• show abilities of cooperation and social attention in physical activities

Evaluation tool: "Pupil's log"

“To understand the meaning of being able to cooperate and have a social understanding” is connected to the experiences of the particular pupil. From this point of view the teacher can choose to use “the pupils’ log” as an evaluation tool. In the pupils’ log, the pupil can register their own experiences and reflections. From this it is possible to communicate with the other students about their experiences.

The teacher sets up a row of teaching targets and some questions the pupils have to reflect on after the activities and write down in the pupils log.

Ex. “How you been responsible of anything today?”
“What have made you happy, angry, sad..?”
“Write down something you felt was a success”
“How could you improve your cooperation with the other members of your group?”
“What are the most valuable things you learned from this assignment?”

How to use the results?

Together with the students, the teacher organizes all the students’ logs into statements and makes some general conclusions that shall be points to remember and to be incorporated in the coming period of teaching.

Ex. 3:

• knowing the meaning of sports throughout different historical times
• knowing of other cultures traditions of sports

Evaluation tool: "Story telling"

The teacher plans period of sports with a historical view. The students shall use video, pictures, books that shows how gymnastics has been performed through time. The students have to imitate and copy the movements and culture of behavior connected to the chosen historical time.

In the end the students make a small performance of the period. The students are put in the “hot chair”; posing as a person that lived in the historical time. Here the other students can ask about the period.

How to use the results?

The teacher registers what the students find of values from the different period. From this the teacher may find that moral and ethics is a popular subject. The teacher plans a new period where ethics and moral in different sports: football, basket, cricket, is the main theme.

7. Conclusions

To evaluate competences and skills in Physical Education you have to be aware of what kind of attainment targets you want to evaluate.

A way to categorize different kinds of attainment targets is to categorize in:

• Behavioral targets
• radicale behavioral targets
• moderate behavioral targets

2. Long term educational targets
The different kinds of different targets need different ways of evaluation methods and tools, that each can capture the essence of the target. Some targets can be defined as radical behavioral targets, where the target is identical to the performance and can be evaluated by a “here and now” observation. Other targets needs to be evaluated from a persons acting, which represent a mental and subjective state of mind. These targets therefore needs a completely different kind of evaluation, that more are like searching for signs and descriptions of lived experience.

The challenge is to develop different kinds of evaluation methods, which each can capture different skills and competences in Physical Education, knowing that the skills and competences not only can be viewed in a dualistic way, but are anchored to bodily experiences and as well representing a mental, subjective state of mind.