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Assessing educational materials in primary and secondary schools – four assessment models

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What characterizes the quality of educational materials – and – how can educational materials be assessed? These questions are central not only in a pedagogical practice but also in research and in educational policy in general, nevertheless, this field seems only examined and discussed very rarely in a theoretical perspective. There is quite a number of models for analysing and assessing educational materials among educators, however, what they seem to have in common is a lack of a theoretical foundation in relation to the concept *educational materials* and in relation to assessment. Consequently there is an imminent need for a certain degree transparency and structure when assessing teaching materials.

Assessment of teaching tools opens to a range of fundamental questions, which can be found in much evaluation theory: What is the evaluation's object? Which method are you to use in order to collect knowledge? What are the evaluation's criteria build on, and what is the evaluation to be used to?

This paper point out four assessment models:

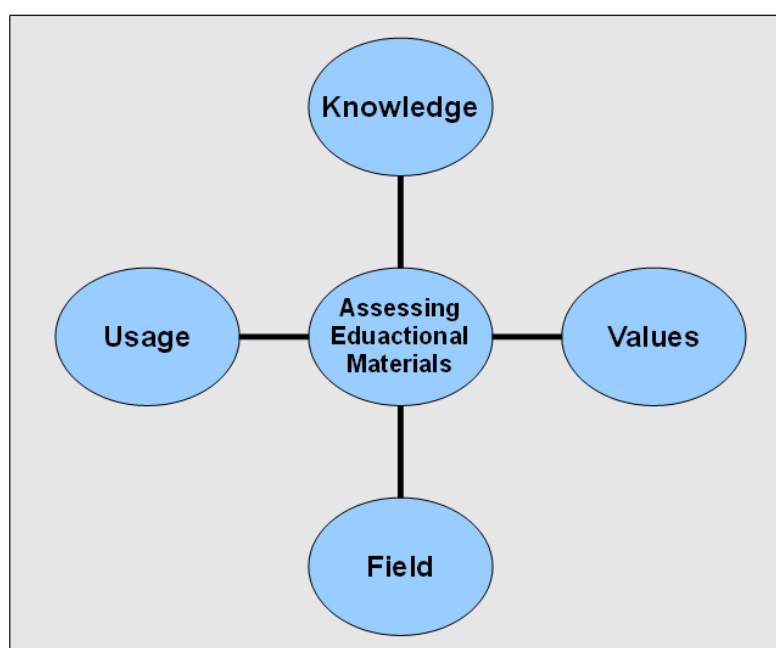
- The planning oriented assessment has closely been attached to teaching planning of practice. The model's goal is to provide knowledge about to what degree a teaching tool lives up to different goals at a concrete teaching practice and inspires the teacher for the didactic qualification of the teaching's planning, practice and evaluation.
- The practice oriented assessment is an assessment of how the material works in practice. This method is also particularly sensitive for conditions for the teaching tool's use.
- The profession-oriented assessment will examine the educational materials value for practices, but without the analysis necessarily being used in practice. The assessment focuses on the educational materials pedagogical potential, which appears in the materials design and functions.

- School culture evaluation will examine how educational materials can be implemented in a school organization. Educational materials will therefore be a tool for school development.

Design of examination of educational materials

How can educational materials be assessed? The answer to these questions depends on how such an examination is designed. A design for examination consists of 4 dimensions:

1. *The knowledge dimension*: what method for gathering knowledge is in focus and what kind of knowledge is being produced?
2. *The value dimension*: What are the assessment criteria – how can we validate that something is good/bad/ appropriate/inappropriate?
3. *The field of examination*: what exactly is to be examined? The subject for examination could be the design of the educational material – yet, it could also be to examine how educational materials are part of the pedagogical processes in relation to teaching and learning or - how they are part of the organizational levels in school.
4. *Usage*: in what situation will the assessment be used? How the assessment is being used depends on who is going to use it and for what purpose. A school librarian – an educational adviser – a teacher – a student – a school's fagudvalg^[1] – a teacher trainer – a publisher – a researcher – all of these are likely to analyse and assess educational materials in each their own way, depending on individual fields of interest and references.



Assessing Educational Materials – knowledge dimension

An assessment builds upon a systematic collection of knowledge – a method. Traditionally, we distinguish between formative and summative assessment.

Summative assessment serves to produce knowledge about the results of something – results like the effect of learning in relation to a student's use of a particular teaching material. Such an assessment will inevitably determine the future of the material in focus: does it work in practice or not – should it be purchased or not – should it be used or not?!

Formative assessment, on the other hand, provides knowledge about the process. I.e. how a certain teaching material works in the classroom. Likewise, it may bring an answer to how the teacher can improve and develop his/her use of the teaching material in the classroom.

In addition – the knowledge dimension holds reflections on what type of knowledge the assessment is to generate. Here it is relevant to make a distinction between the following knowledge categories:

- Knowledge based on research – which is based upon theories and serves to explain and/or understand practice but not necessarily influence this.
- Knowledge of development – attempts to explain and instruct practice in order to be able to intervene, however, focus is mainly on the processes from which knowledge grows and is shared.
- Knowledge of practice – based on experience and local by nature. This may not be transferable to the other categories.

Assessing Educational Materials - values

Assessment viewed as an analytical process means that it is essential that a decision on the value of something is based on criteria that are professionally acceptable: what is good/bad/appropriate/inappropriate? The criteria in use depend on what the examination aims at.

It is possible to set up different designs according to the contexts we find them in – each with their own aims and criteria:

- Educational policy context
- School context

- Context of the professionals
- Teaching context
- Learning context
- Educational Material – design

Analysis based on design:

The purpose is to assess the design of the educational material, i.e. a textbook. Relevant criteria:

- *Knowledge criteria:* what type of knowledge is presented, which parts of the national curriculum are supported and how does the material represent the subject.
- *Teaching criteria:* what teaching method, types of organization and assessment does the material support? Does it support differentiated teaching? What is the role of the teacher? The student?
- *Learning criteria:* how does the material view acquisition and how is it visible? What activities are in focus? What learning tools are used? How can the texts, modalities and aesthetics of the teaching material help to motivate the students?

Analysis based on didactic reflections:

The purpose is to assess the potential of the educational material in relation to the teacher's planning and teaching. Relevant criteria:

- *Professional relevancy:* how does the material support the teacher's teaching intention? In what ways is the material relevant for a particular class, the students and their academic level and general interests?
- *User-friendliness:* is the material easy to use and understand for both teachers and students?
- *Pedagogical capabilities:* is the material applicable, flexible, and operational in relation to the traditional routines and customs of the teacher?
- *Organizational capabilities:* does the material lean on the norms and values of the school (school culture) – how the school organizes its learning environment and the school's infrastructure in general?

Analysis based on the culture of the school:

This aims at assessing the potential of the educational material in relation to developing the learning environment as well as the educational culture of the school. Relevant criteria:

How does the teaching material interact with the school culture? What are the potential and problems when implementing the material? What are the intentions of the school management in connection with the material? What learning environment and what teacher competences are required?

Assessing Educational Materials – field of examination

Educational materials should not be looked upon and assessed as isolated designs, artefacts and texts. Rather it is relevant to view them as articles for everyday use. Seeing it this way – educational materials may be assessed according to the different contexts they appear in:

- *Learning context*: the potential of the educational material in relation to the student's acquisition
- *Teaching context*: the potential of the educational material in relation to communication and in relation to controlling and structuring the lessons and not least, in relation to the planning and evaluation of the lessons.
- *Professional context*: the potential of the educational material in relation to developing the teacher's profession, decision-making competences, academic skills and methods.
- *School context*: the potential of the educational material in relation to developing the learning environment of the school – what teacher competences are needed in relation to this and what are the demands on the learning environment of the school?
- *Educational context*: how does the educational material support certain educational political intentions and aims?

Assessing Educational Materials - usage

Usage is a matter of who is to use the assessment, what it is being used for and when it is to be used. There may be various scopes of application and there may be a variety of actors/users as well.

Scopes of application – examples:

- *Control*; to what extent does the material support the aims and standards set by the current national curriculum? Does it support the teacher's view upon the subject?
- *Learning*; how does the assessment contribute to the users' reflections of their own practice, i.e. the teacher gets new teaching ideas, finds new methods and develops professionally. It may also be that the material contributes to the learning effect of the students. Also, the material may contribute to developing the profession in general as well as the school as a whole.
- *Information*; how can the results of the assessment be generalized and popularized?

Usage also depends on the user:

- is it the student who is to learn more?
- is it the teacher who is to develop professionally?
- is it the school librarian or the pedagogical adviser that are to collect, take charge of and communicate knowledge about the pedagogical and professional potential of the teaching material?
- is it the head(master) who is to decide on what materials to buy – or rather, develop a strategy for the use of teaching materials at the school?
- is it the politicians who are to be informed about the potential of certain teaching materials in order for them to work out their educational policies?

Assessment models

On the basis of these dimensions various assessment models can be formed. An assessment model serves to answer questions and the principles it is based on help to manage the assessment process and legitimate the statements on the quality of the material in focus:

| | Knowledge | Values | Field of examination | Usage |
|---|--|--|--|--|
| Assessment based on subject matter didactics | Hermeneutic analysis of the design of the educational material | The knowledge dimension, teaching dimension and learning dimension | The design of the educational material | Communicating the didactic potential of the educational material |

| | | | | |
|---|---|--|--|---|
| Assessment based on the planning of the lesson | The teacher's professional assessment of how the material should be used | Didactic criteria: How does the material support the aims and the content of the lesson – the students, classroom organization and the setting. | The potential of the material for qualifying the teaching/lesson and the student's acquisition. | Control – will the material support the teacher's didactic intentions? Learning – will the teacher be inspired by the ideas, the design and the methods in the material? |
| Assessment based on teaching situation/the lessons carried out | Collecting/gathering experiences in relation to the use of the material in the lessons. | How the material functions: -user-friendliness -pedagogical capabilities -organizational capabilities | The relevancy of the quality in relation to educational material in a teaching- and learning context | Collecting experiences and routines in relation to the use of the material |
| Assessment based on the culture of the school | Identifying potentials and possible problems in relation to the culture of the school. | Criteria for assessing the culture of the school, teacher competences and learning environment. | School politics, school culture, learning environment and teacher competences | Organizational learning. Solutions to strategic and managerial issues |

Summary

The four assessment models illustrate that assessing educational materials is a complex matter which may serve various purposes and may be used in many different ways by as many different participants/users. From a professional's perspective such assessment work contributes to the fact that the teachers manage and reflect upon the practice they find themselves in on the basis of knowledge collected systematically. To build the teachers' work on knowledge-based practice is not only necessary due to the fact that this practice is very complex and to manage educational materials is even more complex. It is also necessary due to the fact that it serves to develop the profession as such, the school institution and ensure their status and autonomy in society.

Furthermore, assessing educational materials has an innovative potential in the sense that such assessments may carry with them new teaching methods, new ways of organizing the classroom, new pedagogical ideas etc. However, for such innovative qualities to see light a

context is necessary – that is, a context that includes the classroom and how it is organized, how the school is organized, the infrastructure of the school, the teachers' academic and didactic competences etc.

Also, it is important to point out that through such assessments, focus will also be on the existing culture of the school, that is, what are the current school cultural, infrastructural, teacher competences and organizational settings that ensure and facilitate the pedagogical potential of the educational material.

Assessing educational materials is therefore not only a matter of having some tools at hand for analyzing classroom work on a general basis. It is even more so to be looked upon as a lever to meet extensive and far-reaching pedagogical visions and a basis for strategic school development.

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[1] committee of experts