**Storyline** – a Strategy for Active Learning & Adapted Education

A co-operative project between teacher education and practice schools

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**Background**

Active learning and progressive methods have since the 1930s had, and still have a strong position in Norwegian National Curriculum Plans and have also influenced the curriculum plans for teacher education. A number of studies, however, have demonstrated that students, having acquired positive attitudes towards such methods during their training, turn to more traditional teaching quite soon after becoming certificated teachers. This tendency among new teachers is explained with the need for control, the lack of essential skills and routines and the overriding need to be perceived as competent in their new school. Few students, report that they have experienced progressive methods during their practice periods. Mostly, they have met the same traditional methods which they experienced as pupils themselves. (Solstad 1991, Stålsett 2003, Hauge 2001, Hoel 2004.) Implicitly, this indicates that progressive methods, despite the aims in the Curriculum Plan do not occupy a strong position in Norwegian school culture.

Progressive methods and active learning jointly imply a form of teaching which combines opportunities for independent thinking, partnership and choice-making for the children, together with a teacher who has a sense of structure and expectations, who builds on the children’s knowledge, and helps them to reflect and to construct learning strategies. The evaluation of the Norwegian Curriculum Plan from 1997 (L97) demonstrates that, whilst teachers support progressive ideas in theory, traditional methods, such as whole-class teaching, one-way communication and individual work in work-books, still dominate the classroom. Progressive thinking and practice have, however, influenced classroom teaching, but in ways that may have led to the low position and lack of esteem which such methods seem to inhabit to-day. Ideas about active learning, partnership, research-based teaching, etc. seem to have been interpreted as free activities overseen by a passive and non-interventionist teacher. There may be a lot of activity, especially in the lower classes, but more for the sake of doing something, than for pursuing planned learning activities (DES 1992, Haug 2003, Dale & Wærness 2006). Haug (2004) suggests that teachers do not have the necessary skills for organising active learning and progressive teaching, a view which is in line with what Pedersen (2002) found some years earlier.
The research quoted above indicates that students may not have had the opportunity to acquire experience and knowledge about how to organise and structure active learning processes which stress support and learning outcomes. This lack of experience is especially interesting in view of Clark and Petersons’ research (1986) which has demonstrated that in their approach to planning, teachers develop conceptions of what to do based on what they have seen and done before.

A possible conclusion, based on research such as that quoted above, is that if students are to be prepared for implementing active learning methods as future teachers, they must not only hear about them, they must also have direct experience of such methods in their own learning. Further, and perhaps most important, is the necessity for them to have the opportunity to plan and implement such teaching activities with children during their practice teaching in a way that is not identified with the weaknesses that have been mentioned, thus creating perceptions which can guide future organising and teaching.

The three lecturers having responsibility for our first-year teacher students 2004-05, judged Storyline to be a strategy and method which could combine an progressive approach and partnership with teacher control and learning outcomes. This is the background for the project Storyline in Teacher Education – a cooperative project between university and practice.

What is Storyline?
Storyline is a strategy and method for active learning, adapted education and partnership which was developed in Scotland as a cooperative project between teacher educators and teachers. The learning process which starts with finding out what the children already know about the theme, that is to be explored, is built up through episodes which move the story forward to a logical conclusion. A Storyline starts with physically creating the figures using different materials, that are involved in the story (see pictures), and the place (house, shop, tourist spot ...) where things are going to happen, thus creating identity and ownership. The process is directed by key questions, which are open-ended questions which must elicit many responses, and well planned activities chosen by the teacher, focusing on new learning experiences and learning outcomes. In a storyline the idea is that the problems prompted by the key questions should be ‘real’ problems as they are experienced by the figures who take part in the story. In the following passage I will give an example to demonstrate what is meant by key questions.

I choose a storyline which I call The Zoo. In the first chapter or episode, relevant key questions could be: Which animals should we have in our Zoo? Which ones should be placed near each other, and which ones further apart? What about temperature, need for shelter etc. Then the Zoo area must be planned. And when this is decided and the animals are made, we start a new episode: The animals need food. What sort of food, how much and where to get it? After having researched, made and written about the animals and designed the area, using books / encyclopaedia / internet / listening, learning activities following new key questions may imply writing a “menu”, writing to firms to find out prices, set up a budget. We want visitors to our Zoo and need to find out what they have to pay to get in. How can we decide that? Discussions followed by calculating in food costs, wages, insurance and other things the children find out is needed, using numbers suitable for the children we are working with. In the next episode we have to decide what to do to let people know about the new Zoo, then (as they might decide) make announcements, “radio” reports, newspaper advertisements,
etc. Then something might happen in the Zoo. Depending on the learning goals, a new episode may start with a fire, a burglary, sick animals, money problems, followed by questions about what to do, how to do it and then doing it; writing letters, making calculations, researching facts, make a report, write something for the newspaper, make a dramatic performance, write a creative story etc.

The questions, and the learning activities which follows, give the teachers control of the learning process at the same time as the pupils participate, make their decisions about how to tackle the problems, do their research and present the results. (See more in Cresswell 1997, Eik 1999, Falkenberg og Håkonsson 2000.) Thus, Storyline can be described as a progressive method in which the teacher actively takes responsibility both for the learning process and the learning outcome through the choice of key questions and learning activities, thus counteracting some of the negative consequences of progressive teaching that have been pointed out above.

Putting Storyline into practice

The action
As we wanted our first-year student teachers to undertake a Storyline during their next teaching practice, we had to involve the classroom teachers as partners. An information and discussion meeting with the teachers indicated that, even though some were sceptical, most of them were positive in the matter of letting the students do a storyline in the following practice period, which, for all the students, was in levels Primary 1 to 4. Next all the teachers were invited to a one-day induction course to Storyline. A week later a two-day course made compulsory for the students. The course was followed by reflections, discussions and evaluation, and formed the first part of the project. The immediate evaluation proved that most teachers and students were positive to have practised the method themselves, not only heard about it (see underneath).

The data
Within a national and international paradigm steered by objectives, our proposition was that Storyline, to be put into practice at a later stage, must be seen as relevant in relation to main goals and learning experiences stated in the Curriculum Plan. In Primary 1-4 relevance will to a great degree be judged in relation to the acquisition of literacy (Norwegian) and numeracy (mathematics). Other important aspects of the plan, difficult to implement though, are adapted education, active learning and partnership teacher – pupils. The other part of the project was, therefore, a survey directed to all the students and their practice teachers and carried out after the practice period was finished. The aim of this part was to find out if Storyline, as a learning strategy, had properties relevant to the aims mentioned above, thus increasing the probability of later use.

The research questions were organised into four parts. These were A) Background, B) Experiences with Storyline at the University College and attitudes to doing a storyline in the following practice period, C) Attitudes to and experiences with Storyline in practice, and D) Attitudes to doing storylines as authorised teachers (students) / Storyline in future teacher education (practice teachers). The questions in Part C, which on the basis of our hypothesis, are of special interest, concerned the respondents’ experiences with Storyline as a strategy for teaching literacy (Norwegian) and mathematics, and for approaching the main principles stated in the Curriculum Plan, of adapted education, research-based teaching and partnership.
All the questions in the survey had four alternatives. These might, for example be very well suited, well suited, not so well suited or not suited, or to a large extent, to some extent, to a lesser extent or very little. In presenting the results, the two best and the two weakest alternatives are classified together. The data are mainly treated with frequency analysis and, to a certain degree, with the students’ answers, with cross tables. When cross tables are used, Tau B is used as the correlation coefficient. Tau B tells about the probability for one answer to elicit equivalent values in other answers. All the questions also had room for comments, which most of the respondents employed. Comments are illustrating and highlighting the results which are presented in following paragraphs.

60% of the teachers and 65% of the students answered the questionnaire. 50 of 58 students who responded to the questionnaire had done a storyline in the practice period, while 17 of the 18 teachers had allowed the students to do a storyline in their class.

**Results**

**The practical induction course**

The data demonstrate that both practice teachers and students gave good credit to the short induction course to Storyline. Both groups saw the method as interesting and challenging, and emphasised that they had learned new ways of thinking about teaching and learning. The students appreciated doing new methods instead of only hearing about them, and of being active in their own learning process, while the teachers pointed to the value of being introduced to new ways of teaching via the same method later to be used by the students. Both groups declared that, without the practical course, they would have been sceptical about implementing a Storyline in the classroom. One student commented thus: “The experiences I have had will help me a lot when I am going to implement Storyline with pupils”, while another one admitted that, “Without the course, I think none of us would have wanted to do a storyline. She [the teacher] is too conservative, and I do not like to do things I do not understand.” The importance not only of listening but of doing, as well, was also demonstrated by one of the teachers: “I had heard about Storyline in my teacher education, and have often wanted to try. The induction course was that little nudge I needed to get started.”

Of the 58 students 2 were negative about the induction course which they judged to be a waste of time as they could have learned the same in a 3-hours lecture: “Of course it was fun, but fun is for my spare time activities.” While one of these two students was rather negative to all aspects of Storyline through the whole project, the other one reported good experiences from having done a storyline in practice, and said she would do storylines in the future. After the induction course, two of the about 25 teachers questioned the value of Storyline as a method for teaching literacy and numeracy (mathematics), while some others were afraid that first-year students would be too inexperienced to do a storyline with pupils. The conclusion, however, was positive; most of the teachers were willing to let the students try.
Attitudes after having implemented Storyline with pupils

The 50 students, of the 54 who responded, who did a storyline during the 4-week practice period, had very different working conditions. Some had to make a storyline based on the theme that was decided by the class teacher long ago, some were allowed to choose for themselves in dialogue with their mentor. Some stretched the storyline period over three weeks, while others were allowed only three to four intense days. In “real life”, a Storyline may cover several weeks, and even months, doing “ordinary teaching” alongside. This investigation asks for how the students and their mentors judged storyline in relation to important goals. It does not question how the storyline has been implemented in class. However, both teachers and students, independent of sex, class-level, class-size or time schedule, were very positive after having implemented storyline with pupils. Comments stress that it had been extremely interesting and exciting, and a very good experience to draw on later: “It has been absolutely super, I shall use this method in my future job”. / “Both the pupils and I have learnt a lot”. / “A really good way of teaching”. Only one student admitted that she had been sceptical: “… Could Storyline really be done with these wild Primary 2 pupils? But I must admit that I was surprised. This way of working was just right for them, and I was very inspired to do storylines in the future”.

Though most comments demonstrated that the implementation of Storyline had been successful, they also revealed ways of improvement. Many students would have liked more time for implementation of the storyline, thus extracting more learning opportunities. Some said that they should have spent more time on planning, and the making of good key questions, while others mentioned that they had been too lax about structure. One student emphasised the importance of knowledge, because “… without wide knowledge of the field, without the faculty to see connections, it will be difficult to make good key questions which challenge what the pupils already know in a way that lead them to their proximal development zone”.

Comments and reflections like this are the keys to improvement. In this way, the Storyline project represents action learning for the students, from which they have gained conceptions and skills on which to base further planning and teaching. In line with our assumptions, one of the teachers stated that, “It will be safer to do storylines later when one has tried and seen what worked and what did not work”. Storyline was a new way of teaching for the teachers as well, thus the students have met teachers who were willing to reflect on their own teaching and to try new methods. These are important aspects of teacher professionalism.

Storyline as a method and strategy for learning

Our proposition, as stated earlier, was that new methods, to be put into practice, must be seen as relevant in relation to goals, themes and experiences stated in the national Curriculum Plan. The survey shows that the great majority of both teachers and students have experienced storyline as a good method for learning. The children have learnt about the theme being explored, and acquired skills incorporated in the given storyline, such as writing letters, using the computer as a research tool, presenting knowledge in different ways, calculating expenses, giving a speech etc. The respondents also found that the pupils have learned about relations and working together, they have learned partnership and democracy in practice, all important aims in the Norwegian Curriculum Plan. Both teachers and students report that the pupils were more enthusiastic and motivated than in traditional teaching, they were proud of their work and wanted to do more storylines.
In Primary 1-4 (P1-P4) relevance of a teaching strategy will to a great degree be judged in relation to learning in Norwegian (literacy) and mathematics (numeracy). However, the aims in Norwegian and mathematics stated in the Curriculum Plan (L 97) are rather vague. In Norwegian, aims are stated like this: “The pupils shall learn to read and meet others through texts and pictures which can give experiences and inspiration to own writing. They shall learn to write, and learn that they need to write through own experiences ...”, and “... knowledge of different genres”. Content are thoroughly described for each year group in all subjects. In Norwegian the pupils shall “participate in role play relevant for writing.” / “get help to write down what they tell ...” (p. 116). In mathematics they shall, “ ... make forms, figures and patterns through play and other activities, describe numbers and relations on the basis of different experiences ...” / “work with numbers and symbols, explore number operations ...” (p. 159). This means that the teachers must create learning situations which give the pupils opportunities to do this sort of things in meaningful contexts. The data in this article present experienced teachers’ and students’ evaluation of learning outcome in these fields. This investigation does not, however, probe into how the pupils’ learning outcome is measured.
**Storyline and the teaching of literacy**

Literacy is not clearly defined in the Curriculum Plan. In this presentation it is defined as learning to read and write. Reading and writing are important for learning in all subjects, and, acquiring these skills, is perhaps the most pressing task of the school in the early years. Traavik (2003) claims that practising reading and writing in a meaningful way with texts that children find interesting, is central to literacy. The question in this investigation is whether Storyline is regarded as a relevant instrument for developing literacy and working with content stated in the Curriculum Plan.

More than 90 % of the students, who did a storyline, and 15 of the 18 teachers, found it either to be a very good, or good, method for teaching literacy. Working with Storyline has included many areas of the Curriculum Plan for Norwegian, such as reading, oral presentations, the learning of new concepts, writing in different genres and the production of texts. The pupils have researched and recorded facts; they have made log-books and have been inspired to write expressive stories. One student stated that “… they [the pupils] asked for more homework because they would tell more about Karlsons´ visit to Pippi …” (P2). Another commented that, “The pupils produced texts and read them for the other pupils in the class” (P2).

One student remarked that storyline did not work with P 1 because the pupils did not yet read and write. Teaching literacy always represent a challenge, but this student neither had the experience nor a practice teacher who informed her about using pictures, excursions, drawing, role-play etc. as tools for acquiring the meaning of abstract symbols. Another student managed better: “Even if we tried this [a storyline] in Primary 1, we expected them to write a little every day. I think they were motivated to write because they enjoyed what we were doing.”

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1 Karlson and Pippi are beloved figures in books by the Swedish author Astrid Lindgren.
To sum up, ticking and comments demonstrate that both the practice teachers and students found Storyline well suited for learning to read and write. The method gave many opportunities to practise written language in many genres in a meaningful and interesting way. The investigation does not explore the nature of the grounds on which the evaluation is based. Nor do we know in what way, the teachers have responded to the texts created by the pupils. However, Traavik (2003) asserts that up to Primary 3, what counts is that children get positive feedback independent of what they write and how they write. The main thing is that they do write. In this view, if storyline strategies motivate children to read and write, it should be conducive to learning.

**Storyline, and the teaching of mathematics**

The students had not yet met mathematics at university level when the Storyline Project started. Still, more than 80 % of the students and about 75 % of the teachers found that the approach is very well, or well, suited for practising basic mathematical skills in a meaningful way. One teacher reflected that in Storyline the problem-solving is practical, which is good for young children, and another admitted that she felt freer to let the pupils explore and find out things themselves. Some respondents insisted that it was easy to integrate mathematics and that they did a lot of work with practical problems and problem-solving in line with descriptions in the Curriculum Plan. Seven students (ca.14%) found, however, Storyline to be not so well suited to the basic teaching of mathematics.

* A girl in the same class writing about the animal she has created for the Zoo. It is a swan.
The development of a given storyline, steered by the key questions and chosen activities, determines which aims and subject content are to be covered. Maybe we can conclude that if Storyline is to be a good tool in the basic teaching of mathematics, key questions and activities must lead the children to use and explore knowledge in the field. In a storyline the idea is that the problems prompted by the key questions should be 'real' problems as they are experienced by the figures who take part in the story. This is the strength of the method, and is in line with Alseth and Røsseland (2006) who claim that real problems should be the starting point for teaching basic mathematics.

**Storyline and adapted education**

Adapted education is a main principle in the Norwegian Curriculum Plan, which means that all sides of the learning situation are supposed to take care of variations among pupils’ abilities, social and cultural background and interests with in a common frame. The students have met the concept of adapted education in theory, while research referred to before, has demonstrated that most teachers find it difficult to implement (Haug 2003). Thus, the answers and comments presented here may conceal different interpretations and refer to different actions. If Storyline is judged as consonant with what each individual interprets as adapted education the probability for later implementation increases, which was an aim for this project.

About 75 – 80% of the respondents find Storyline well suited for taking account of differences and variations among the pupils within the common frame created by the story. Some mention that all the pupils can contribute within their abilities and skills. Others argue that Storyline is a way of meeting different learning styles because problems can be tackled and carried out in many ways. Two students assert that storyline is very good in multi-grade schools, while others found that in Storyline pupils from other countries were able to use their abilities and to participate in an appropriate way. One of the teachers admitted that she, in what she called ordinary teaching, her teaching was less differentiated. Of special interest are the comments which state that, pupils who generally had problems with adapting to the school situation, functioned well in this project: “… Pupils, who generally have problems with keeping the focus on school work, had long periods when they worked well.” / “There was much practical work which suited some of those boisterous boys very well.” / “Pupils, who generally do nothing, became very active and engaged.” Thus, the comments suggest that Storyline created a context which took care of the variations among the children, thus diminishing or possibly eliminating troublesome characteristics?
Storyline as a method for research, investigation and partnership

The Curriculum Plan describes pupils as active, creative and independent learners who should be encouraged to seek knowledge and to participate in their own learning processes. The teacher’s role is described as partner and leader of a co-operative learning milieu. These ideas and concepts had been discussed at the university, while the practice teachers’ understandings and actions were unclear. The answers to these questions thus represent the respondents’ interpretations.

Both the ticking and the comments indicate that the respondents judged Storyline to be a strategy well suited for both research-based teaching and for partnership between teacher and pupils. The children participated in the development of the story, they researched problems introduced by the key questions; they investigated different matters and had to choose between different solutions and judge the consequences. One teacher claims that she will use more storylines “… to get more participating and active pupils.” Some pupils, however, preferred traditional methods based on the reproduction of given answers; they did not feel comfortable when they were expected to find out things for themselves. If future teachers are interested in preparing for research based teaching, active learning and partnership, this study indicates that Storyline is one way of doing it.

Main figures (persons) that will be involved in a Storyline. The text tells about the person’s name, age, work and interests. Created by two children in grade 1.
Concluding remarks

Our project had as its starting point a positive view on progressive methods, although we were fully aware of the pitfalls so often claimed by politicians in the 80s and 90s (e.g. DES 1992) and demonstrated in the evaluation of L97 (Haug 2003). Our proposition was that if new teachers are going to use progressive methods in their future teaching, they have to practise them as student teachers, and to judge these methods as conducive to the acquisition of basic skills and knowledge, and as tools for meeting the over-arching aims for compulsory schooling as stated in the Curriculum Plan. The central idea with the Storyline project, was therefore, to let students, and their practice teachers, experience a progressive method where aims, demands and the learning and practising of skills are apparent. We judged Storyline to be one such strategy and method. However, no method is more than how it is implemented by the teacher. But Storyline, with the planned learning activities following the key questions, has some assets that may make the learning processes and learning outcome more apparent than other interpretations of progressive teaching.

As we have seen, the majority of the students found Storyline to be a very good or good method and strategy in the teaching of Norwegian and mathematics, but this investigation has not explored the grounds on which these statements are based. Reading, writing, calculations and problem-solving are, however, central to the development of these skills. If these activities are done with enthusiasm and motivation because they are meaningful, the probability that the pupils will read, write and do more mathematics increases. All the same, it is important to remind the readers that storyline, as with other methods, if it is to be conducive to learning, needs teachers who sum up, give meaningful responses and clarify aims for the pupils.

The evaluation of the L97, demonstrates that adapted education mainly are confined to quantitative measures, as different levels of tasks and the amount of work to be done. This investigation has shown Storyline as a method where the pupils can deploy different qualities and skills, and where everyone can contribute to the solution of the problems which arise and the tasks to be undertaken. Such an approach may motivate the pupils and enable them to experience a feeling of mastery. Perhaps we can assert that Storyline may have given new dimensions to the concept of adapted education, and that there are reasons to conclude that these teachers and students have found Storyline to be a good method for such teaching.

A main question is whether this project has increased the probability that these students, when qualified, will include Storyline in their repertoire of methods. A great majority of both groups said that they would certainly do storylines later on. Many of the students actually did this in their practice teaching the following year. 90% of the students stressed that we had to continue both with the compulsory induction course and with doing storylines in the practice periods. Most of the practice teachers agreed to this.

The study indicates that the induction course and, even more so, the practical experiences with pupils, have provided the students with a good foundation for subsequent use of the approach when practising as qualified teachers, and, further, that it was right to combine the two approaches. They have gained concepts and skills as a base for later planning and an initial understanding of procedures and context. They have experienced active learning in practice, and they have reflected on their experiences and how to make improvements.
In parallel, the practice teachers have learned a new way to teach and to structure the learning process. And, not least, the practice teachers and the lecturers at the university college have established a foundation for further cooperation and have forged a better relationship between theory and practice in teacher education.

Munthe (2005) emphasises that we cannot make the assumption that students have experienced pupil participation and different methods for adapted education in their own schooling (p. 434). Thus, teacher education has to take the responsibility for preparing students to teach in line with the Curriculum Plan. The dilemma, as pointed out earlier, is that students learn about progressive methods distinguished by active, mental learning, pupil participation and developmental responses as theory, but that their experiences in practice do not necessarily support their theoretical understanding. Students have for many years criticised teacher education for creating a gap between theory and practice, a situation which now has also attracted political interest. The question is whether the sort of cooperation between the university college and the practice schools which this project represents, can reduce this gap at the same time as the students gain competence for implementing progressive methods as qualified teachers, in a way conducive to learning.
Biography
Anne Grete Solstad is associate professor at Bodø University College, Institute of Teacher Education, where she is teaching educational theory, mainly to students in their first two years of their teacher education. Her research has focused on strategies for active learning and adapted education, especially directed towards the first 4 years of primary schooling. She has recently published an article looking at children’s play and artwork as tools in the teaching of literacy and numeracy.

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SUMMARY

This article presents results from an action-learning project on Storyline as a strategy for learning involving teacher educators, practice teachers and teacher students. After a practical induction to students and practice teachers to the Storyline methodology which is based on open questions, a research based approach and active pupil participation the students implemented a Storyline during their placement in the practice teachers’ classrooms. The main idea was to provide the students with experiences that might develop the kind of ideas, skills and reflections necessary for practicing Storyline as qualified teachers. Our proposition was that Storyline to be seen as relevant for future teaching, had to be judged as conducive to learning in main areas of the Curriculum. A survey carried out after the practice period, which for all students was in Primary 1-4, demonstrates that both teachers and students found Storyline to be well suited for teaching Norwegian (literacy) and mathematics, for adapted education and research-based learning and for partnership between teacher and pupils, which are all important goals in the Norwegian Curriculum Plan. Moreover, the action learning approach to preparing teacher students for later professional teaching was well received by the participants and should be continued. 95 % of the students claimed that they would use Storyline as a strategy for learning in their future teaching.