Today's Stories
Task 1.3: School Trials

Deliverable D1.3.3
School Trials

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Authors: Katja Hansen (NIS), Niels Ole Bernsen (NIS), Dennis Beach (UGO) and Chryssa Koutra

Natural Interactive Systems laboratory team:
Katja Hansen, Niels Ole Bernsen, Merete Bertelsen (administration), Mia Casparij (video), Laila Dybkjær, Bent Nygaard (technician)
Co-ordinating Teacher at NR. Broby, Funen, Danish School Site:
Tove Husted
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Author(s)	Katja Hansen, Niels Ole Bernsen, Dennis Beach and Chryssa Koutra
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Abstract	The project Today's Stories develops an approach to learning for young children (4 to 8) that is aimed at the development of social, communicative and emotional skills in the context of the everyday activities of children. This 3rd year deliverable is about the content of the trials in Denmark. The purpose of the deliverable is to describe the fieldwork in the school environment. The deliverable presents the developments and collaboration between the school environment participating in Today's Stories and the developers of the technology. Evaluation is made of the school trials in Denmark.

CONSORTIUM PARTNERS	
MIP/NIS	Natural Interactive Systems Laboratory, University of Southern Denmark
CFE	Ben-Gurion University of Negev, Center for Futurism in Education, Beer-Sheva, Israel
UGO	University of Gothenburg, Sweden
CTI	Computer Technology Institute, Patras, Greece
LRF	Lambrakis Foundation, Athens, Greece
NCFL	Nordic Center for Research on Toys and Educational Media, Sweden

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Partners involved: UGO, **MIP**, CFE	Total Resources: 32.6 pm	Starting date: T3

Objectives

To use and evaluate the technological results of the project toward realizing particular educational objectives in a real school environment. The trials will be executed in the two school environments that are committed to the project. These trials will produce raw material for further study, as well as trial reports and implication reports for the technology.

Introduction

Deliverable D1.3.3 is about the content of the trials in Denmark. A detailed presentation of the content of the trials in Israel can be found in the pedagogical deliverable D2.1.4. The purpose of the present deliverable is to describe the fieldwork in the school environments. The deliverable for the third year aims to show the developments and collaboration between the school environment participating in Today's Stories and the developers of the technology. Also, this deliverable presents an evaluation of the school trials in Denmark.

The deliverable is structured around three tasks:

1. Description of the fieldwork in environments. The trials were executed in school environments that are committed to the project.
2. Documenting the results of on-site trials. Description of the use of the technological results of the project toward realizing particular educational objectives in a real school environment.
3. Evaluation of the school trials in the Danish school environment.

Appended to this deliverable is an annex section consisting of four annexes:

Annex 1: Protocols and reports on first trial course

Annex 2: Plans and material for second trial course

Annex 3: Protocols and reports on third trial course

Annex 4: Documentation of evaluation

In Denmark, the school connected to Today's Stories is called Nr. Broby School. It is a village school located between Fåborg and Odense on the island of Funen. The school has 17 teachers and 160 pupils divided into nine classes, with classes rating from pre-school class to 7th grade class, which means that the children are between 5 and 14 years old. Nr. Broby has approximately 2000 inhabitants. The school is situated in a local environment with close connections between the teachers and the pupils, which means very good opportunities to participate in a project like Today's Stories. Five teachers have been involved in the project during the past year. During the last seventeen months of the project, including the extension period, two classes, a 4th grade class (now 5th grade class) and a pre-school class consisting of children aged 10-11 years and 5-6 years old have participated in the trials.

At the Israeli site there are 12 experimental groups in all. The age range of the children is 4-7 years old. There are 11 teachers involved in the project and four people on the academic team. All experimental groups are situated in the Tel-Aviv area, and are of a high-mid socio-economic level. The experimental groups include 2 primary schools, and 5 pre-schools:

"Ilanot school" – 5 teachers, 5 groups, children aged 5. The teachers have participated in the project from the beginning whereas the students have changed.

"Ramat Hachayal" school – 2 teachers, 2 groups, and children aged 6-7. The teachers have participated in the project from the beginning whereas the students have changed.

5 pre-school groups – 5 teachers, 5 groups, children aged 4-6. Three of the teachers have participated in the project from the beginning of year 2 and two other teachers joined the project in the beginning of year three.

Patterns of work with the teachers in Israel:
Forum workshop – monthly meetings.
In subteams –weekly meetings.
Personally – according to growing needs.

Fieldwork in two different environments

DANISH SITE

The Danish site has progressed from activities during the first two years of the project being mainly carried out by the project's staff, into a process also including the plans and ideas of the teachers involved. This has brought the project's development much closer to the normal pedagogical processes in the school in Nr. Broby.

In comparison with Israel, the Danish site has so far focused mainly on activities allowing usability tests as opposed to pedagogically oriented scenarios. During the second trial course, having achieved a greater stability of the technology, the Danish site has focussed more on the pedagogical goals of developing self-reflection and bridging between the school environment and the children's parents.

While the Israeli site has focussed on the AOE theory (further below), the Danish Site has from the very beginning decided not to follow the ideas of the AOE theory. The focus of the trials at the Danish site has been on the usability of Today's Stories technology and on goal-directed pedagogical activities aiming at developing skills in reflection and self-reflection.

ISRAELI SITE

At the Israeli site the working hypothesis is that a fundamental re-definition of education called Autonomy Oriented Education can be built around the notions from various parties.

The concept of Authenticity according to the Israeli site:

Authenticity is an individual's awareness of his/her own unique characteristics and loyalty to them. In order to develop authenticity, the individual requires:

1) Aspiration for authenticity
2) Self-awareness, which includes reflectivity, rationalization and self-connectiveness. Reflectivity is the component that ties together self-connectiveness and rational ability and, in effect, "conscribes" activation of rationalization towards the content of the "self".

The research team in Israel define unique characteristics as internal sources of motivation, abilities, emotions, values, behaviour patterns and responses. These are not permanent characteristics but constantly change during a person's growth and development.

Internal sources of motivation comprise needs and interests. Three core motivational needs has been adopted – the need for feeling capable and need for a bond and belonging, the need for feeling capable and need for a sense of autonomy (the individual's sense that he or she is choosing his/her own actions), understands them and identifies with them. Meeting these needs is driven by the individual's inner motivation. Interests are in this connection defined as the combination of areas of interest and personality types.

"Areas of interest" are the areas in which an individual would like to become involved in a real and meaningful manner: "Areas of interest are the individual person's inclinations that reflect the characteristics of processes to which a particular person is attracted, differing from one's inclinations in terms of content, that we have defined as "fields of interest".

The linkage between an individual's area of interest and his or her particular personality type creates "interests". This is the activity that the person is interested in doing for it's own sake.

Documenting the results of the on-site trials

PLANS AND SCENARIOS FOR THE FIRST TRIAL COURSE

The focus of the first trial course at the Danish site has been on the usability of Today's Stories technology, therefore the first trial course was centred on testing the technology. The technology was delivered to the school sites in the course of March 2001. In Denmark, the infrastructure was ready with the pre-installation of the software and the wireless network, so the course of school trials started on 19 April 2001.

In addition to the pedagogical results of Today's Stories which are discussed separately in the pedagogical deliverable D2.1.4 and the final report, the main achievements at the Danish site are two. The first achievement concerns the relationship between the children, their teachers and the Stories technology. To become more familiar with the use of different forms of electronic devices was the main reason for the school to participate in Stories. The teachers as

well as the children involved agree that they have profited a lot from participating in Today's Stories. Thus, one important achievement of their participation in the project is that both teachers and children are now much more comfortable with cameras, video, screens etc. A second achievement is more of a spin-off nature. Both the teacher involved in the Stories evaluation and the children report that their experiences during the trials have made them grow, develop and change in several areas related to the experiments. Some examples are that the teacher reports that the children used to be much more shy acting in front of their classmates. The use of various forms of presentation during the experiments has made them more self-reliant in this kind of situation. Another example is the development of the children's social abilities. As the children have come into contact with many new persons linked to the project, their interests in other cultures and in using the English language have grown.

Six school trials took place during the spring term 2001 with three trials in each of the two participating classes. The two classes involved in the project were at that time a pre-school class and a fourth grade class. After the first introduction for the children to the project and a demonstration of the technology, simple activities to make video recordings and test the system were initiated. Some examples of those activities are listed below:

1) Game to get to know the names of the children

   One child throws a little ball to another child, who goes to the board and writes his/her own name – to be continued until all pupils have written up their names.

2) Winding yarn and telling stories

   The children take turns with a ball of yarn sitting in a little circle on the floor (or the children sits on chairs). Turn by turn they hold the ball of yarn. The child with the ball of yarn tells a homemade story, winding the ball of yarn simultaneously. When the child has finished his/her part of the story, the ball of yarn continues around the circle to the next child, who continues the story until the ball of yarn has been wound up.

3) Give a speech about a word or a thing

In this game, the children by turn go to the blackboard to give a speech to the others. They start the game by asking the audience to have a word. The children have to think of some things or objects from the classroom, the kitchen, the school, or the playground. The child who is to give the speech has one minute to describe this thing or object in detail, for example by telling about its form, colour, characteristics, applicability, or which associations the object generates. After the speaker's one-minute's performance, the speaker gets applause from the audience and the next speaker continues the game.

4) Dinner with the royal family

All the children sit in a circle, and one child starts the game by telling who was invited for dinner at the castle with the royal family. It could be, e.g., Donald Duck. The next child in the circle continues by telling who was invited first, and then adds a new name to the list in the following manner: Donald Duck was invited to dinner with the royal family together with…. The next in the circle has to mention the two that were invited, and then add another name to the list. As the game goes on, it is getting more and more difficult to remember the names as the list becomes longer and longer. The children's memory will be put on a hard task the longer the list of invited guests will be. If one child cannot remember the list, the child is excluded from the game.

5) Finding the thimble

All the children turn their faces away or leave the classroom for a moment, while the teacher or, alternatively, a child places a thimble in a secret place. However, the thimble has to be visible! Now the children have to find the thimble. They are not allowed to say anything, but must show that they have found the thimble by sitting down on the floor silently. Of course, it is not appropriate to sit down and stare in the direction where the thimble was found. When all have found the thimble and are sitting on the floor silently, the child who found the thimble first gets to hide it, and the game begins again.

6) Noughts and crosses

This game is played by the children in pairs of two children at the blackboard. The blackboard is divided into a certain number of squares corresponding to half of the number of children present. Each group draws a double-cross in their square, and then

plays noughts and crosses. One child makes the crosses and the other one the circles. They do this turn by turn, and the winner of the game is the one who first draws three of his/her symbols in a row. In the original "Noughts and crosses" game you are allowed to place your symbols horizontally, vertically and diagonally. It might be a good idea to limit the possibilities to two, the vertical and the horizontal, for the smaller children.

7) Whispering through a circle

All the children sit in a circle on the floor or on their chairs. One child is chosen to start the game. This child whispers the next child a little sentence or a small message in his/her ear. The child whispers what she heard to the next child, and the game continues until it returns to the one who started it. Usually, the content has changed a great deal on its way around the circle, and it makes great fun to hear the eventual result.

8) Secret handshaking

This is a silent game where the children, as a rule, are not allowed to talk. Each child secretly chooses a number, which is either 1, 2 or 3 (or the teacher supplies each child with a number). The children walk around each other in the classroom, and they have to shake hands with one another doing one, two or three handshakes, according to which number they chose. In this way, they must find the other children who chose the same secret number. When one child finds another with the same number they continue until everybody found their own same-number group

9) Who is the leader?

One child goes outside the door while it is decided who will be the leader of the group. The leader decides upon signals, which the rest of the children have to imitate. The leader can, e.g., clap his hands; stamp his feet, whistle, or snap his fingers. The child outside is let into the classroom again, and now has to figure out who is the leader of the group. The leader has to act very carefully, so that the investigator will not discover him too easily. The investigator has three guesses at who the leader is.

10) Telegraph

All children sit in a circle except for one child, who is placed in the middle of the circle. This child has to find out when and where somebody presses another child's hand. The task for the rest of the group is the opposite, which means that they have to press their

hands as lightly and invisibly as possible. It may sound difficult, but the fact is that it is possible to press somebody's hand without being noticed. If the child in the middle reveals a pressing of hands between two children, he/she will swap places with the one who did the pressing.

PLANS AND SCENARIOS FOR THE SECOND TRIAL COURSE

The second trial course was planned to take place during autumn 2001 at Nr. Broby School and in the planning of this course we scheduled five trials for the whole process. In the light of the evaluation with the two teachers involved in the first trial course, it was decided only to continue the trials with the fifth class. The reason for this decision was mainly the recommendation from the teacher of the pre-school class, who found that the children were too small to profit from their participation in Today's Stories.

The focus of the second trial course at the Danish site was not on the usability of Today's Stories technology but on goal-directed pedagogical activities aiming at developing skills in reflection and self-reflection. The idea is to let the children work on a special theme like they did this spring with great success in their feature course on the production of a newspaper. The intention for the second trial course was to let the children work together to produce a video of a day at Nr. Broby School. This work could include some of the children using the KidsCam and Magic Mirror but it did not have to, if the technology did not allow us to use it or the children simply decided not to use it in their video production.

This video production idea could be integrated with the pedagogical idea of focusing on goal-directed pedagogical activities, but with the video production as the principal idea. The example of bringing information from one micro-world (the school) to another micro-world (the parents and the family) could also easily be integrated in the video production theme. In fact, the children were very happy about the idea of making a video production, especially when they realized that this would enable them to bring home a product of their own efforts and show their parents some episodes from their "school life".

As an introduction to this project, the children had a little lecture on video production to give them an idea of what this work is all about, and what preparations they needed to do to make

their own video. The lecture included different phases in a video production like: development of ideas, writing a synopsis, preparation of a manuscript, shooting the video and drawing up of a storyboard. After this general introduction to the theme, the children started a brainstorming-process to find and collect ideas for the video. The children were enthusiastic about this project and very quickly caught the video production idea and came up with a lot of good scenarios for their video.

The teacher of the fifth class and the local fieldworker helped the children organize their ideas into a plan for the progress of the project. As homework the children were asked to think about their ideas and try to think how they can realize them in the video production. Another time the homework for the children consisted in drawing up small storyboards for the scenes of their video-production.

PLANS AND SCENARIOS FOR THE THIRD TRIAL COURSE

This trial course on the theme Wild West is to be considered as a three-stage-rocket consisting of three visits to the school in Nr. Broby with the main goal of testing the use of commercial cameras together with the Magic Mirror:

- First visit: Preparations for the feature week and
  Introduction to Today's Stories technology/test of technology
- Second visit: Feature week on the theme Wild West (The classroom is a Saloon)
- Third visit: Reflections on the activities during the first trial and the feature week

The first item of our plan for this trial was a short introductory talk to the course of the three trials to test the new tool developed in the extension period of Today's Stories. The children were listening with keen interest to get an idea of what was going to happen.

After this general introduction, an introduction was given to the technology of Today's Stories. To demonstrate the new tool to the children, one of them was asked to capture a video sequence and this video was used as an example how to work with the technology. The children very quickly caught the idea of the tool and were obviously impressed by the possibilities of Today's Stories technology. Particularly, the children had great fun annotating sounds to their video and they also liked to work with the touch screen.

The children showed a lot of initiative, enthusiasm and imagination in planning and organizing of their activities, and all of the children were eager to be a participant in the activities either as photographer or actor in the sketch they prepared and performed. The teacher made an important observation during the activities in the class: One of the girls, who normally is very shy and not very dynamic, showed an extraordinary effort in this trial scenario. One idea generated another new idea and the children in general had many good thoughts during this process. At some point there was chaos in the classroom, but the chaos was created by the enthusiasm the children showed and their eagerness to perform, so it was part of the activity and could be designated a controlled chaos.

Another important observation in the way the children used the technology was the play aspect. The children had to be motivated by activities based on playing – the children should feel that the focus of their activity was to be found in a playing situation. It was amazing to watch how the children familiarized themselves with the characters in their sketches, and how eager they were to perform their role to the best of their ability. To watch the shootings they made were also an interesting part for most of the children.

The purpose of the second visit was, first of all, to experience the atmosphere of the children's work in the feature course. Another aim was to let the children make some shootings of their preparations to the school party to take place on the Thursday night. The local fieldworker had prepared a table to fill in the names of the children and categorize the shootings they did, so that the individual shootings could be separated from each other.

When we arrived in the class, the children were already in the middle of their preparations. The girls were about to draw up posters and show cards for the things they would be selling at the party on Thursday evening, and the boys were sent to the entrance of the school to collect the commodities consisting of wine, beers, soft drinks and chips. While making these preparations, some of the boys started the activity by playing a variation of blind mans buff. The commodities were placed in the bar after Hans Erik's instructions and some of the boys were asked to lay the table and place small candles on the tables. While the girls were drawing, they spontaneously started to sing a little song.

While the children did those activities, the local fieldworker asked them one by one to do one or two shootings of their activities. Some of them were so engaged in the activities to prepare

a Wild West bar that they did not want to capture video this time, but many of them were happy about this opportunity to shoot some of their preparations in the class. Some of the children even went out in the common room to capture some of the activities of the other children from the school.

At the end of our visit, one of the children (Ditte) showed us around in the school and told us about the plans for the different serving places and the activities to take place during the school party on Thursday evening. Some of the children of the other classes were very curios about why Ditte was showing us around while Mia did shootings during this guided tour, to enable us to sense and capture the atmosphere of the feature week.

On the third visit to Nr. Broby School, the children one by one told something from the school party. One of the girls told about the Wild West Saloon they had in the class – that it was possible to buy red wine, white wine, beer, soft drinks and tortilla chips in the Saloon. Further she told about what happened in the common room, where other classes had different activities and stalls, where you could buy different things to eat. There were also things you could try and small competitions for the visitors.

The children were after a short introduction asked to come to the computer and sit down around the touch screen and to work with the Magic Mirror. We had some problems to categorize the children's shootings since the numbers they had did not match the names and numbers on the list made after the first and second trials, but the children were waiting patiently for us to find out. During the first shootings we did observe that the children were very interested in what was going on, on the video. The children were asked to tell about what they did capture and why - and they told a little about the different scenes they prepared and shot with the digital camera in the class.

After that we started to do the annotations – it was obvious that their favourites were the different sound effects. The first two scenes we worked with were scenes with shooting activities. The first children were also asked to explain why they used special sounds and images. The boy and girl who made the first shooting scenes tried to annotate the bomb sound so that it would fit in with the activities of the scene. Also the sound of a round of applause, drums and moo and a yelp of a dog was used. The children had a lot of fun watching the shootings of their western sketches and adding sounds and images to them, and in general

they made a lot of effort to make annotations that would suit the activities in the scene. Not only the child which did the annotations was involved – the other children were engaged as well and came with ideas for when and what to annotate.

Another thing to accentuate is that most of the children were impressed by the touch screen and found it interesting to work with even though some of the manoeuvres were easier to do with the mouse. After about 40 minutes work with the Magic Mirror, some of the children started to be impatient and one of the children even exclaimed that he was tired. The children that had already worked with the Magic Mirror were bored and started to do other quiet activities like to make drawings and read comics.

Evaluation of the school trials

INTERVIEW-GUIDE FOR EVALUATION

In the evaluation of Today's Stories technology in use, our concern should be for how the teachers and children use the system, and what they learn from it. What is also interesting is what the Magic Mirror system provides that isn't otherwise available in classrooms, and how the Magic Mirror system can expand creative learning and capacities for reflection.

There are two steps for generating such information/knowledge from living education settings according to established ethnographic researchers such as Paul Willis (2000). Generally these are:

First step: use broad ethnographic techniques to generate observational data from real life, recorded with goodly inputs from subjects themselves and with sufficient finesse that you are able to register something of the internal life of social atoms. We should speak extensively with the children and teachers about their experiences with the system. Ideally, we should also record what they say. Filming the children while they participate in the evaluation could do that. These facilities could be put to good use in the sessions.

Second step: experiment by bringing this data into forcible contact with outside concepts, accidentally or inspirationally chosen, and trying to frame the whole with necessary

complexity to deliver analytic and illuminating points not wholly derivable from the field but vital to conceptualising its relationships. This is what the "evaluators" will have to do afterwards.

We need knowledge about how the system provides the children with valuable learning resources. We need to obtain data on this, concerning both what actually is done at the interface - which children do which actions and perform which activities with or in the presence of which clues and prompts and what their own understandings of the motives for these actions are. It is about filming the children in their activities with the system and then talking with them around workstations and afterwards.

What we offer is the possibility to incorporate video clips of one's own making and a possibility to annotate these. This is a much softer, slower and potentially more reflective technology than the kids might be used to. One question is, can the offered combination of soft recording and reflection beat off the challenge from advanced, high speed, high noise, sharp graphic, and computer games as a motivation device, or will the kids quickly become bored with it. This kind of knowledge might be difficult to reach, but tendencies might be possible to spot and the evaluator can ask the children about their experiences and feeling in this respect.

Do the children think they will get quickly bored? In case they do - why does this happen? What could be done to enhance the systems motivational capacities, etc.? For a project like ours to have any chance of working, children will have to want to work with the system over a sustained period of time without being forced. We need to find ways in which we can help the children to help us to provide a system that can become as self-motivating and engaging to use over time in these respects as possible. The children should be questioned about this.

In connection to the above, interest can be immediate, but it can also be more slow. There are several sides to this coin. It is important that the program and the system doesn't *turn* the children *off* (we have already noted that we don't think it does), and that if it does, some kind of graft (a change in the system or a pedagogical input) can turn this situation around. Also, when kids are *turned on* to the system, it must engage them over time in educationally productive ways. This could mean either that new values may need to be continually discovered in it by them, or that the functions and facilities which the system offers can

become imbued with a genuine, deep and permanent use value (like a diary seems to have for some children). Although getting a grasp on such things is difficult, if possible we should come up with some evidence that the system does have *a capacity to captivate and hold interest* which is likely to sustain continued use over a significant period of time, in productive ways.

It is important to know something about how the children understand the functions of the system. One of the things we can easily attend to at the trials concerns, which icons seem to attract the most attention and use and which don't. Filming would be valuable here too but the system itself can also keep valuable records of this for us. It would be useful to know what this might depend on, how icons are used and so on. The children could be asked about this. The recognition of items, icons and uses determines if the system can be really accessed by the children and how and what directions into it they can take (cf. the *affordance* issue). By observing and filming these things, we can see the icons used and the channels in taken. By talking with the children, we can begin to uncover how they experience getting into and being inside the system.

There are two commonly used opposing theories of representation in HCI research. Taken together, they point to two different sets of resources. On the one hand, there are the *metaphorical* resources, by which is meant the facility of a system to allow a user to make *life-like* representations of the real world outside the system in the virtual world of the system. On the other, there are the *interactive* limitations and availabilities in a system (the functional possibilities of the system expressed in terms of its objects, icons, programming rules and structural regulations), with which the user can make things happen within the system. We have both.

One of the questions we will need to try to get at concerns that what we anticipate happens when children work with "their media" in "our system", might not be what is happening at all. We can film what they do and ask them about it to get a grasp on this. If the children's understandings of the way they should work with the system are - for whatever reason - directed primarily toward experiencing and experimenting with the structural/interactive aspects of it, what they *put into* the system will not be a representation of their everyday experience. Exactly what it is may be elusive. But we can at least, again, film them and talk with them and then evaluate the data together later.

Central questions for the children as well as for their teacher has been prepared, and the evaluator will speak with teachers and children about these issues. What they say can be added to, and compared with, what the filming and system-in-use records provide us with.

Any new program situation involves as much learning by the teacher as instruction. It could be interesting to ask Hans-Erik what he has learned from seeing the kids use the system. Does the system seem able to support teachers in the development of a facilitator role in the classroom when the system is being used? Hans-Erik could be asked about his view of the value of the system. He could also be asked how/in what ways he feels he would work with the kids if he were in charge of the system in the classroom and how the children would be "exposed to" and encouraged to use it. The best way in which we may be able to gain valuable information and insight into how the teachers understand the system, is by asking them to use it with the children and to describe what they learn. This cannot be done in these trials, but what we can do is to talk with Hans-Erik about what he has seen and what he feels.

EVALUATION MEETING WITH HANS ERIK

In our evaluation meeting, Hans Erik expressed that during the three years and five months he has participated in the project, he has felt quite lonely in the process. He would have appreciated if he could have had continuous contact with other teachers participating in the project. Then they could have exchanged their ideas and experiences of being a teacher during the process of Today's Stories.

Another important point he emphasized was that the technology should work every time! – And the teachers should be trained to use it. The usability should be improved and focus should be on good usability. Eventually, there should be done some kind of automation of the technology and the procedure of using it. Discussing whether the technology puts off children to use it any further, Hans Erik pointed to the fact that the children have no understanding at all if there should occur problems with the technology during the trial. Therefore, it is important that the technology is stable and works well every time.

The children have profited a lot by being participants in this project. They have received a great insight into project work and they have achieved the experience that there are more aspects in a project or a process than they thought at first.

Concerning the question of suggestions to make further development of the technology, it was emphasized that the sounds and images in Magic Mirror should be appropriate to the age of the children working with it. It was proposed to extend the number of choices for adding sounds and images and to introduce a kind of clip-art. There could be four palettes with different sounds, e.g. human sounds, sounds from animals, weather sounds, and sounds from musical instruments.

Magic Mirror had a special importance to the children since they had participated in the design process and given their opinion as to how the design should be. But talking to Hans Erik about his view of the value of the system, he was less enthusiastic. He felt it could have been wonderful if the wearable cameras had worked, but the KidsCams were not working properly, and the results with Magic Mirror were made with a commercial camera.

Hans Erik stressed that if the children should feel motivated for the work and tasks connected to Today's Stories, it has to be the children's project. This means the children shall wish something about it or somehow feel their own needs, to be able to carry out a special activity or task.

Hans Erik accentuated that his class had a very good time in the project. The children have learned lots of things about cameras and that sort of things. They have learned to plan and work together and this has been very good. But he is a bit disappointed that KidsCam did not come to function better since to him the project was about KidsCam and Magic Mirror.

According to Hans Erik, the whole idea was to use KidsCam in the classroom – to find out what would happen when the children wore them and when they were filmed not knowing about it. The realty became that we used commercial cameras instead of KidsCam. This went well enough, it was much fun for both boys and girls. The project turned out in a quite different way than expected, and we tried to get the best out of it, but it was not what we were meant to, when we joined the project.

Hans Erik's recommendations for other teachers/adults work with the technology are:

- They should have a good knowledge of technology
- The experimenter(s) should be attentive and should be on the children's level
- Both play as seriousness should be included in the work
- It should be funny and rewarding/profitable for the children to participate

MINUTES FROM EVALUATION WITH THE CHILDREN

General questions:

1) Are you a boy or a girl?

This question was meant as a help to see if there might be differences in the answers of boys and girls regarding the use of Today's Stories technology.

2) What is your experience with Today's Stories technology?

In general the children expressed that the main experience by participating in Today's Stories was that they had learned to use a camera. Another general comment was that they, by being participants in this project, had learned to make a video film. A few of the children expressed that it was fun to use a digital camera and make small videos with it. One child pointed out that it was a great fun to use KidsCam and that their class was the first to use this new technology. Another child told that he had learned that the technological development is moving very fast.

3) Do you enjoy using the program? Please explain why or why not?

By working with Magic Mirror you can change an experience and you can even add new things to the video clip through the possibility of making annotations. It was fun to use Magic Mirror to annotate sounds and pictures. In general, the children found that all the different parts of the project had been joyful – but the Wild West theme was something special for them. This combination of their feature course and the work with Today's Stories created a certain kind of enthusiasm and spontaneity among the children. One of the children was a bit critical and expressed dissatisfaction concerning the situations where the technology was not working properly, and added that it would have been better if the videos would have the original sound when they work with them in Magic Mirror. Another child had the opinion that they had learned a great deal about new technology and

that it was rewarding to work with computers and video. Finally, some of the children said that it was good to be allowed to film and make a video production about their class, as well as to be invited for a visit to the university.

4) What did you learn from using Today's Stories technology?

Many of the children mentioned that they, by participating in Today's Stories, have learned to use a camera, as well a digital camera as KidsCam and a video camera. They improved this ability considerably during the process. Also, they have learned about modern technology and computers in general. Some of the children mentioned that they have learned a great deal about co-operation and working in groups. Two of the boys told that they had learned a lot by being asked to present something (a self-chosen subject) in front of the whole class. They are not so shy about being in centre of activities and will not refuse to go in front of the whole class if they are asked to do so another time. One child said that their participation in Today's Stories had enriched their abilities of planning of activities in the class.

5) Can the technology be integrated into the classroom without causing disruption?

In general the children meant that it should be possible to integrate the technology into the classroom without causing disruption. One child mentioned that technology needs habituation, but that should not be a hindrance for the integration. Another child mentioned that, for example, the presence of Mia filming the activities in the classroom was not a disturbance for their work. It was emphasized by one of the children that Katja and Mia should be present to carry out activities related to Today's Stories. Finally, one child mentioned that, if the system was integrated in a normal school situation, it could be used to clear up victimization among the children.

Technological aspects:

6) Do you find it fun to work with Today's Stories technology for a longer period? If not, what would you suggest that it could contain to make it more fun?

Most of the children found that it was fun to work with Today's Stories technology even for a longer period. One of the children added that they could have done more work in one day, and that there could have been more activity. He had the opinion that it could be a little too long if they had to work with the technology during a long period. Another told that the work with the technology could be hard and that the time they had to wait

sometimes felt too long. One of the boys said that it would have been freer if there were no teachers to direct and decide about the activities. One of the girls said that it would have been good if they had had more time. Some of the children had the opinion that they lost interest when they had been working with the technology for a while. Others found that it was exciting even in spite of the waiting time. Other comments among the children were that there was too much waiting time connected to the work with Today's Stories technology. One of the girls said that it would be difficult to work a whole day with the project – it would be too monotonous - the waiting time with the technology was boring and annoying for them.

7) What do you think about the visual simplicity and clarity of Magic Mirror? - Is the Magic Mirror interface suitable and attractive in use?

More children had the opinion that it was very cool to work with the touch screen. It was a general comment that it was fun to do the annotations especially to add sounds. One of the boys was very enthusiastic about all parts of work with Today's Stories technology, which he found was great fun to work with - and concerning the usability this boy added that it would be possible for even smaller siblings to use the technology. In general, the children found that Magic Mirror has a smart and fancy graphic user interface and that it is fun and easy to use. One of the girls even used the expression that the usability of the technology was very good.

8) Did you have problems in understanding how to use the technology? If yes, what kind of problems/questions did you have?

The children, responding to question seven, expressed that they found it easy to use the technology and that they did not have any problems with the technology when it was working properly. Therefore, we quickly went on to the next question.

9) Can the technology only be used within the Today's Stories curriculum? Or do you have suggestions for other situations where the technology could be used?

Some of the children suggested that the technology could be used as evidence, for example in the court, or in the police where it could be used for video watch. Also, it was mentioned that the technology could be used in a kindergarten or in a youth centre. A few suggested that the system could be used at special occasions like a children's holiday camp, a school party, or a picnic in the woods. Another comment was that the technology

could be used to film victimization among children. It was mentioned that the technology would be good to capture memories from the school –then the children could bring their memories home and show and tell their parents about their experiences and adventures of the day.

Pedagogical aspects:

10) Can the system help you in doing things you have wished to do? If yes, what kind of things?

The children mentioned that the system could help them remember and collect their experiences by filming. Another possibility the children emphasized was that the system enables them to bring material home (for example a CD or a tape) to show family and friends their video-shootings.

11) Do you think it is possible to integrate the system with the school curriculum?

The children mentioned different connections and ways to use the system in a school context. The technology could, for example, be used in different school subjects like: Danish, mathematics, and modern languages. It could also be used in a social context as a way to throw light on victimization. One of the children suggested that the system could enable the teachers to track down troublemakers. Another child said that the system could enable teachers to work together about a class, if there were problems or noise in a class.

Organisational aspects:

12) Has your participation in Today's Stories enhanced abilities of team working and/or working in project cooperation?

In general, the children found they gained a lot by their participation in Today's Stories. The most important thing was that they feel this project work has had a positive influence on the solidarity in the class. One of the boys stressed that by teamwork they experienced that it was easier to cooperate with others than being alone – it was easier to get new ideas and they were more creative working in teams. Another boy had the opinion that they now work better and easier together than before taking part in the work with Today's Stories technology. One child emphasized that they have experienced a good group dynamics during the project. Another child added that by being participants in this project they have

been able to create new good fellowships in the class, and that there is less victimization in the class now.

13) Has your work with the system improved collaboration practices with new people? – Among classes, between schools and other entities (university)?

Many of the children expressed that the work with Today's Stories technology has helped them to be better at cooperation with other children. One of the boys had the opinion that what he has learned about being better at cooperation in the class will also enable him improve cooperation with other children.

ANALYSIS OF THE EVALUATION

Pedagogical aspects

Learning processes & outcomes

The children's responses give the impression that learning to film, shoot videos, and use different types of cameras was the main learning process for them. However, it seems that the 'scenario of use' employed in the Danish school is built around such processes. This means that the tasks focused on video recording and getting to grips with certain tools and techniques.

At the same time, the teacher suggests that "the pupils, by their own work, can get a good individual profit and good learning in certain kinds of feature work" and that the pupil can create "his/her own history". In other words, the teacher views self-expression as a useful learning process as well as outcome.

Learner's role

According to the children's responses, the learners view themselves as video-makers, producers, or just camera-users. At the same time, they see themselves as group members and co-operators as well as planners and presenters (people who make presentations to a group). Interestingly, somebody suggests that the use of the tool in class has helped shy learners to improve (become more open and confident). In connection to this statement, the teacher

argues that "children do not have the same fear of technology as many adults have. Their courage and inclination to film has really impressed me".

Learner's satisfaction

The children have expressed their satisfaction with the action of video making, use of cameras, combination of computer use with camera use, as well as the action of annotation. They have also expressed their vision of the tool as a learning tool (helping children to learn video-making), a fun game-like activity, a way to show and share experiences with family and friends (social context), or recall and store experiences (individual context).

However, some children are not satisfied with certain features, such as lack of video sound, that make the tool look 'silly'. Interestingly, a child has suggested that the Magic Mirror is 'childish' and is appropriate only for young children but not teenagers.

Teacher's role

According to the teacher, a thorough preparation before starting the recordings is needed. This automatically puts emphasis on the role of the teacher as planner, co-ordinator and facilitator.

However, he thinks that the teacher can act as facilitator only if the system works perfectly. This means that the teacher views himself as a facilitator of learning processes and not a technical assistant who will fix failures of the system. He also points out that teachers, who have an interest in technology and are technologically literate, might use the system.

Teacher's satisfaction

The teacher has expressed his disappointment with the fact that the project has not provided the school with the KidsCam as initially promised and expected. The KidsCam is seen as an innovation that stimulated the teacher's and the pupils' interest but was never delivered and used in practice. A sense of an 'unfulfilled' expectation or dream is conveyed by his words.

At the same time, the teacher expresses his satisfaction with participating in the project processes, although the project product has not come up to his initial expectations.

Curriculum

The teacher sees the use of the system in curricular and extracurricular activities, such as drama, excursions with parents, gatherings in the school, common feature courses. He admits that the work done with the system was not integrated or included into his regular teaching sessions. Interestingly, the children have proposed uses of the system for spying on other people, gathering evidence of bad and good actions, school discipline, experience sharing and exchange, entertainment.

Communication and relationships

According to the teacher as well as the children, the use of the tool has increased and improved openness and co-operation among children in the class and in the school. The teacher argues that they have also learnt 'to relate to new people and new challenges and altogether they have been open to all the new things they had been presented to'.

Organisational aspects

Change in working processes

Both the teacher and the children suggest that participation in the project as well as the use of the system have increased and improved co-operation among children in school, but mainly at class level.

However, the teacher has admitted that he has experienced a feeling of loneliness. He wishes he had the opportunity to co-operate and exchange views with other European schools and teachers. In other words, he expresses a need for belonging to a community of practice, a school and teacher network that would probably reduce this feeling of loneliness and reward him in some way.

Transferability of practice

It can be argued that transferability of practice is not increased at the moment, taking into consideration the suggestions previously made by the teacher:

(a) Teachers who have an interest in technology and are technologically literate can use the system.

(b) There is a need for technical assistance because the teacher cannot cope with system problems or failures alone.
(c) The lack of communication with schools and teachers in other European countries creates a sense of isolation and a feeling of loneliness.

Exploitability of the system

According to the teacher, ordinary teachers will have difficulty using the system if it is not simplified. It is to be extrapolated that this 'simplification' concerns the installation, administration and database management/retrieval processes. In other words, there is a hope that ordinary teachers, who use computers, if they are able to use it without extra technical support, would use the system.

Technological aspects

Usability of the system

According to children's responses, the system is easy to use, clear, direct and pleasant. Still, a child has reported difficulty in using the touch screen and drag-n-drop function effectively, while another child has praised the annotation function.

According to the teacher, ordinary teachers will have difficulty using the system if it is not simplified. It can be extrapolated, that this 'simplification' concerns the installation, administration and database management/retrieval processes

Effectiveness of the system

According to the teacher, the system is not always effective. Ineffectiveness has been attributed to long waiting time and system failures. As he said, 'the children will very promptly lose their interest if the system is not working orderly! The technology has to be 100% in order to keep the children's attention'. However, it is not clear from the teacher's words what kind of failures he has observed and in which cases there were long waiting 'intervals' that caused distraction or boredom.

The teacher has expressed doubts about the children's long-term interest, considering the quite limited possibilities of the Magic Mirror at the present moment. It has been pointed out that repetition of certain effects (e.g. sound annotation effects) is boring for the children.

More variety of choices may be needed. In other words, there seems to be a need for enriching the Magic Mirror with more functions and features, if children's interest and involvement is to be sustained over a longer period.

Transferability of the system

There is no information available on this issue, since the information we have now comes from only one site, the Danish school with its unique profile and particular infrastructure and facilities.

Social, cultural and ethical aspects

Acceptance of the system

Acceptance of the system in social, cultural and ethical terms can be traced in some of the children's responses. For instance, the children have proposed uses of the system for spying on other people, gathering evidence of bad and good actions, school discipline, experience sharing and exchange, entertainment.

All these imaginative uses may imply a tendency to link the use of the system with current social, cultural and ethical ideas, values, beliefs and needs. They reveal conflicts, dilemmas and misconceptions related to the use of new technology in our society. The issue of 'spying' and 'gathering evidence of actions' for the purposes of discipline is strongly linked with socio-ethical conditions in school, at home, in society. This issue deserves our attention and further research.

Appendix Section

APPENDIX 1: PROTOCOLS AND REPORTS ON FIRST TRIAL COURSE

1. Protocol for first trial course with 4th class

Thursday 19 April 2001 at 11.00 am to 12.15 pm:

A. Presentation of the NIS-team (Bent Nygaard and Mia Casparij, Katja Hansen)
B. Presentation of Maria Ramalho (Starlab)
C. Introduction for the children to the project and demonstration of the technology.
D. Simple activities to make video recordings and to test the system:

1) Game to get to know the names of the children

One child throws a little ball to another child, who goes to the board and writes his/her own name – to be continued until all pupils have been writing their name.

2) Winding yarn and telling stories

Every child sits by turns with a ball of yarn in a little circle on the floor (or the children sits on chairs). Turn by turn they hold the ball of yarn. The child with the ball of yarn tells a homemade story winding the ball of yarn simultaneously. When the child has finished his part of the story, the ball of yarn continues around the circle to the next child, who continues until the ball of yarn has been wound up.

3) Who is the leader?

One child goes outside the door, while it is decided who will be the leader of the group. The leader decides upon signals in the form of which the rest of the children have to imitate. The leader can: clap in his hands; stamp his feet, whistle, snap his fingers and so on. The child outside is let into the classroom again, and now has to figure out who the leader of the group is. The leader has to act very carefully, so that the investigator will not discover him too easily. The investigator has three guesses at who the leader is.

1. Protocol for first trial course (pre-school class)

Thursday 27 April 2001 at 8.45 am to 10.00 pm:

A. Presentation of the NIS-team (Bent Nygaard and Mia Casparij, Katja Hansen)
B. Introduction for the children to the project and demonstration of the technology.
C. Simple activities to make video recordings and to test the system:

1) Game to get to know the names of the children

One child throws a little ball to another child, who goes to the board and writes his/her name – to be continued until all pupils have been writing his/her name.

2) Dinner with the royal-family

All the children sits in a circle, and one child starts the game by telling, who was invited for dinner at the castle with the royal family. It could e.g. be Donald Duck. The next child in the circle continues by telling who was invited first, and then adds another one to the list in the following manner: Donald Duck was invited to dinner with the royal family together with…. The next in the circle has to mention the two that were invited, and then add another one to the list. As the game goes on, it is getting more and more difficult to remember the names as the list becomes longer and longer. The children's memory will be put on a hard task the longer the list of invited guests will be. If one child cannot remember the list, the child is excluded from the game.

3) Finding the thimble

All the children turn their faces away or leave the classroom for a moment, while the teacher or alternatively a child places a thimble in a secret place. However the thimble has to be visible! Now the children have to find the thimble. They are not allowed to say anything, but must show that they have found the thimble by sitting down on the floor silently. Of course, it is not appropriate to sit down and stare in the direction, where the thimble was found. When all has found the thimble and are sitting down on the floor silently the child, who found the thimble first, gets to hide it, and the game begins again.

2. Protocol for first trial course with 4th class

Thursday 3. May 2001 at 11.00 am to 12.15 pm:

1) Noughts and crosses

The game is to be played by the children in pairs of two children at the blackboard. The board is separated in a certain amount of squares corresponding to half of the number of children. Every group draws the figure of a double-cross in their square, and now plays noughts and crosses. One child makes the cross, and the other one the circles. They do this turn by turn, and the winner of the game is the one, who first draws three of his/her symbols in a row. In the original "Noughts and crosses" game you are allowed to place your symbols horizontally, vertically and diagonally. It might be a good idea to limit the possibilities into two, vertically and horizontally, for the small children.

2) Dinner with the royal-family

All the children sits in a circle, and one child starts the game by telling, who was invited for dinner at the castle with the royal family. It could e.g. be Donald Duck. The next child in the circle continues by telling who was invited first, and then adds another one to the list in the following manner: Donald Duck was invited to dinner with the royal family together with…. The next in the circle has to mention the two that were invited, and then add another one to the list. As the game goes on, it is getting more and more difficult to remember the names as the list becomes longer and longer. The children's memory will be put on a hard task the longer the list of invited guests will be. If one child cannot remember the list, the child is excluded from the game.

3) Whispering through a circle

All the children sit in a circle on the floor or on their chairs. One child is chosen to start the game. This child whispers the next child a little sentence or a small message in her ear. The child whispers what she heard to the next child, and the game continues until it returns to the one who started it. Usually the content has changed a great deal on its way around the circle, and it makes great fun to hear the result.

2. Protocol for first trial course (pre-school class)

Thursday 10 May 2001 at 11.00 am to 12.15 pm:

1) Theme on Musical

The children have worked with a theme on Musical, and in dialogue between the teacher and the local fieldworker it was decided to try and use this Musical theme in the trial. Therefore the children who perform in the Musical will present it for the rest of the children. Three of the children will be asked to act as photographers of the performance.

2) Outdoor playing activities:

This day the weather is excellent and therefore the teacher and fieldworker decide to include a small part of this trial session with some of the children playing outside in the schoolyard and the playground.

3) Making photographs of the children:

For the annotations Maria Ramalho recommended to make a picture of each child that uses the system and introduce it in the database. This is an important step for the children's acceptance of the videos as the videos that they have recorded. This is important to do as soon as possible, so that the children will feel welcome in this new environment and realise that the videos have been shot by her and not by an enigmatic person represented by a smiley or a sad face.

3. Protocol for first trial course with 4th class

Thursday 17. May 2001 at 11.00 am to 12.15 pm:

1) Secret handshaking

This is a silent game, where the children as a rule are not allowed to talk. All children choose a number 1, 2 or 3 (or the teacher supply the children with a number). The children walk around each other in the classroom, and they have to shake hands with one another doing one, two or three handshakes, according to which number they chose. In this way they must find the other and that way find the others children who chose the same secret number. When one child finds another with the same number they continue until everybody found their own group

2) To hold a speech about a word or a thing:

In this game the children by turn go to the blackboard to hold a speech to the others. They start the game by asking the audience to have a word. The children have to think of some things or objects from the classroom, the kitchen, the school or the playground. The child to hold the speech has one minute to describe this thing or object in detail. For example by telling it's form, colour, characteristic, applicability, which associations it starts. After the speakers 1 minutes performance the speaker gets his applause from the audience and the next speaker continues the game.

3) Telegraph:

All children sit in a circle except from one, who is placed in the middle of the circle. This child has to find out, when and where somebody presses another child's hand. The task for the rest of the group is the opposite, which means they have to press their hands so lightly and invisible as possible. It may sound difficult, but the fact is, that it is possible to press somebody's hand, without being noticed. If the child in the middle reveals a pressing of hands between two children, he will swop places with the one who did the pressing.

3. Protocol for first trial course (pre-school class)

Thursday 31 May 2001 at 11.00 am to 12.15 pm:

1) Telegraph:

All children sit in a circle except from one, who is placed in the middle of the circle. This child has to find out, when and where somebody presses another child's hand. The task for the rest of the group is the opposite, which means they have to press their hands so lightly and invisible as possible. It may sound difficult, but the fact is, that it is possible to press somebody's hand, without being noticed. If the child in the middle reveals a pressing of hands between two children, he will swop places with the one who did the pressing.

2) Whispering through a circle

All the children sit in a circle on the floor or on their chairs. One child is chosen to start the game. This child whispers the next child a little sentence or a small message in her ear. The child whispers what she heard to the next child, and the game continues until it returns to the one who started it. Usually the content has changed a great deal on its way around the circle, and it makes great fun to hear the result.

3) Secret handshaking

This is a silent game, where the children as a rule are not allowed to talk. All children choose a number 1, 2 or 3 (or the teacher supply the children with a number). The children walk around each other in the classroom, and they have to shake hands with one another doing one, two or three handshakes, according to which number they chose. In this way they must find the other and that way find the others children who chose the same secret number. When one child finds another with the same number they continue until everybody found their own group.

1. Report on scenarios in first trial course with 4th class

Thursday 19 April 2001 at 11.00 am to 12.15 pm:

The game called "Winding yarn and telling stories" has a slow start because some of the children are a little shy to participate. But after the children have got acquainted with the game and the new situation of playing and recording at the same time, they let their imagination free. Suddenly one of the children finishes the story by telling the royal family lived happy to the very end of the story. But since all the children by that time are very engaged in the game, we continue the story about the royal family. The children in general show a great enthusiasm and good imagination in their contributions to the story. Some of them show a good sense of humor in their contributions and it makes the atmosphere between the children more free and relaxed. The children wearing the cameras are aware of their position as photographers and turn it on frequently to make recordings of the game.

The game: "Who is the leader" is of another kind and gives the children possibility to act more freely by playing. The children have a great fun doing this imitation-game. The first child does not need long time to figure out, who the leader is, and another round of the game can start. Another child goes outside the classroom and a new leader to be guessed is chosen. This game is chosen to give the children the possibility to make more free recordings, since the children act intuitively and move around each other. Viewing these recordings later we realise, that the children taking part in this game act too close to each other, and it is therefore difficult to see what is going on.

Bent Nygaard gives a short introduction to the technology for the composing tool, so that the children will be able to compose their recordings. The children show a great interest in the composing-part, and since it is the first time we concentrate on how the system works and which possibilities it offers. The three children who made recordings during the first trial get to do the composing of their recordings. The sound annotations are successful among the children, and the children also have fun using the microphone to apply their own voices. The other children also show interest and involvement in the composing-part even though it is not their own recordings.

1. Report on scenarios in first trial course (pre-school class)

Thursday 27 April 2001 at 8.45 am to 10.00 pm:

The game "Dinner with the royal family" is not played smoothly, since the class consist of 21 pupils and there is quite a lot of noise among the children. The children in general have difficulties to sit down quietly and concentrate over a long period as this game implies. Some of the children very fast figure out what the game is about, and are therefore able to remember the persons invited by the other children. But this game is definitely not suitable for small children of this age and especially not with a class of that size.

"Finding the thimble" is a good game for the children of this age, because it is quite simple to explain to the children what the goal is; to find the little thimble placed on a secret place in the classroom. This game is also good because it allows the children to move freely among each other without being too close to each other for the purpose of recording. At this stage the children wearing the cameras are more aware of their role of photographers, and they switch on the cameras themselves and are not so dependent on the help of the local fieldworker or the teacher. When the thimble was found by the majority of the children the game was over, and the "winner" is the one who discovered it first.

Bent Nygaard gives a short introduction to the technology for the composing tool, so that the children will be able to compose their recordings. The children show interest in the composing-part, but they have difficulties to sit down quietly and concentrate on the composing part. We had some technical problems with the system and when we finally got the system working, the recordings were very dark, and it was difficult to locate the recordings, and trace it to the child, who made it. Since we had problems to get the system working we had to shorten this part and concentrate on the general information on how the system works and which possibilities it offers.

2. Report on scenarios in first trial course with 4th class

Thursday 3 May 2001 at 11.00 am to 12.15 pm:

The first game the children are asked to play is "Noughts and Crosses". The children manage by themselves to split up in 5 groups of two persons, and after a short instruction the children play a little match of 3 games. The children enjoy this game very much and one of the boys even starts to sing a little song, when he is about to win the game. After the first groups has finished the game some of them start to play with the photographers and make fun with the cameras. It is funny to watch how they play and act when they perform freely, not knowing they are being filmed. This is also a good opportunity to see, how the children interact with the technology, when they are on their own for a moment. They play with small dolls and animals and put things in front of the camera for example a book or a basketball. The child having the role as photographer gets a lot of attention from the other children.

The other game on the agenda that day was "Dinner with the royal-family". After a short introduction the children catch the goal of the game and start the game. The children of this class (age 10-11 years) benefit from this game, since they have a good knowledge acquired at school and a well-developed memory. The children show a great interest and enthusiasm in this game and they show excellent memory abilities. After two rounds of the game the local fieldworker wants to finish the game (the children has to remember approximately 20 names), but the children are at that time so involved in the game, that they want to continue to find a winner of the game. After three rounds the children start to jump out of the game, since they fail in remembering all the names (now more than 25 names) and the final showdown is between a boy and a girl. Comparing the two classes playing this game, it is obvious that the elder children benefit a lot more from this game that the younger.

Today there were big problems with the technology so we could not do the composing part at this trial. Instead we played a little game called "Whispering through the circle". The children had a great fun playing this game and the first words "Night of Midsummer day" changed into "Poor butcher". In the second round the words "African elephant" changed into "A giraffe from Africa".

2. Report on scenarios in first trial course (pre-school class)

Thursday 10 May 2001 at 11.00 am to 12.15 pm:

This trial session is reserved for the musical theme the class has been working with during the last weeks. The children sit in a circle and perform their songs by accompaniment of a guitar (a second teacher). The first one is called "Nr. Broby School" - the children sing and make movements that fit in the context. The next song is a Dinosaur song starting with walking paths and some of the children performing in the middle of the circle. The third song is a China-song and some of the children dance in the middle of the circle. The Penguin song is next in the row and the children do different movements to show the situation of cold weather and coldness of water. The Ghost-song is performed while the teacher walks around the circle with a string-puppet in the shape of a ghost. The African song is the last song in the musical and some of the children make a little circle in the middle of the big circle.

Since the weather is very good that day the teacher propose to make the second part of the trial outside in the schoolyard. The children wearing the cameras go outside to play. The boy being one of the photographers of the day climb up in a tower with a slide to make recordings from there. Two of the girls plays at the seesaw and the swing and later one of the girls get the idea to make recordings in the after school centre through a fence. After approximately 10 minutes the children go back in to the classroom.

The teacher leaves the class a moment to get some cake and soft drink for the children, and meanwhile the children with the cameras have the possibility to make further recordings while the other children play outside the classroom. The children got a short introduction to the composer tool and we tried to do the composing part, but had troubles with the technology. We could only get the videos from one of the cameras and therefore we had to be satisfied with recordings from one child. The small children show their interest in the composing, but have difficulties sitting down quietly and concentrate for a longer period on the composing part. The children had a lot of fun by applying sounds and making their own sounds with the microphone. Afterwards the local fieldworker made pictures of the children with a digital camera.

3. Report on scenarios in first trial course with 4th class

Thursday 17 May 2001 at 11.00 am to 12.15 pm:

This time Hans-Erik Chistensen is not directly involved in the trial, since he is an observer of the activities in the class. He is writing a report including some kind of an evaluation of the trials, which took place in the 4th class during the spring.

To hold a speech about a word or a thing is not very easy, especially when it has to be in front of the whole class. The children have one minute to tell the other pupils about a chosen word or a thing. It is obvious, that some of the children are a bit shy and not so happy speaking in front of the whole class, but as the first ones succeed, all managed to make it, even though they are a bit nervous and not very comfortable with the situation. The subjects they choose are as follows:

- Nikolaj - A Bike
- Michael - About Badminton
- Mikkel - About Carate
- Michelle - A Rabbit
- Cecile - Horseriding
- Ditte - A Circus
- Anne-Sofie- A Guinea pig
- Christoffer- A Dinosaurus
- Katrine - To be a scout
- Simone - The Schoolyard

Many of the children already know the game called Telegraph and after a little discussion about the rules of the game we begin playing it. The pupils are very engaged in the game and try very hard to do the activity so that they will not be the person in the middle of the circle. Some of the children have great fun doing this game, and some of the photographers even forget about their role and record without being aware of it. At this trial we could not make the system work, so we had to leave out the composing part.

3. Report on scenarios in first trial course (pre-school class)

Thursday 31 May 2001 at 11.00 am to 12.15 pm:

In the game Whispering through a circle all the children sit in a circle on the floor or on their chairs. The children make an alphabetically ordered circle and the children find their place in the circle. One child is chosen to start the game. The first word to be told is "Whisper-game", and it goes all the way round and changes back to the original. The same happens with the second word "Ice". First in the third round, with the word: "Dickimon", the children come up with something different from the content of the first child. The last round the content also changes a great deal on it's way around the circle, and it was a great fun for the children to hear the result.

The game "Secret handshaking" is a silent game, where the children as a rule are not allowed to talk. All the children are supplied with a number between one and three. It is a bit difficult for the children to understand the rules of this game, but the teacher comes up with the idea to show the children how to do this game by walking around the class giving all the children a handshake with a certain number. To confirm that the children have understood the number the local fieldworker takes a round of handshaking with the children before the game begins. The children apparently like this game and after sometime they find together in three groups. Some of the children get the association to Christmas walking around in a little circle, and singing a Danish Christmas-song: "Now it's Christmas again - now it's Christmas again…." (translation of the Danish words).

The technology works this time, so the children are able to compose the recordings they made during the two games. The children are very interested and engaged in the composing-part, and they are quiet and not so turbulent as was the case at the last trial. It is interesting for the children to see what they actually recorded and to try the different annotations as well as the small pictures and the sound-annotations. The children also show a great interest in adding their own sound by using the microphone. They have a good time and a great fun telling their own sentences or words like: "To be in love", "Someone is in love etc".

APPENDIX 2: PLANS AND MATERIAL FOR SECOND TRIAL COURSE

Second trial course were planned to take place during autumn 2001 at Nr. Broby School and in the planning of this course we scheduled five trials for the whole process. In the light of the evaluation with the two involved teachers on the first trial course, it was decided only to continue trials with the fifth class. The reason for this decision was mainly the recommendation from the teacher of the pre-school class, who found the children were too small to profit from their participation in Today's Stories. The intention with the second trial course was to let the children work on a special theme like they did this spring with great success on their feature-course: The production of a Newspaper. The idea was to let the children work together producing a video of a day in fifth class at Nr. Broby School. This work could include some of the children using the KidsCams and Magic Mirror, but it doesn't have to, if the technology does not allow us to use it or the children simply decide not to use it in their video-production, it is not need to be involved.

This video-production idea could be integrated with the pedagogical ideas of focusing on goal-directed pedagogical activities and focus on different perspectives, but with the video-production as the principal idea. The example of bringing information from one micro-world (the school) to another micro-world (the parents and the family) could also easily be integrated in the video-production theme. As a matter of fact the children were very happy about the idea to make a video-production, especially when they realized that this would enable them to bring home a product of their efforts. As an introduction to this project work the children had a little lecture on video-production to give them an idea of what this work is all about and what preparations they need to do to make their own video. The lecture included different phases in a video-production like: development of ideas, writing a synopsis, and preparation of a manuscript, shooting and drawing up of a storyboard. After this general introduction to the theme the children started a brainstorming-process to find and collect ideas for the video. The children were enthusiastic about this project and very quickly they caught the video-production idea and came up with a lot of good scenes to their video. The local fieldworker and the teacher of the fifth class helped the children to organize their ideas into some kind of a plan for the project. As homework the children were asked to think about their ideas and try to think how they can realize them in the video-production.

APPENDIX 3: PROTOCOLS AND REPORTS ON THIRD TRIAL COURSE

1. Protocol for third trial course on theme Wild West

Thursday 7 February 2002 at 11.00 am to 12.15 pm:

This trial course on the theme Wild West is to consider as a three-stage-rocket

- First visit: Preparations for the feature week and
  Introduction to Today's Stories technology/test of technology
- Second visit: Feature week on the theme Wild West (The classroom is a Saloon)
- Third visit: Reflections on the activities during the first trial and the feature week

Introductory talk to the children:

- Today we work on the Saloon-theme
- We have to organize, what we want to shoot and to decide, how to do it
- Today we have only one hour and 15 minutes for our disposal
- You have two digital cameras at your disposal, and you are free to decide how you will organize (whether it be in one or two groups)
- The only requirement of your work today is, that you somehow should try to formulate your expectations to the feature course next week
- From your expectations you should find ways to illustrate these by shootings
- You could for example imagine that you should show your expectations by small sketches (video shootings) with episodes from the wild west theme
- Next week Katja and Mia will visit the class to experience the preparations
- They will bring the two digital cameras, and the class will borrow them and capture small videos Thursday night during the party
- The videos you can shoot with the digital cameras are of 30 sec. duration and it is possible to glue the small videos together afterwards
- You should take advantage of the experiences you have from the work with the video production during the autumn – this is a possibility to try to work with Today's Stories technology

1. Report on third trial course on theme Wild West

Thursday 7 February 2002 at 11.00 am to 12.15 pm:

First item of our plan for this trial was a short introductory talk to the course of the three trials to test the new tool developed in the extension period of Today's Stories. The children were listening interested to get an idea of what was going to happen.

After this general introduction an introduction to the technology of Today's Stories was given. To demonstrate the new tool to the children, one of them was asked to capture a video sequence and this video was used as an example how to work with the technology. The children very quickly caught the idea with the tool and were obviously impressed by the possibilities of Today's Stories technology. Particularly the children had a great fun annotating sounds to their video and they also liked to work with the touch screen.

The children showed a lot of initiative, enthusiasm and imaginativeness in the planning and organizing of their activities, and all of the children were eager to be a participant in the activities either as photographer or actor in the sketch they prepared and performed. The teacher made an important observation during the activities in the class: One of the girls, who normally are very shy and not very dynamic, showed an extraordinary effort in this trial scenario. One idea created another new idea and the children in general had many good thoughts during this process. At some point there was chaos in the classroom, but the chaos was created by the enthusiasm the children showed and their eager to perform, so it was a part of the activity and could be designated a controlled chaos.

Another important observation in the way the children used the technology was the playing aspect. The children had to be motivated by activities based on playing – the children should feel that focus of their activity were to find in a playing situation. It was amazing to watch how the children familiarized themselves with the characters in their sketches, and how eager they were to perform their role to the best of their ability. To watch the shootings they made were also an interesting part for most of the children.

2. Report on third trial course on theme Wild West

Thursday 14 February 2002 at 11.00 am to 12.15 pm:

The purpose of this visit was first of all to experience the atmosphere of the children's work in the feature course. Another aim was to let the children make some shootings of their preparations to the school party to take place Thursday night. The local fieldworker had prepared a schedule to fill in the names of the children and categorize the shootings they did, so the single shooting could be separated from each other.

When we arrived in the class the children were already in the middle of their preparations. The girls were about to draw up posters and show cards for the things they would be selling at the party Thursday evening, and the boys were sent to the entrance of the school to collect the commodities consisting of wine, beers, soft drinks and chips. While making these preparations some of the boys started the activity playing a variation of blind mans buff. The commodities were placed in the bar after Hans Erik's instructions and some of the boys were asked to lay the table and place small candles on the tables. While the girls were drawing they spontaneously started to sing a little song.

While the children did those activities the local fieldworker asked them one by one to do one or two shootings of their activities. Some of them were so engaged in the activities to prepare a Wild West bar, so they did not want to capture this time, but many of them were happy about this opportunity to shoot some of their preparations in the class. Some of the children even went out in the common room to capture some of the activities of the other children from the school.

At the end of our visit one of the children (Ditte) did show us around in the school and told us about the plans for the different serving places and the activities to take place during the school party Thursday in the evening. Some of the children of the other classes were very curios about, why Ditte was showing us around while Mia did shootings during this guided tour, to enable us to sense the atmosphere of the feature week.

3. Report on third trial course on theme Wild West

Thursday 28 February 2002 at 11.00 am to 12.15 pm with the fifth class:

This trial course on the theme Wild West is to consider as a three-stage-rocket

- First visit: Preparations for the feature week and
  Introduction to Today's Stories technology/test of technology
- Second visit: Feature week on the theme Wild West.
  The classroom will be made into a Saloon and you can capture during the party
- Third visit: Reflections on the activities during the first trial and the feature week.
  We will look at the shootings and find out, who made the different shootings.

Questions to make the children talk about the feature course and school party and make reflections on their activities:

A) How was the party, which ended the feature course?
B) Did you wear something special at the party? – Cowboy clothes e.g.?
C) Was it a good school play? Which class did do it this year?
D) Did you have any problems to do the shootings with the digital cameras?

When we go through your shootings again, there are some things I would like you to be aware of. This include the following points:

1. Which shootings are yours?
2. If you made more than one, you should choose one of them to work more thoroughly with.
3. Try to tell why you chose this one instead of another one.
4. What is exciting or special about exactly this shooting?
5. Which thoughts does the presentation of this shooting evoke for you?

The children told one by one something from the school party. One of the girls told about the Wild West Saloon they had in the class – that it was possible to buy red wine, white wine, beer, soft drink and tortilla chips in the Saloon. Further she told about what happened in the common room, where other classes had different activities and stalls, where you could buy

different things to eat. There were also things you could try and small competitions for the guests and visitors.

The children were after a short introduction asked to come to the computer and sit down around the touch screen and to work with Magic Mirror. We had some problems to categorize the children's shootings since the numbers they had did not match the names and numbers on the list made after the first and second trial, but the children were waiting patiently for us to find out. During the first shootings we did observe, that the children were very interested in what was going on, on the video. The children were asked to tell about what they did capture and why - and they told a little about the different scenes they prepared and shoot with the digital camera in the class.

After that we started to do the annotations – it was obvious that their favourites were the different sound effects. The first two scenes we did work with were scenes with shooting activities. The first children were also asked to explain why they did use special sounds and images. The boy and girl who made the first shooting scenes tried to annotate the bomb sound so that it would fit in with the activities of the scene, also the sound of a round of applause, drums and moo and a yelp of a dog was used. The children had a lot of fun watching the shootings of their western sketches and adding sounds and images to them and in general they did a lot of effort to make annotations that would suit the activities in the scene. Not only the child which did the annotations were involved – the other children were engaged as well and came with ideas for when and what to annotate.

Another thing to accentuate is, that most of the children were impressed by the touch screen and found it interesting to work with even though some of the manoeuvres were easier to do with the mouse. After about 40 minutes work with Magic Mirror some of the children started to be impatient and one of the children even exclaimed, that he was tired. The people that already had worked with Magic Mirror were bored and started to do other quiet activities like to make drawings and read comics.

APPENDIX 4: DOCUMENTATION OF EVALUATION

Below you will find an Evaluation Grid, which has been used in posing a set of evaluation questions, to be answered by teachers and children involved in the school trials. It should be made clear that the evaluation areas and criteria presented below are general, which allow a broader interpretation and lead to the selection of the most relevant questions. Note that the word 'system' is referring to the complete set of working tools developed by Today's Stories.

PEDAGOGIC ASPECTS	*Evaluation criteria*
Learning & teaching methods	▪ Expected changes of former learning methods ▪ Perceived changes of former learning methods ▪ Expected changes of former teaching practice ▪ Perceived changes of former teaching practice
Learner's role	▪ Expected changes of the learner's role ▪ Perceived changes of the learner's role
Learner's satisfaction	▪ Coherence of the system with learner's needs & expectations ▪ Acceptance of the system by the learners ▪ Transparency of the system for the learners
Teacher's role	▪ Expected changes of the teacher's role ▪ Perceived changes of the teacher's role
Teacher's satisfaction	▪ Coherence of the system with teacher's needs & expectations ▪ Acceptance of the system by the teachers ▪ Transparency of the system for the teachers
Curriculum	▪ Possibility of integration of the system with school curriculum ▪ Possibility of integration of the system with cross-curricular

	(interdisciplinary) activities ▪ Possibility of integration of the system with extracurricular activities
Communication & relationships	▪ Expected changes in the communication 'patterns' ▪ Perceived changes in the communication 'patterns' ▪ Expected changes in the teacher-learner relationships ▪ Perceived changes in the teacher-learner relationships ▪ Expected changes in the learner-learner relationships ▪ Perceived changes in the learner-learner relationships

ORGANISATIONAL ASPECTS	*Evaluation criteria*
Organisational change	▪ Involvement of the school management ▪ Involvement of parents and community ▪ Strategic plan for the use of the system ▪ Improvement of inter-institutional collaboration practices (among schools and between schools and other entities e.g. research centres, universities)
Change in working processes	▪ Introduction of new roles/profiles within the school ▪ Strategic plan for the use of the system
Transferability of practice	▪ Implementation of activities which foster dissemination of practice within the school ▪ Implementation of activities which foster dissemination of practice outside the school ▪ Team working and exchanges/discussions within the school
Exploitability of the system	▪ Existence of an infrastructure supporting the use of the system ▪ Flexibility in strategic planning

TECHNOLOGICAL ASPECTS	*Evaluation criteria*
Usability of the system	▪ Visual simplicity & clarity ▪ Ease of use ▪ User's control of the system ▪ Adaptability of the system to different situations (spaces, positions, lighting conditions, spatial arrangements, infrastructures/facilities) ▪ Adaptability of the system to different user characteristics ▪ Presence of support functions ▪ Differentiation of support functions for different groups of users ▪ Clarity of support functions
Effectiveness of the system	▪ Response speed ▪ Response reliability ▪ 'Sensitivity' (response) to user's manipulations ▪ Quality of presentation (e.g. visibility of images)
Transferability of the system	▪ Standards for flexible access with different devices at different locations ▪ Standards for access for the disabled

CULTURAL/LINGUISTIC ASPECTS	*Evaluation criteria*
Acceptance of the system	▪ Acceptance of the culturally significant symbols in use (concepts, metaphors, images, sounds) ▪ Acceptance of the linguistic symbols (textual cues) in use

SOCIAL/ETHICAL ASPECTS	*Evaluation criteria*
Acceptance of the system	▪ Acceptance of the social – ethical dilemmas, ambiguities and problems raised by the use of the system ▪ Compatibility of the system with different value systems and ethic codes

EVALUATION OF THE WORK WITH TODAY'S STORIES

Responses from the children's evaluation after second trial course:

1. How was it to work in a project-course?

Cecilie: It was very funny, because we were invited to visit the university, and because it was funny to do the things we did. It was funny all of it.

Kristoffer: Fine and OK.

Kathrine: It was funny and exciting.

Michael: It was really funny and I also think it has been exciting.

Anne-Sofie: It was exciting to work with so many different things and it was also very funny.

Mikkel: It was funny to try something new.

Ditte: It was very exciting - but sometimes a bit tiresome, for example when Hans Erik played an interpreter.

Nikolaj: It was funny.

Michelle: It was funny to work with. We produced a video. We have changed project-teacher from Marilyn to Katja.

Simone: It was funny to participate in.

2. What have you learned from the work with the video-production?

Cecilie: I have learned, how to use a camera. Also I have considered being an actress.

Kristoffer: We have learned how to use a camera.

Kathrine: We have learned about how to make a movie.

Michael: I have learned much about cameras and that it is funny to work with.

Anne-Sofie: We have learned, how to make film and produce a video.

Mikkel: It is not so easy to make a video-film.

Ditte: How to shoot and how to produce a film.

Nikolaj: It was funny to try to hold a video-camera

Michelle: Cooperation - we produced a video with all of us.

Simone: I have learned to use a camera.

3. What was the most interesting in this project-course with video-production?

Cecilie: All of it! Everything was just super funny and great fun.

Kristoffer: The video cameras.

Kathrine: The most exciting was when we were shooting the film.

Michael: Definitely, that we were allowed to shoot the film.

Anne-Sofie: It was very exciting to visit the university.

Mikkel: To try to be an actor in a video, when we shoot the film.

Ditte: It was when we visited the university and when we produced and saw the film about 5th class.

Nikolaj: The most exciting was to try a video camera – all the other things were also interesting.

Michelle: All of us tried to shoot with the video camera.

Simone: The most exciting was to be a participant of the activities

4. How did you experience the big freedom connected to the work with this project-course?

Cecilie: It was good, that we could make our own decisions about, what we wanted to include in the film we just made - normally, the adults make all the decisions. They (the adults) have told us, that it is our film.

Kristoffer: I do not know!

Kathrine: It was great fun, because I think it is boring, when the adults decide everything.

Michael: I think the best part was, that we could decide everything ourselves.

Anne-Sofie: I think it was good that we could decide ourselves, because I think it became more fun that way.

Mikkel: I think it was better when we could decide ourselves what to do, instead of we should have done something we did not want to.

Ditte: It was great, but sometimes the result was not so good! I think it was funny to gain an insight in a project.

Nikolaj: It was good to decide ourselves.

Michelle: We all participated in the decision what to include in the film.

Simone. It was good to decide ourselves.

5. What do you think of the final result (the video-production) of the project-course?

Cecilie: I think it was good - the sound was not so good, but it does not matter.

Kristoffer: I do not know!

Kathrine: It was a little embarrassing to see oneself on film, but beside from that it was good.

Michael: I think at the end it became a good film.

Anne-Sofie: It was good. It was funny to see how one act in the school.

Mikkel: I think it was very good.

Ditte: It was easy to see, that children produced the film - and the sound was poor!

Nikolaj: It was very funny.

Michelle: It was a little bit embarrassing to hear your own voice on the video-film.

Simone: It became a good result.

6. Why did neither of you suggest to include KidsCam as part of this course?

Cecilie. Some of us might have forgot about it, and maybe some did not feel like using it. I would have liked to use the KidsCam in the video, but I forgot about it.

Kristoffer: I also did, but nobody noticed my suggestion!!!

Kathrine: I do not know.

Michael: Because they were not always working orderly.

Anne-Sofie: Perhaps because we did not manage to have all of it in the film.

Mikkel: Because there had been so many problems with them.

Ditte: Because it is not a part of our everyday life.

Nikolaj: I thought KidsCam was fun to work with.

Michelle: I think they could not shoot.

Simone: I don't know.

7. How do you evaluate the course of the autumn compared with the course of the spring?

Cecilie: It was really funny to make a video, and it was also funny to test KidsCam.

Kristoffer: I cannot remember it.

Kathrine: I think it was most fun to work with KidsCam.

Michael: It was much more fun at the end (the autumn course).

Anne-Sofie: It was very different. What we shoot were not all planned in advance. The other course (spring) was planned in details.

Mikkel: I think both courses were good in different ways.

Ditte: We played more in the spring and we played different games – in the autumn it was more serious.

Nikolaj: KidsCam were not the most fun, it was more fun to work with a video camera.

Michelle: We made a video in the autumn. We played all of us and we suggested ourselves, how we wanted to progress.

Simone: It was better with Katja because she could speak in Danish.

8. What can be done to improve a project-course like this autumn?

Cecilie: Nothing at all. Everything was just fine.

Kristoffer: I do not know.

Kathrine: There should be more time.

Michael: It was good as it was.

Anne-Sofie: There should be more time for the activities.

Mikkel: You could improve the technology – so it would not be dangerous for children.

Ditte: Not more I think - it was a fantastic idea to involve children.

Nikolaj: KidsCam should be stable and work every time.

Michelle: to make sure there will be more time for the activities.

Simone: The preparations took too long time – it would have been better if we could have started more quickly.

9. Joint evaluation of the three trial-courses you have participated in?

A)Trial course with Marilyn B)Test of KidsCam and Magic Mirror C)Project (video-production)

Cecilie:	A1	B2	C3
Kristoffer:	A1	B3	C2
Kathrine:	A1	B3	C2
Michael:	A2	B3	C1
Anne-Sofie:	A1	B2	C3
Mikkel:	A3	B1	C2
Ditte:	A1	B2	C3
Nikolaj:	A2	B1	C3
Michelle:	A2	B3	C1
Simone:	A1	B2	C3
Result:	A15	B22	C23

EVALUATION QUESTIONNAIRE FOR THE CHILDREN

General questions:

1) What have you learned working with Today's Stories technology?
2) Do you enjoy using the program? Please explain why or why not?
3) What did you learn from using Today's Stories technology?
4) Can the technology be integrated into the classroom without causing disruption?

Technological aspects:

5) Do you find it fun to work with Today's Stories technology for a longer period? If not, what would you suggest that it could contain to make it more fun?
6) What do you think about the visual simplicity and clarity of Magic Mirror? - Is the Magic Mirror interface suitable and attractive in use?
7) Did you have problems in understanding the use and using the technology? If yes, what kind of problems/questions did you have?
8) Can the technology only be used within the Today's Stories curriculum? Or do you have suggestions for other situations where the technology could be used?

Pedagogical aspects:

9) Can the system help you in doing things you have wished to do? If yes, what kind of things?
10) Do you think it is possible to integrate the system with the school curriculum?

Organisational aspects:

11) Has your participation in Today's Stories enhanced abilities of team working and/or working in project cooperation?
12) Has your work with the system improved collaboration practices with new people? – Among classes, between schools and other entities (university)?

EVALUATION OF THE WORK WITH TODAY'S STORIES

Responses from the children's evaluation after third trial course:

General questions:

1) What have you learned working with Today's Stories technology?

Cecilie: I have learned to use cameras of almost all kinds.

Kristoffer: We have learned to use cameras and other things. The small digital cameras were funny.

Kathrine: I have learned to use a digital camera and other cameras.

Michael: I have learned a great deal about cameras, and I think it was funny.

Anne-Sofie: I think it has been funny to record, and I have learned a lot about cameras.

Mikkel: That the development is moving very fast, and I have learned to use a camera.

Ditte: I have learned to use a digital camera.

Nikolaj: It has been funny to try out the cameras - especially the small ones.

Michelle: I have learned to film and I have learned to make a video-film.

2) Do you enjoy using the program? Please explain why or why not?

Cecilie: I think it has been very funny to participate in Today's Stories, and the reason why is because we were allowed to film and invited to visit the university. It has been a great fun – also the video we produced ourselves.

Kristoffer: Yes, it was funny, if you had not come, I would not have been able to use a camera.

Kathrine: It was a pleasure because it [the program] was funny to work with.

Michael: It has been really funny – because I do not think I will ever work with cameras like these again.

Anne-Sofie: I think it has been very funny, but I think the most fun was to film and see the result on a computer afterwards - and also that you could make sounds.

Mikkel: It is funny because one can change an experience you have had and add sounds.

Ditte: It has been OK, but sometimes it has been "silly", because the computers or the kamera did not work orderly, and sometimes the recordings or pictures disappeared. It is stupid, that there is no sound on the films in Magic Mirror.

Nikolaj: All of it has been funny, but I did not like the big cameras. It has been funny to do all parts of it.

Michelle: I think it was funny to film and the things we did with Marilyn. I also liked things we did with the computers.

3) What did you learn from using Today's Stories technology?

Cecilie: I have learned to use a camera and in the beginning (with Marilyn) I might not have been so good at filming, the camera was shaking a bit and so on, but now I have made progress in filming.

Kristoffer: I have learned to use a camera and other things.

Kathrine: I have learned to use different kinds of cameras. I have also learned to plan and being a participant in deciding of the activities.

Michael: I am happy, that I am able to film very well now, and I also think, that I have learned something about cooperation. Further I don't think I am so shy to my class.

Anne-Sofie: I have learned to film – in the beginning I did not know how to do it, but I have learned to do it by now. I have also learned to cooperate.

Mikkel: I have learned a lot about computers and how you produce the most advertises. I have also learned to use a camera and learned about modern technology.

Ditte: I have learned to use a digital camera and to film!

Nikolaj: I have learned to carry a camera, and I have also learned to [present something] in front of the others in the class.

Michelle: I have learned to film. I think I have learned to use the environments when I film. I have learned to film and how to use a computer and KidsCam.

4) Can the technology be integrated into the classroom without causing disruption?

Cecilie: Maybe, but if it was during a feature-course, then somebody might put out their tongue and wave or something like that. If it were in the class then it would definitely work, because we are used to be captured on video.

Kristoffer: Yes, we could do it.

Kathrine: Yes, I think it is possible to do it.

Michael: I think it is possible to do, because Mia was not disturbing us [while recording].

Anne-Sofie: Yes, I think it is possible to use it.

Mikkel: Yes, I think so, and it could be a good way to track victimization.

Ditte: No, I don't think it is possible to avoid noise. There are many shy [children], but if you get used to it, I think you can do it in spite of that (Mia is not disturbing).

Nikolaj: Yes, I think so.

Michelle: Yes, I think it is possible, but if Katja and Mia were not here, then I don't think it would be possible.

Technological aspects:

5) Do you find it fun to work with Today's Stories technology for a longer period? If not, what would you suggest that it could contain to make it more fun?

Cecilie: I do not think that I would be able to work a whole day with Today's Stories, but I think it is OK that we work with it two hours a week. Sometimes it can be too much, sometimes one has to wait for too long time.

Kristoffer: No, it has only been funny.

Kathrine: I think it funny, even after a long time I still think it is exciting to try to participate in a project like this.

Michael: When we produced our own video I don't think I lost my patience, but with Magic Mirror when it was not working orderly, I think it was "silly".

Anne-Sofie:Yes, I think it has been funny, but sometimes I think it was boring – but all in one it has been funny.

Mikkel. Yes, but we could have done more work at a time in one day.

Ditte: In the beginning of the hour it is funny, but after a longer period it is boring.

Suggestions for improvement: Bring more computers and cameras with.

Nikolaj: Yes, sometimes it is funny – especially when we are allowed to decide about things ourselves.

Michelle: I think I would have liked to work more with the project.

6) What do you think about the visual simplicity and clarity of Magic Mirror? - Is the Magic Mirror interface suitable and attractive in use?

Cecilie: It is really tough that you can move things with your fingers. It is also really tough that you can add sounds and small pictures.

Kristoffer: Yes, Magic Mirror was good to use.

Kathrine: I think it was easy and funny to use Magic Mirror.

Michael: It was really funny because we were allowed to decide ourselves, what should be presented on the screen.

Anne-Sofie: I think it was funny and easy to use. We had most fun by working with the sounds. Even small children could use Magic Mirror.

Mikkel: Very good. The reason for my opinion is that it is more fun to touch the screen than to use the mouse. I think it was easy, simple and straightforward.

Ditte. When you enter the program it has a very good usability – but adults and teenagers would find it childish.

Nikolaj: Magic Mirror was funny to work with. It was fancy and it was easy to use.

Michelle: I think it was easy to use, when you first got started.

7) Did you have problems in understanding the use and using the technology? If yes, what kind of problems/questions did you have?

The children had, responding to question six, expressed that they found it easy to use the technology, and that they did not have any problems with the technology, when it was working orderly. Therefore we did quickly go to next question.

8) Can the technology only be used within the Today's Stories curriculum? Or do you have suggestions for other situations where the technology could be used?

Cecilie: In the police it could be good to use [the technology], if they spied on a thief, then they would with KidsCam have evidence that the thief had stolen things.

Mikkel: It could be used as evidence of something it has recorded – then it can prove what you saw.

Ditte: To avoid victimization and things like that.

Nikolaj. It could be used e.g. [as amusement] in a kindergarten or at an after school centre.

Pedagogical aspects:

9) Can the system help you in doing things you have wished to do? If yes, what kind of things?

Cecilie: I would like to record, how to shoot a movie.

Mikkel: Yes, it can help me to remember and keep my experiences.

Michelle: It can help me to do something, which makes it possible to show it to others, e.g. friends, family and acquaintances.

10) Do you think it is possible to integrate the system with the school curriculum?

Cecilie: It is possible to record with KidsCam, if one sees another being victim of victimization, and then show it to a teacher afterwards.

Michael: Nothing special.

Mikkel: It could help the teacher so that he/she could record the children and then see which of the children made noise in the classroom.

Nikolaj: Yes, it might be possible.

Michelle: The system could be used if two teachers should talk about one class – then the recordings could be used to show situations.

Organisational aspects:

11) Has your participation in Today's Stories enhanced abilities of team working and/or working in project cooperation?

Cecilie: Yes, I think so! We have been better at cooperation in the class.

Kristoffer. Yes, indeed it has.

Michael: I think we work together better now than we did before.

Mikkel: Yes, it has [improved our abilities] much, because it is easier when you work together on the tasks.

Ditte: Yes, yes, yes.

Nikolaj: Yes, I think so. Now we are together with some [children] we did not play together with before.

Michelle: As far as I remember we have not cooperated so well in the class as now. There has not been so much victimization [lately].

12) Has your work with the system improved collaboration practices with new people? – Among classes, between schools and other entities (university)?

Cecilie: Yes, because it is almost the same as to work with another class, but not quite the same…..

Kristoffer: Yes, yes, yes.

Ditte: Yes, a little maybe.

Michael: Yes, I think so.

Anne-Sofie: Yes, I think it has.

Mikkel: Yes, if I can work together with the class, I can also cooperate with others.

Nikolaj: No, I don't think so.

Michelle: No, we have only cooperated with other classes in the school during feature courses.

EVALUATION QUESTIONNAIRE FOR HANS ERIK

1) What is your experience with Today's Stories technology?
2) What importance does previous experience have on system use?
3) What potential does the system seem to hold with regard to school development?
4) What value does the system seem to hold for individual learning?
5) What value does the system seem to hold for group learning?
6) Is there evidence of creativity in learning and using the system?
7) Is co-operative learning supported or opposed?
8) What are the effects on conventional (e.g. verbal) communication?
9) Is there evidence or counter evidence of sustainability potential?
10) Are metaphorical or interactive facilities the ones recognised and appropriated?
11) Are there gender differences apparent in the use of the system?
12) Does technology put off children to use it further more or not? Please state the reason for your opinion.
13) Do you since the last trial ("Wild-West") see further curricular activities to be done using the Today's Stories system?
14) Have you learned something from seeing the kids use the system?
15) Does the system seem able to support teachers in the development of a facilitator role in the classroom when the system is used?
16) What is your view of the value of the system?
17) How and in what ways do you feel you would work with the kids if you were in charge of the system in the classroom and how the children would be "exposed to" and encouraged to use it.
18) Has the children's participation in Today's Stories enhanced abilities of team working and/or working in a project course?
19) Has the work with the system in your class improved the children's inter-institutional collaboration practices? – Among classes, between schools and other entities (university)?

RESPONSES OF EVALUATION QUESTIONNAIRE FOR HANS ERIK

1) What is your experience with Today's Stories technology?

During the past years we have used different kinds of cameras in the school, as well normal as digital-, video cameras and KidsCam. We have been introduced for – and we have tried out the technology of Magic Mirror.

My experience with the use of the technology has been influenced by the constant delays and the fact, that KidsCam never really came to a stage, where they were working in a way, which would enable them to be a part of the everyday in the school. During all the first parts of the project, all efforts were put on testing KidsCam, and the pupils were very excited and interested. Therefore their disappointment was considerable, when they [KidsCam] did not work orderly. The technology connected to KidsCam via a computer etc. I consider it as impossible to use in an ordinary school. No teachers without a special interest in technology will afford time for such a "technical" device in their teaching.

We have in the school had great pleasure by using digital cameras in our work, where it has been natural in a course, but I think it has been more like a part in a subject, more than it has been a wish, that we should make use of them with take-off in Today's Stories. Magic Mirror turned out to be very funny for the pupils, they could immediate use it, but I think myself, that it would have been impossible to use without a technician from NIS to help finding the recordings and so on.

2) What importance does previous experience have on system use?

This question can be answered in the way, that keeping in mind my knowledge of the system, the work would not have been possible without Bent from NIS. We had each our duties, he was the technician, who made the technology work, and we only did exercises in planning, filming and drawing up of the recordings.

3) What potential does the system seem to hold with regard to school development?

It is very difficult for me to see how you can sell the system to ordinary schools. It has not a good usability to be understood in the way, that it takes a technician to use it! The flow of work shall be simplified characteristically, if ordinary schools shall find an interest in it. It should be easy to operate with – all persons with just a usual knowledge in using a computer, should be able to work with it.

Further, the technology does not seem to be tested orderly – there are too many failures and mistakes combined with the use of it.

4) What value does the system seem to hold for individual learning?

It is possible for the individual pupil to use the camera and draw up the recordings in Magic Mirror (with technical assistance). The pupil can get a good individual profit and a good learning in a certain feature work by their own work and absorption to be able to create "his/her own history", where images and sound will be central parts. The pupil can by having the technology at their disposal create his/her own expression.

5) What value does the system seem to hold for group learning?

Our work during three years with the system has given the children many learning experiences in the group. Indirectly the system has caused a lot of planning in the group. The pupils has profited a lot from the work. They have leaned to respect each other's wishes and point of view as important parts of a successful process for them.

6) Is there evidence of creativity in learning and using the system?

When you offer a new technology for children, then it will quickly create many ideas. I have been surprised by the children's fantasy during the whole process. The project has been carried out in parallel with the ordinary teaching and has not had a great influence on the rest of the work in the school. The pupils have been happy to contribute to the project with their ideas.

7) Is co-operative learning supported or opposed?

I think, that the technology has subsidized a co-operating learning.

8) What are the effects on conventional (e.g. verbal) communication?

It is more than clear to all partners, that a thorough preparation before starting the recordings is needed. Therefore the pupils also learned that the planning phase is very important. It is not enough just to grab a camera from the box and then play with it!! The profit is important, and therefore it is necessary to plan [the activities]. They may not always have thought that it was the most exciting, but they have accepted the state of things and may have reached the recognition, that it was necessary.

9) Is there evidence or counter evidence of sustainability potential?

I am convinced, that the human being is marked by their adventures and experiences, therefore our participation in the project has also had a great influence on the pupils.

10) Are metaphorical or interactive facilities the ones recognised and appropriated?

Magic Mirror is hopefully still in the making. The use of "the mirror" has been amusing to the children, but I have my doubts about the children's long-term interest considering the quite limited possibilities for the present moment.

There are though for the present moment no problems connected to the use of it.

11) Are there gender differences apparent in the use of the system?

I have been surprised, that the girls has showed so great interest in filming and in general taken part in the "technical" [parts]. I see no differences in the way boys and girls use the technology.

12) Does technology put off children to use it further more or not? Please state the reason for your opinion.

The children will very promptly loose their interest, if the system is not working orderly! The technology has to be 100% in order to keep the children's attention.
Repetitions as well as waiting time are boring for the children. They have no understanding of the situation, when there are problems with the technology.

The children would like to work with filming and drawing up of recordings. We just have to consider, that it has to be individually, otherwise the waiting time will "kill" the interest. It is not interesting for Mikkel to watch Kristoffer making drawing up of his recordings, if this work is not something they did together!!!

The sound effects in Magic Mirror were source for a lot of fun, but when the fourth had used the moo of the cow, it was not interesting anymore!! This shows distinctly that the best way to keep the children's involvement is to keep them up to the mark.

13) Do you since the last trial ("Wild-West") see further curricular activities to be done using the Today's Stories system?

Work in connection to drama, excursions with parents, gatherings in the school, common feature courses e.g.

14) Have you learned something from seeing the kids use the system?

I have learned, that children do not have the same fear of technology as many adults have. Their courage and inclination to film has really impressed me.

15) Does the system seem able to support teachers in the development of a facilitator role in the classroom when the system is used?

??? I guess the condition must be the system works 100%?

16) What is your view of the value of the system?

Somehow I feel, like I have expressed earlier, that I am quite alone in this project. I would have preferred if other Danish/European schools had been involved. Then I could have been a part of a forum of teachers, which I could have co-operated with and exchanged my experiences with. Now, I have the feeling, that I am the only one to evaluate the work of many serious people, and I do not know, how competent I feel about it??

The starting point, when I entered the project was different. The focus was on KidsCam, self-reflection and autonomy and Magic Mirror. The reality took over the system. Others might have had more success with small digital cameras than Starlab?

Our final in the project was to plan and record a video-film about the life in 5th class.

Since then we have tested new digital cameras - it has been funny, and we have together with the Magic Mirror technique had good experiences with it [the system].
But I have to admit, that I remain with an embarrassed feeling. We came down in a very different way than expected, and this was a disappointment to me.