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Quality for educational programmes

Quality from a modern pedagogical perspective

Educational programmes for children should specifically aim to create learning environments through their dramatic construction. Here, "quality" means repeatedly creating entry points into the subject matter and offering various learning routes and access points, but also incorporating "the learning of learning".

Many things can be learnt through the medium of television (see *TelevIZIon*, 18/2005/E) – and, just as in other areas, in the case of television the motto "you cannot *not* learn" certainly also applies. However, there are programmes whose declared intention it is to communicate educational content. From classics like *Die Sendung mit der Maus (The programme with the mouse)* (WDR, Germany), or *Sesame Street* (PBS, USA) to current formats such as *Sid the science kid* (PBS), *Wissen macht Ah! (Knowledge makes you go ah!)* (WDR/KI.KA), *Dora the explorer* (NICK JR., USA), or *Blue's clues* (NOGGIN, USA), programmes have attempted to provide children with as attractive and efficient a learning environment as possible. In so doing, each programme offers not only specific contents but also, by means of its particular dramatic construction, specific learning opportunities. As a result, establishing quality criteria for the various educational programmes on offer is anything but simple. For this reason a focus group has been formed, in which educational programmes are discussed and systematically researched by a collaborative team of researchers[1] and producers[2], so that segments may then be produced systematically. This project is guided theoretically by the idea that the qualities of a programme are first brought to light by the constructional efforts of its recipients. As a result, the dramatic structure to a certain extent preconfigures reception – and therefore, learning. Ultimately, the qualities of an educational programme only unfold "in the minds of its viewers".

> *The qualities of an educational programme only unfold "in the minds of its viewers"*

As a result, we will begin by proceeding from the basic premise that the dramatic structure of each educational programme provides learning or reception environments which are crucial both for the success of the programme and for the education of the viewers. These learning and reception environments not only provide various entry points into the subject matter; they also create different entry points to the subject during the programme, and in so doing determine which type of learner engages with which preferred types of entry points and discovers a connection with the subject. If such connections are not successfully established, then viewers will generally switch off even during the programme. Discussions on the quality of educational programmes should therefore consider, on the one hand, paying attention to the possible types of learners to be found among viewers and, on the other hand, finding both entry points and ongoing access points which make the subject matter accessible to as many viewers as possible without allowing the programme content to be overshadowed by the dramatic structure. The knowledge to be communicated, or the information to be imparted, should – in other words – not be stopped in its tracks by the dramaturgical endeavours.

If one examines recent developments in teaching and learning research and applies these to the structural organisation of educational programmes, then 4 aspects appear to us to be particularly important for the quality of such programmes:

- Multiplicity of entry points to the subject;
- Multiplicity of routes and entry points during the course of the programme, to facilitate understanding for different learners by means of a number of meaningful points and opportunities for connection;

- Clear pre-planning and modelling of the subject areas in question, in order to maintain an adequate degree of order or a recognisable pattern to which viewers can relate cognitively and which promotes metacognition;
- Ongoing evaluation of the effectiveness of educational programmes – which means more than just keeping an eye on the ratings.

### Points of entry to a subject

In the dramatic organisation of educational programmes, four variants of a pre-planned entry point are known, which have been tested in a variety of situations:

- *Person-oriented:* Accompaniment by a presenter who "experiences something in place of the children/viewers". Accordingly, in the best-case scenario the children/viewers follow the same path and "learn what (s)he has learnt" *(Willi wants to know it all)* (BR/KI.KA, Germany), *Mark's moments* (TVO, Canada).
- *Facts-oriented:* An issue is explained in individual pieces. In the best-case scenario the children/viewers understand this and learn something about the issue. Here the structure may either assume a more markedly didactic format, as in the case of *logo!* (ZDF/KI.KA, Germany) or *Eva's winterplaster* (SVT, Sweden); or it may be presented as an experiment to be followed, as is frequently the case with *Discovery zone* (Super RTL, Germany), *Mystery hunters* (YTV, Canada), or it may be presented in kaleidoscopic fashion, as in the case of *What is what TV* (Super RTL).
- *Narrative-oriented:* The learning contents are integrated into a story. Children project their thoughts and feelings deeply into this and arrive at their own opinion/position – cf. *Felix and the wild animals* (BR, Germany), *Between the lions* (PBS, USA), or in a reality format

like *No experience required* (RTE, Ireland).

- *Interaction-oriented:* Viewers' reactions are already built into the dramatic structure. This can occur in a non-fiction context, in the form of a guessing game or quiz – *We test the best* (KI.KA, Germany) – or it can be constructed as part of a fictional narrative – *Dora the explorer* (NICK JR., USA), *Blue's clues* (NOGGIN, USA).

These four basic forms must be classed as ideal types because in practice it is repeatedly mixed forms which appear. Nevertheless, the prominent pre-planning creates a certain attitude of expectation in the children/viewers which is also very important from an educational psychology viewpoint. Through this expectation, a learning environment is presented to the learner which, from their point of view, is easier to

When its just right, it reaches here, where it rolls around for a while–
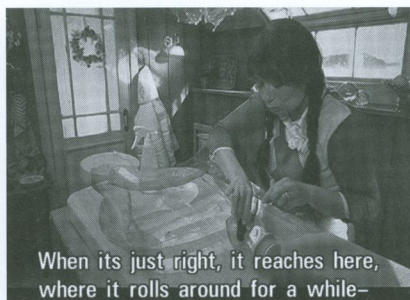
Screenshot from: *Eva's winterplaster* (SVT, Sweden)

grasp. If, for example, I am watching a person-oriented programme, then I expect and – as learner – also depend on the fact that the contents these people are presenting make sense, are correct, and if necessary will give me hints when I do not need to take something too seriously (a problem with ironic presentation). In the case of facts-oriented programmes, too much personal intervention would have a disturbing effect on my learning connections. Where narratives are concerned, I really do expect stories and not an abstract textbook. And in interactions with programmes children imagine their own participation

as possible and meaningful (at least on a parasocial level). When the candidates on *We test the best* (KI.KA, Germany) rack their brains, I guess along with them, or I give the character Dora the hint she is asking for, about where to go next.

Certain opportunities for personal or interactional orientation will always be essential

A decision to use one of these basic forms is, from an educational psychology viewpoint, advantageous for educational programmes; in other words, the format can already signal opportunities for expectation and connection by foregrounding one of these orientations. Here, however, one must take into account the fact that, especially when it is a question of learning and not just entertainment, a relationship orientation and, as a result, certain opportunities for personal or interactional orientation will always be essential. In the case of facts-oriented programmes and narratives, therefore, great care must be taken to ensure that, in the presentation of the facts or the narratives, there are opportunities for connection on a relationship level. From the perspective of educational psychology, it thus appears to make sense always to bring in facts-oriented and narrative formats as inserts in a larger, moderated format and, in the process, respect a certain time limit.

The basic forms alone, however, do not suffice to ensure that the dramatic structure unfolds in a manner that is, with regard to educational psychology, concrete and differentiated. For each of the basic forms, and also for mixed forms, points of entry into a topic, a problem, a situation, or an event are of primary importance. According to the concept of the format, specific forms of entry points suggest

themselves. For example, a person-oriented or narrative-oriented format often poses a social question, or a problem results from an invented situation which is then followed up. From an educational theory viewpoint, it is important here to provide multiple entry points for different learners/viewers with different preferences (which they observe with particular attention and interest). Here, we would like to discuss briefly a few important types of entry points. Their first function is to direct the attention of different learners and viewers towards the programme and its subject matter in various ways. For this purpose, several possible types of entry points, with advantages and disadvantages, are available:

(1) Context through narrative:

A narrative framework creates contexts and ensures associations are made by means of a frame story. Frameworks create above all cognitive and imaginative (and, in part, emotional) points of contact and establish points of anchorage for continuing interest. Without such anchorage, an introduction would quickly become uninteresting or "abstract" in a negative sense. The advantage of a framework, however, mutates into a disadvantage if the narrative loses clarity, if no connections to the viewers' experience can be found, or if the connections appear too tedious or incomprehensible. One must remember that a large number of younger viewers/learners in particular can be deeply engrossed by stories, which however also means that it is a question of employing an engaging narrator with interesting qualities.

(2) Facts and figures:

In a problem-oriented presentation we are endlessly fascinated by facts and figures when they astonish us, but we are very quickly bored by them when they metamorphose into mere rows of numbers or impenetrable lists. For example, we obviously want to know how many teeth a shark has (because they could be dangerous), but it is less interesting to learn that there are exactly 115 fish in an aquarium. Some viewers/learners are almost fixated on facts and figures: they orient their perceptions enthusiastically and repeatedly around seemingly reliable data. If we do not wish to lose sight of them, then programmes should repeatedly allow them points of entry. But if, over a longer period, this perspective becomes dominant, then programmes will frighten off the majority of learners who prefer other approaches.

(3) Logical problems:

Problems are always of especial interest to us when we encounter contradictions or paradoxes. Then we are curious to find out why this has occurred, and how it can be resolved. By posing such problems I can engage the majority of viewers if I succeed in describing the problem vividly and presenting it snappily. This works best as an entry point when we are confronted with an alternative assessment or, even better, a decision. It becomes disadvantageous at once if the problem is too trivial or only a pseudo-problem.

(4) Existential questions:

We respond to questions of this kind particularly through our emotions, which means that cautious and anxious learners react noticeably more intensely than others. The questions need not only concern one's own existence, but through pathos and the search for justice may, indeed, also provoke a powerful reaction when we identify with others. However, educational programmes must be sparing in their engagement with such questions, since the more often existential questions are posed, the more their effects are diminished. Existential questions also require a very good introduction so that the problem which is contained in the question is actually comprehensible. Dangers arise particularly when such questions are linked to one-sided, morally tinged solutions. It is better to show concrete solutions by particular persons which can serve as examples of one possibility.

(5) Aesthetic access:

Appearance, sound, rhythm, colour, design, editing, and pace – these and other things determine preferred forms of visual and aural access, such as those which are communicated in apparently exemplary fashion by advertising and by means of which entry points in educational programmes, too, gain or lose in terms of predominantly emotional effects. To be sure, educational programmes do not have to make comprehensive use of aesthetic clichés, but they cannot entirely ignore them either. This can be particularly difficult where a factual presentation of specific learning goals is concerned, since an aesthetic approach often entails major technical expenditure (e.g. for animations). If the explanatory models are too cheap and simple from an aesthetic point of view, then viewers' customary expectations will cause them quickly to reject them. The advantages of the aesthetic approach are to be found above all in an emotional receptivity; the disadvantages, however, in viewers becoming less frequently willing to watch unadorned facts. This approach, moreover, can rarely be used to provoke them.

(6) Access via relationships:

Access via personal problem situations and feelings or sensibilities accounts for the success of soaps and also has significance for educational programmes. The more the subject in question permits participation on a relationship level, the more intensely learners engage with it, because they can now develop opportunities for identification – perhaps not so much with the subject itself, but with the problem of how the subject can be considered within a relationship. Here, for

example, the presentation of a subject can gain in depth by being dramatised using characters in a relationship. From her perspective Susan experiences the subject one way, but Peter has quite different experiences. Who is right? This way, thus the advantage, perspectives which differ in their view of a subject or problem may be introduced. Disadvantages, however, appear immediately when the relationship problem eclipses the subject that one is actually trying to get across.

(7) "Plots" – something is afoot:

This entry point relies on the fact that human beings, and especially children, are basically inquisitive when they see something they do not know. This situation provokes amazement or fright, which contain cognitive as well as emotional components. The problem, or the meaning, arises out of the events themselves and must now be so sharply dramatised that the viewers/children recognise the questions and points of contact contained in it for themselves. After the introduction, an explanatory presentation usually helps answer the hypothetically implied questions.

In these 7 possible forms of entry points we perceive important possibilities for the dramatic structure which are congruent with the latest research findings of educational psychology research. For larger groups of participants, educational psychology places great value on the finding that one should never travel one road only, since learners differ. If for learning in general it is preferable that different and changing entry points should be favoured, then this basic principle can also be transferred to the organisation of educational programmes.

Multiplicity of routes and entry points

The goal of educational programmes is to effect an increase of learning in the viewers, to enable them to understand the world or a part of it.

"Understanding" means "constructing meaning", in other words giving a meaning to that which is perceived. However, in contrast to teachers, who are in direct contact with their students, television programme makers have no chance to test whether this goal has been attained or not. They are also deprived of opportunities for corrective intervention when things have been misconstrued. They must therefore construct the learning path so securely that it yields the greatest possible probability of understanding.

During the conception and realisation of an educational programme one should rely on as wide a variety of learning experiences as possible

Every learner undertakes the work of understanding for him or herself alone and on the basis of their own predispositions for learning and comprehension, which the programme maker can only assume but not know for certain. There is therefore no other way forward but to make assumptions about possible paths, entry points, and obstacles which promise to accommodate a certain breadth of audience. Here, to be sure, the idea suggests itself that one should orient oneself around one's own learning experience; as a rule, however, this does not provide a guarantee for the learning of others. It would therefore be sensible, during the conception and realisation of an educational programme, to rely on as wide a variety of learning experiences as possible. In fortunate cases, the composition of a team already represents a certain variety. This can be complemented by ongoing evaluations, in other words observation and questioning of selected target groups. In this way, the basis of the fundamental assumptions about possible routes and entry points is broadened. Offering a multiplicity of routes and

entry points means enabling the individual constructive processes of different learners. Here, the following five principles can serve as points of departure:

- *Connectability:* If connections can be made with existing knowledge and familiar experiences, the probability of understanding increases. Therefore, the more a programme builds on widely shared experience, the better. Knowledge already assumed can be recapitulated once again at the beginning, in order to ensure that learners make the intended connection with the new material.

- *Reduction of complexity:* The complexity of reality, of the world, or of part of the world compels reason and the senses to make a reduction of perceptions. In order to understand an object, a problem, or a process, it is normally sufficient to be aware of its essentials. Reduction of complexity is a central task of education. It is a matter of supporting the process of understanding by a reduction of information to the essential. When a topic is presented, therefore, assistance should be given in distinguishing the essential from the inessential. In this way, the object of learning crystallises more clearly. In view of the target group it is also of considerable importance when making a reduction to take account of its appropriateness for the age group. A reduction for preschool children must be made in a different way from one for teenagers with a differentiated experience background. Is it a question of astonishing the children or of making an issue transparent for them?

- *Persuasiveness of the model:* In educational programmes, models for learning and comprehension are offered either by the protagonists, the presenters, or the dramatic structure. The more convincing these are, the more certain it is that

viewers will follow them. However, their power to convince may vary in intensity in each case, depending on individuals' preferences and habits. One person may prefer to be led towards understanding by logic, while another may make their agreement conditional on aesthetic factors. Sometimes a model is sufficient for the situation shown, sometimes the model should be more comprehensive and suggest or even demonstrate how it can be transferred to similar problems.

- *Multiplicity of perspectives:* Every issue has more than a single side from which it can be viewed. A change of perspective is a precondition for the understanding of cognitive connections as well as for social behaviour. Anyone who has understood that another point of view is, in principle, possible becomes not simply smarter but also suspicious of "single" and unquestionable truths; they acquire a sound sense of tolerance. Multiplicity of perspective can be introduced into the medium of television relatively simply, for example by means of camera shots from different perspectives, flashbacks or superimpositions, or skilful juxtaposition of different protagonists. In this way, the children, each according to his or her own previous experience, can recognise themselves in one point of view but, by means of the second (or third) perspective on things presented, acquire the chance to expand and enrich their own ways of seeing.

- *Integration of knowledge:* Every new piece of knowledge is integrated by the learner with existing knowledge. In this way, to a certain extent, "knowledge clusters" emerge, which must then be joined together again. Since individual programmes or sequences can, in each case, only provide elements of knowledge, here – as in school-

ing – it is a question of embedding these elements in a framework of understanding, thus facilitating the integration of knowledge. Programme makers, just like teachers, should provide children with a "scaffold" by means of overarching ideas, concepts, and so on.

These principles increase the possibility of understanding for many different kinds of children. In order to support their individual ways of constructing meaning, and thereby at the same time prevent their switching off, a tried and tested, rhythmic placing of stimuli which signal to the learners that they are "on the right track" (in other words, the track leading to understanding) can be useful.

Learning to learn

In the age of the exponential growth of knowledge, it can no longer be a question of knowing and learning as much as possible, but above all of knowing how one learns and acquires new knowledge. It is a question of learning the art of learning itself. Therefore one must ask of each learning opportunity whether it makes its contribution to the superordinate goal of learning how to learn. The more someone knows about their learning and knowledge, the more certain it is that they are able to acquire new knowledge through learning. Regardless of what must be learnt, it makes sense always to address the theme of learning itself as well. How does one ask precise questions? What routes to knowledge acquisition exist? Who is able to give what information? How does one test the truth content of information? How does one test the validity of theories? Which information is helpful in understanding a problem, which less so? How can I find out about something? How can I memorise something? Such questions affect learning strategies and possibly also learning techniques. To deal with them is to reinforce the learners' own learning competence. A simple

presentation of information makes no contribution to this; in this case it is simply expected that the viewer will store the pieces of information, perhaps also make connections between them, and connect them with their own knowledge. However they learn nothing about the acquisition or testing of this knowledge, or its application to real problem situations.

In the age of the exponential growth of knowledge it is important to learn how to acquire new knowledge

A more appropriate method can be seen in the visual presentation of, and commentary on, learning itself. Children should be given the opportunity to observe learning, to assess it, and preferably to compare it with their own learning. When Willi in *Willi wants to know it all* (BR/KI.KA, Germany) asks a question, he does it vicariously for the children watching. When he then sets off to find the answer to it, he takes on the role of a model – for the learning and questioning of the children. He formulates assumptions and works out how he can establish whether his hypotheses are correct. He looks for ways to test them, and he accompanies this whole process with an internal monologue, which in this case however acquires the function of a "window on thinking and learning". The children can follow the learning process not only by means of the actions of the model, but also by means of his "thinking aloud". The "learning of learning" can be acquired not just with the aid of a model. One can also observe various persons engaged in it – how they try to understand something – and then compare their attempts with one another. Who was more successful? Who was more thorough? Why? Which method is more suitable for which problem situation? These types of things can be easily embedded in a narrative format

(for example as in Jim Henson's *Sid the science kid*, PBS, USA), but can also be performed by suitable presenters. The important thing is to make learning a topic. However, there is one problem to watch out for: learning does not proceed in the same way in every branch of knowledge. It is true that the question of memory always plays some role, but the objects of learning also have their specific structure, for which the learning must be adapted. Mathematical problems are solved in a different way from social conflict situations. It will therefore also be important that prototypical structures are recognisable for each sphere of competence, so that the patterns according to which learning is achieved may be transferred to related problem situations.

Evaluation of educational programmes

Like other television programmes, educational programmes are often submitted to a quantitative comparison by means of viewer ratings. Such comparison is certainly useful initially in order to observe habits and effects on a quantitative basis, but it is not convincing as a way of establishing whether, and to what extent, learning has actually taken place as well. This point presents us with a two-fold difficulty.

On the one hand educational programmes, as information providers, present viewers/children with a certain confusing complexity, since they more or less fortuitously offer a multiplicity of products which are designed to suit as many as possible, but within this wide reach are each of different appeal. In order to be effective they must, at least notionally, appear interesting and important, so that where almost any learning topic is concerned a certain tendency towards the "sensational" will emerge. In this way research into their effectiveness easily becomes directed towards a subsequent examination of

specific perceptions (sensations), for example: "What do you remember about…?" But for learning, these are always merely entry points and not the solution of problems. Such an examination of effectiveness is too narrow for the study of learning. It must be widened to include what the learner has learnt about the context of the object of learning and the perspectives and rationale associated with it. On the other hand we know from educational research that those contents and relationships which learners can transfer to, and practise in, their own behaviour are anchored and stored particularly firmly, both emotionally and cognitively. Yet limits are always placed on any television programme. For learning, however, it is particularly interesting how in the learner's biography the information supplied in educational programmes subsequently undergoes lasting change when translated into behaviour – which in particular also throws up questions about the effectiveness of educational programmes for school learning or professional training. The criteria for quality assurance which we have developed at least allow us to investigate effectiveness not only by means of ratings, but also in a more differentiated manner which includes those relevant points which are important for the constructions of viewers/children. To this extent, an item of education research must also cross over into the field of effectiveness research in order to arrive at authoritative findings.

By watching various individual programmes, we in the "Quality of Educational Programmes" project team have arrived at the conclusion that there are many good approaches out there, but that to date insufficient systematic attention has been paid to implementing the findings of educational psychology in educational programmes. In our view, an analysis according to the 4 criteria mentioned here would be useful to set such a process in motion.
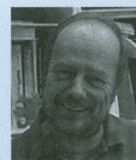
Finally, however, one should not forget humour. Everything goes more smoothly when peppered with humour. That applies to learning just as much as to life in general. And children have a refined feeling for it. ∎

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