Carol Omand

The Importance of Effective Questioning on Learning Processes in a Storyline

Kristine Høeg Karlsen
Margaretha Häggström (Eds.)

Teaching through Stories
Renewing the Scottish Storyline Approach in Teacher Education

WAXMANN
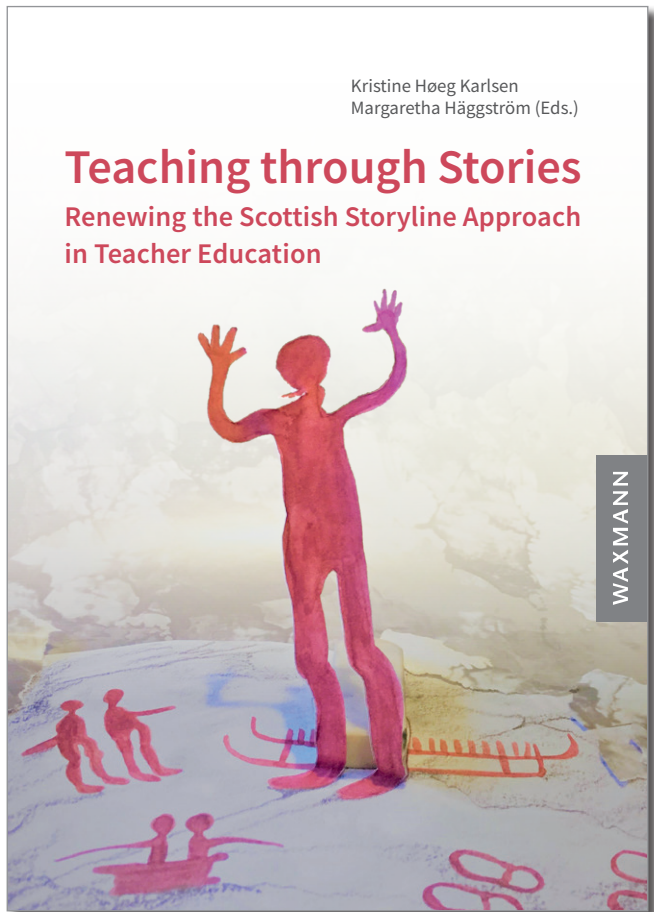
Kristine Høeg Karlsen,
Margaretha Häggström (Eds.)

Teaching through Stories

Renewing the Scottish Storyline Approach in Teacher Education

Chapter 14

The Importance of Effective Questioning on Learning Processes in a Storyline

Carol Omand

Asking the right question may be the most important part of thinking.
De Bono, 1994

Abstract. Along the lines of De Bono, it can be said that questioning is fundamental to the Storyline Approach and at the heart of all teaching and learning. This practical chapter highlights how effective questioning encourages, supports, and sustains learners to think critically and creatively, solve problems, make decisions and use higher-order thinking skills. Central to every Storyline is the profound influence of Vygotsky's principles of active learning. Importantly, using Key Questions actively encourages, engages, develops and sustains the learning. This experiential learning has a direct influence on the learner when they take on tasks that they were unable to do before. Many examples combining theory with practice are presented and the results of implementing a whole school policy in questioning show that there were improvements in pupils' spoken and written abilities, thinking skills and concentration with more detailed and thoughtful responses. In conclusion, it is important to teach questioning at all levels as an integral component of teaching and learning.

Keywords: Questioning, Storyline, Thinking Skills, Creativity

Introduction

The Storyline Approach (TSA) is a pedagogical strategy for 'active learning'. In particular, it recognises the value of the existing knowledge of the learner. Questioning is fundamental to TSA and is at the heart of learning and teaching. Questioning creates dialogue with learners and serves many purposes. It engages students in the learning process and provides opportunities for them to ask questions themselves. It challenges their level of thinking and understanding and informs the next steps in learning and teaching. Effective questioning builds a partnership of mutual trust and respect. This chapter draws on my many years of experience of TSA as a practitioner, manager, lecturer in Initial Teacher Education, Storyline designer and writer. It combines theory with practice and illustrates the development of effective questioning in several Storyline examples and contexts.

Creating a Positive Learning Environment

In my experience, it is extremely important to create a positive learning environment for effective questioning to have the greatest impact on learning and in raising learners' expectations of themselves. Black and Wiliam (1998) state: "What is essential is that any

dialogue should evoke thoughtful reflection in which all pupils can be encouraged to take part." (p. 12).

> "Right from the outset of any Storyline, learners are asked questions about what they already know, think, and understand. Their answers are valued, shared and constructive feedback is given, both by the teacher and their peers. Learners are encouraged to ask their own questions in a developing atmosphere of trust and mutual respect" (Omand, 2017, p. 6).

This is not a chance event, but is a conscious decision, on the part of the teacher in a nurturing role, to teach the learners how to value themselves and others, and how to give positive feedback as a means of promoting respect, thinking and questioning skills. Learners' positive self-esteem of their own learning and abilities is central in TSA.

I use the same concept when working with student teachers and teachers so that TSA becomes part of their holistic approach to learning and teaching and is implemented across all subjects of the curriculum. It is crucial that student teachers, themselves, understand and experience the role of questions before they use them in their teaching practice. I find these questions helpful to encourage learners' thoughtful answers: *What do you know? What else do you know? What can you tell me about…? Tell me one thing about …? I wonder if you could tell me a little bit more? What other facts do you know? I wonder if someone else has had the same or different experience? Why do you think…?* This is also echoed by (Dweck, 1986) who wrote that, "positive attitudes exist when children: believe that effort leads to success; accept that they have the ability to improve and learn; prefer and feel satisfied on completing challenging tasks" (p. 1041). Tasks are made more challenging when questions encourage higher-order thinking skills such as problem solving, using the design process, decision making, and critical thinking, help prepare and equip learners for their future and the variety of roles they will have to play in their lifetime. "Effective questioning is about asking questions in a way that elicits maximum feedback, which can then be used to evaluate, plan and extend learning" (Assessment Reform Group, 1999, p. 4). That statement is at the heart of every Storyline.

The six sections in the chapter highlight the developmental stages I have used when teaching effective questioning in a Storyline to children, student teachers and teachers.

After the introduction, I develop the role of key questions in a Storyline. The next section describes how to frame and create effective questions. Following on from that, I introduce two examples of different types of questions. In the next section, I discuss pedagogical implications before suggesting ideas for Teacher Education and Professional Development. Finally, there are my concluding thoughts.

The role of Key Questions in a Storyline

Developing effective questioning is one of the most important features of every Storyline and takes the form of *key questions*. They structure the learning and sequence the episodes of the narrative of the Storyline. They are open-ended to provide opportunities for, and to encourage the learners to give, a wide range of responses.

"Key questions present the children with a range of creative problem-solving activities that in turn require creative solutions and encourage children's higher-order thinking skills. They introduce exciting, meaningful and contextualised learning and provide opportunities for personal success, achievement and celebration. They encourage meaningful discussion and debate and, by careful scaffolding, enable children to become equipped to create and ask their own questions. Key questions provide opportunities to ask follow-on questions to seek further clarification and understanding. They also allow children's responses to be considered thoughtfully and carefully and provide opportunities for constructive feedback from peers and individual feedback from the teacher. These responses help to inform and support the children's next steps in learning, encouraging meaningful discussion and exploration of a wider range of problem-solving possibilities and solutions. It is within these processes that children develop their own capacity for creativity, critical thinking, decision making, problem solving and higher-order thinking skills. These life skills encourage independence and can be transferred across the curriculum and utilised in other meaningful situations." (Omand, 2014, p. 5). (cf. key questions, Chapter 10, Sharon Ahlquist and Chapter 15, Ulf Schwänke.)

Key Questions and their role in Experiential Learning and Supporting and Developing Higher-order Thinking Skills

Key questions are, as mentioned, open-ended, and as (Clarke, 2001, p. 87) says, "allow for a range of responses and make progressive demands on children." In every Storyline, the key questions invite learners to be involved in an activity that will give them opportunities for experiential learning. For example, in *The Healthy Café* Storyline, the children are asked, '*What essential planning do you need to put in place for your Grand Opening event?*' The children then decide on the tasks they must do; make posters and invitations, create and design a menu, decide on who does what, work to a timescale. They are involved in many thought processes and solutions in order to achieve their goals. In a whole school *Space* Storyline, there was a technology challenge in every class. Senior pupils had this challenge: *Design and make a board game that uses a switch, a circuit and one other functioning element of your choice*. The learners discussed, problem solved and came up with a unique board game that fulfilled all of the criteria. On completion of the task, their peers then asked them a series of questions and because of their 'hands on' experience, the learners were confident in being asked questions and in giving informed answers.

Key questions also play an important role in every Storyline to encourage learners' discussion. Crucially, they provide opportunities to think creatively (cf. creativity, Chapter 2, Margaretha Häggstöm and Katharina Dahlbäck, and Chapter 12, Marit Storhaug and Siv Eie) and offer a range of imaginative responses that, in turn, on many occasions leads to higher-order thinking. Learners are also engaged in experiential learning for a major part of every Storyline and this provides them with concrete evidence, to answer confidently, any questions asked by their peers and to develop their own questioning capabilities. In the Storyline, *The Fairground*, the learners had been asked to design and

make a working fairground model. One of the working models was of a Ferris wheel. The team had worked well but there was insufficient power to drive the wheel round. After discussion, some changes, and problem-solving solutions, the team was able to get the wheel to work. This concrete experience enabled them to answer confidently the questions from their peers:

What was the most difficult part to make? How did you get the wheel to go round? What had been the problem when it didn't work the first time?

The questions the teacher asked when looking at the learners' models:

Why do you think …? Could you tell me more about …? In your opinion what is the purpose of …? What might an alternative be …?

Using some follow-on questions, the teacher asked the learners:

The mechanism you adapted is now very successful, what other uses could it be used for?

How will you record the results of this task so that it might be helpful for others? What in particular are you most pleased with? What do you think are the benefits of working in a team? What did you find out about yourself as a learner?

Bloom's Taxonomy (1956), offers an important framework for teachers to focus on higher-order thinking to inform their questioning skills.

The Role of Key Questions in Creative Thinking, Improving Problem-Solving Strategies and Extending Thinking Skills.

Using the child's experiential learning in TSA and the concrete evidence; for example, learners' working models, structures, figures, creatures, habitats, objects, paintings and plans, the teacher, using effective questioning, encourages each child to develop their creativity, problem solving, and thinking skills. Vygotsky (1978), argues that learning happens through our social interactions, and thus is dependent on experience. The learners are further challenged by working to meet the demands of criteria in several problem-solving activities. They are encouraged to set their own goals and strive for personal best. The teacher uses a range of analytical questions to support and encourage the learners' thought processes and answers. The following questions have arisen in the classroom during problem-solving activities from several Storyline topics: *The Fairground, Natural disasters* and *The New Company*. The questions are asked by the teacher but can also, with guidance, be asked by learners of each other and serve the following purposes;

Encouraging reflection.

'*Why did you decide to make it that way?*' '*Tell me about the materials you used and why you chose them?*' '*From your experience, was there anything missing in order for you to*

make the best job?' 'What do you think would be the best way to explain the problem-solving process to someone else?'

Providing opportunities for cognitive thinking.

'What was the most important thing you learned and/or found out from the task you have just completed?' 'Take me through the order in which you did things.' 'What do you understand by…?' 'If you were going to make this again what would you do differently? Why?' 'How would you simplify the task for younger learners?' 'How could you make the task more challenging?'

Encouraging problem solving.

'In terms of producing more items quickly, what shortcuts could you take without altering the quality of the finished product?' 'What problems arose that you hadn't expected?' 'Choose one and tell me how you solved it.'

Promoting higher-order thinking skills.

'When you found out you had to make a number of items to sell what was your initial thought?' 'Having made all of the items and sold them, what are your thoughts now?' 'What would your advice be to others facing a similar task?'

All of these questions provide opportunities for the learners, individually, in pairs, and in groups, to build on their existing knowledge through experiential learning. As illustrated, the role of the teacher's effective questioning is crucial in supporting, encouraging and building learners' self-esteem and improving confidence in their abilities.

The Role of Key Questions in Developing Critical Thinking

Effective key questions in a Storyline are central to developing learners' critical thinking skills. In their research, Haynes and Bailey (2003, cited in Snyder & Snyder, 2008) emphasised the importance of asking relevant questions to stimulate students' critical thinking skills. Browne and Kelley (2014) also focused on integrating questioning techniques into class discussions to support an educational environment where students can demonstrate and practice critical thinking skills. They also documented the premise that students' critical thinking is best supported when instructors use critical questioning techniques to engage students actively in the learning process. Sample questions from all these studies include the following:

'What do you think about this? Why do you think that? What is your knowledge based upon?

What does it imply and presuppose? What explains it, connects to it, leads from it? How are you viewing it? Should it be viewed differently?'

These questions give students opportunities to evaluate and question their thought processes, the breadth and depth of their thinking and begin to think about their thinking.

Framing and Creating Effective Questions

'Asking a question is the simplest way of focusing thinking. Asking the right question may be the most important part of thinking' (de Bono, 1994, p. 79). It is important right from the outset to frame key questions.

> "Each episode raises key questions, designed to focus the children's attention and help them explore curricular issues. The key questions access what the children already know or believe about the topic, establish possible links between different knowledge domains, raise doubts or questions, and promote creative thinking through brainstorming or mind-mapping. In this way, they ensure that children's prior knowledge is acknowledged and respected and give a sense of ownership and personal involvement. The collective intelligence of the class often turns up a surprising amount of information that helps teachers gauge future teaching content and pace and provides information that helps situate future learning and link to existing knowledge" (Bell & Harkness, 2006, p. 10).

Teaching Learners about Effective Questions

One of the most important skills that learners experience in TSA is how to design and ask their own questions. The teacher supports them in acquiring these new questioning skills by using supportive scaffolding techniques. According to Bruner (1986), when children start to learn new concepts, they need help and support from teachers or other adults. To begin with, they are dependent on adult support but, as they become more independent in their thinking and acquire meta skills and knowledge, the support can be gradually withdrawn. According to Feuerstein (2015), all learning interactions can be divided into direct learning and mediated learning. Learning mediated by another human being is indispensable for a child because the mediator helps the child develop prerequisites that then make direct learning effective. For example, the teacher might ask the class: *How many different ways can you present your work for the final exhibition?* The children discuss their answers in small groups or pairs. Collectively they present their ideas. These represent a wide, creative set of responses. The children also ask their peers questions: *How did you decide on the content of your presentation for the exhibition?*

The Healthy Café Storyline – Children's Questions

The Healthy Café Storyline was developed by one of the teachers in my school as part of our Health and Wellbeing programme of study. The children learn to put their skills into practice by engaging with this purposeful context.

The planning grid for *The Healthy Café* Storyline demonstrates how the children's effective questioning developed their ideas, creativity, thinking skills, problem solving, life skills, knowledge and understanding. This example highlights the importance of the teacher taking time to listen to children's questions when seeking clarification. It shows how mutual respect is developed through constructive peer questioning and interaction. It also emphasises that the Storyline has provided a meaningful context in which learners have opportunities to ask and answer questions and can engage with one another in a purposeful manner.

Tab. 1:   Teacher's Key questions and children's questions

Storyline	Teacher's Key questions	Children's questions
As part of a healthy living programme, people are looking at what makes a healthy café.	*What is a café?*	*Is a café like a restaurant? Does it just sell snacks? Are there any healthy cafés near us?*
The essential features of a café. *The teacher had expected the usual feedback but was unprepared for the children's response.	*What does it need to have in it?*	*Will there be hot and cold food? Is it going to be a big or small café? *As we have someone new in our school now who uses a wheelchair, we will need to make sure they can get into the café safely and easily. Will it be alright to ask them about it?*
As a result of the children's input and questions, they changed their initial designs for the front entrance to their classroom café.	*What will you need to do to make sure the access will be wide enough? What materials do you think you will need to use? How will you know if the access is successful?*	*How will we build the wheelchair access so that it's safe and strong? The slope can't be too steep, so what can we do about this?*
This also prompted the teacher to introduce additional targeted key questions to develop the children's ideas.	*How will you test it safely?*	*How will we test it safely? Will we test it with the person in it or will we test it first with an empty wheelchair?*
The children also responded with additional questions that developed their ideas, thinking skills, problem solving and understanding	*Can we ask…to drive the wheelchair through to try it out?*	*It's an electric wheelchair but do we need to have another person there just to steady it through the entrance to make it even safer? We need to ask (the child) how he will feel.*

Storyline	Teacher's Key questions	Children's questions
Job applications The children have opportunities to look at application forms for other jobs. They carry out research. Individually they think about the job they would like to do, write down their skills and the reason they would be good at the job. Another member of the class looks over their application to see if there is anything that they have missed or anything that might improve their application. The child's partner helps them through the process by asking questions that relate to their own experience. All children have previously carried out work on giving positive, constructive feedback to their peers and others.	*What job would you like to do in the café?* *Why?* *What skills do you have that would make you the best person for the job?* *How can you help each other?*	(The child as an applicant) *Are skills just like the things you are good at?* *What skills will I need to be a manager?* *What is it that I do at the moment that will help me in this job?* The child's partner looks through the list of skills the child has identified. *A good timekeeper well prepared, a good team member, a strong voice.* *When you are getting ready to play in a match what do you do?* *What skills do you use there that would be useful in this job?* *When you meet with the pupil council how do you get your ideas across?* *How will that be useful in this task?* *You are really good at helping people too. That's useful.*

During this process, children are developing a richer and deeper understanding of themselves, others and the world around them. It also promotes children's involvement, independence, interdependence (cf. interdependence, Chapter 1, Kristine Høeg Karlsen, Heidi Remberg, Ellen Høeg) and develops an ability to explain things more clearly. It helps develop reflection and evaluation of their own learning. This example highlights one of the characteristics that Alexander (2006) identifies in dialogic teaching:

> "Dialogic teaching is indicated by: Teacher-pupil interaction (for example in whole class teaching and teacher-led group work) in which: Individual teacher-pupil and pupil-pupil exchanges are chained into coherent lines of enquiry rather than left stranded and disconnected. It illustrates the partnership, trust and respect of teacher-child within the classroom." (p. 41).

I use this example for student teachers to highlight the importance of their interaction and valuing children's contributions.

Different Types of Questions in a Storyline

It is important for the teacher, when writing a Storyline, to consider the range, variety and balance of types of questions that need to be planned. Hastings (2003) states: "Learning to recognise various types of question and the function they serve is one of the keys to effective questioning." (p. 2). It is also most important to recognise the influential role that effective questioning plays in the learning process in promoting and engaging learners in meaningful discussion. The kinds of questions the teacher asks will determine the level of thinking skills the learner develops. Claxton (in Hastings, 2003) states that: "Good learning starts with good questions, not answers." (p. 2). The key questions in a Storyline must demonstrate a range of different questions and provide opportunities for learners who require more thinking and encourage responses that are more thoughtful.

Authentic Questions

Effective questions have to be authentic.

> "authentic questions are those for which the teacher has not pre-specified or implied a particular answer. These are contrasted with the much more common test questions in which the teacher retains absolute control over the answers and therefore in the direction of the interaction of which individual questions and answers are a part. Authentic questions are defined here as dialogic because they signal to students the teacher's interest in what they think and know not just whether they can report back what someone else thinks or has said." (Alexander, 2006, p. 15).

Follow-on Questions.

It is important for teachers to ask and encourage children to ask follow-on questions. These are useful to seek further clarification, to help understanding, to promote creative responses, to encourage higher-order thinking skills.

Tab. 2: Teacher's key questions and children's questions and answers

Storyline	Teacher's key questions	Children's questions and answers
*Creativity Week	*What will your week look like?*	*We'll need to discuss it and get everyone's ideas. How long do we have to let you know?*
What the week might look like.	Teacher's follow-on questions	Children's follow-on questions

Storyline	Teacher's key questions	Children's questions and answers
The detailed discussion and planning that followed.	*What is it you want to do/ have?*	*In small groups children discuss:*
	What will you have to do to plan for the whole week?	*Why do you want to do…?*
	Remember that you need to use recyclable materials and reuse items as much as possible.	*Could we have painting and music on one day?*
	What materials will you need?	*Do you think we'd be able to buy some things as well as using recycled materials?*
	Where will you get them from?	*Do you know anybody who could teach us to play the drums?*
	Do you think people in the community might be able to help?	*We need to have a plan for each day.*
	Who will you get to do the workshops? How will you organise that?	*What's the best way to do that?*
	Will everyone in the class do the same workshops?	*Should we have groups to organise different areas e.g. art, music, outside things?*
	Will they all be inside?	*We'll need to write some invitations, who will do that?*
	What help do you need?	*We'd love to make a documentary. How do we do that? Do you think we could find someone to help us?*
	At the end of the week, how will you show to others, what you have been doing? a celebration?	*We need to write notes to help us for next year and maybe keep a diary.*
	Who else might you invite?	*What kind of celebration should we have?*
	How will you thank the people who have helped?	*Who will we invite?*
	How will you record all that you have done and achieved?	

*Creativity Week was part of a whole school initiative focused on closing the attainment gap by being 'Determined to Succeed through Creativity and Ambition' emphasising the use of recycling materials

Purposes of Effective Questioning

When writing effective questions, it is necessary to establish their purpose. Here are some thoughts I keep in mind: *What type of questions will motivate and sustain learners' interest and engagement? How will a rich learning experience for the learner be ensured? What type of questions in particular will promote discussion and debate? How will open-ended questions for the learner provide opportunities for a wide range of responses? What scaffolding opportunities will help the learner recognise the function of different types of questions and develop their confidence in asking, and answering, different types of questions?* These questions help student teachers and teachers to clarify the purpose of effective questioning and to recognise the importance of teaching questioning as a fundamental component of teaching and learning.

Pedagogical Implications

Questioning is a crucial pedagogical skill. It is an integral part of classroom practice. Many studies highlight the importance of questioning methodology and provide a wealth of information to extend and improve learning and teaching. Throughout this chapter, I highlight the importance of teaching effective questioning. To improve pedagogical practice in my school, we incorporated a number of strategies to improve questioning skills, of both staff and pupils. I have selected two of these; the importance of 'wait time', and, 'encouraging understanding and transfer of skills'.

The importance of 'Wait Time'

Black and Wiliam in (Clarke, 2001) discuss the importance of 'wait time,' sometimes known as 'think time' and suggest, "give pupils time to respond: ask them to discuss their thinking in pairs or in small groups so that a respondent speaks on behalf of others." It is important to allow learners opportunities to think through their answers carefully and ensure they know that 'wait time' or 'think time' is what is expected and indeed is necessary to develop their thoughts. Extending the time learners have to respond by three to five seconds can make a substantial difference to the quality of the response. It "can also lead to more children being involved in question and answer discussions and to an increase in the length of their replies," (Black et al., 2002, p. 6).

Using 'wait time' can enable the learners to sort out and order their thoughts, give a more thoughtful response, and give a more creative response. It also can reduce the number of learners who say they don't know the answer. Having given the learners 'think time,' it is very important for the teacher to give sufficient time to listen carefully to the learners' answers to give the most appropriate and supportive feedback and is particularly important for critical thinking. "Research on questioning methodology also suggests that instructors should wait for student responses. Thinking requires time and patience. Give students the time they need to think critically" (Browne & Kelley, 2014, p. 8).

Encouraging Understanding and Transfer of Skills

In the Storyline, *Our Local Native Woodland,* the children are investigating and exploring ways to improve their local woodland. As part of the introduction to the Storyline a letter arrives from the local forestry manager. In the letter the words *conservation* and *sustainability* appear. The teacher asks this key question: *'What do you understand by these words, conservation and sustainability?'* The children are asked individually to write what they think each of the words means. Their answers are shared with the others in the class. After some lengthy discussion, a class definition is agreed and displayed in the classroom. The children also write the definition into their personal log books (work books) and add their own ideas about what conservation and sustainability means for their own local woodland. When the local forestry manager came to visit, the children explained their definitions. It was clear when they answered that they were able to display a deeper understanding of the meaning and, importantly, the relevance to their local environment. The children, using additional key questions, were also able to transfer this prior knowledge to a more general discussion about conservation and sustainability in the wider context. One of the key principles of TSA is that the learners feel a true sense of ownership, involvement and responsibility for what they do and are thus truly engaged in the whole learning process. Some of the additional key questions:

Why do you think conservation is important for our environment and our world?

Why do you think sustainability is important for our environment and our world?

What do you think might happen if we don't do something about this?

What do you think we should try to do? Who might help us?

In this example, the teacher is constructing questions that not only promote thinking skills but also help learners to explore individually and collectively and to find a deeper understanding. As a result, they are more confident in their understanding and they are then more able to transfer and apply this understanding to another similar, different, or wider context. In this carefully supported process, the learners gain confidence and willingly contribute to other questions that arise in different learning situations.

Reviewing and Evaluating a Child's Learning Experience

In this review and evaluation process, the child is presented with questions that they can build into their own questioning repertoire. It is also a valuable process in helping support them when they design their own questions for their evaluation sheets as part of a personal project or for another task. The teacher discusses the answers with each child and then the evaluation is added to the child's personal learning plan. The feedback is also very useful for the teacher as part of ongoing personal reflection and evaluation, in light of the children's responses, to note any changes they may wish to make to the Storyline. It provides useful feedback, too, for informing the next steps in learning and teaching.

Tab. 3:   The Fairground design and technology task

Storyline: *The Fairground* design and technology task, age 7–11	
Name:	**Class:**
Evaluation of design and working model	**Child's comments**
What was the best thing about working in a team?	
Did you find this task easier or more difficult than the last one? Why?	
What useful new skill have you learned? Give another example of where you might use it again?	
What solution did you suggest for the 'wheel' problem?	
What are the main ideas you will want to get across to others in your presentation?	
What was your best achievement in this task?	
What do you want to know more about having completed this task?	

Teacher Education and Professional Development

It is vitally important to teach, support and develop the questioning skills of all teachers, from initial teacher education and all through their teaching life as part of the teacher's 'toolkit'.

The following is an extract that I used in a workshop for second year student teachers. The main objective was to provide a context that would give them opportunities to develop effective questions. At the outset of the workshop, some students were a little hesitant to ask questions or contribute their ideas. However, as they became more involved in the activities, they were able to talk and ask questions of each other, about the characters, the models, and items that they had made, in exactly the same way as children do in class.

Experiential learning had provided them with opportunities, not only to become familiar with TSA, but also to ask and develop questions and build their confidence for their forthcoming teaching practice. The subsequent workshops built on this experience and offered support in planning an effective questioning strategy and using a variety of questioning techniques.

Tab. 4: Storyline: *The Castle* – illustrating context and key questions

Storyline	Key Questions	Storyline	Key Questions
1.Setting the scene		**2.The castle**	
The scene is set with some medieval music playing quietly in the background. Some artefacts arrive wrapped in an old cloth or in an old box. The teacher tells the learners that they are going to be history detectives. You have to use the clues of the object to try to help you find out the answers to the following questions.	*What material is your item made from?* *What do you think your item might be?* *Who might have used it?* *Where do you think it has come from?* *How old do you think it might be?* *What do we use or have today that is similar?*	It is established that the artefacts have come from a castle with local historical importance or significant in historical terms.	*How would you describe a castle?* *Give a reason for why you think it had to be built?* *What decisions do you think they had to make before they built it?* *What materials would they use?* *Where would they get these materials?* *What special features might it have?*

Reviewing and discussing their individual learning journey, as captured in their personal learning logs, emphasised how their knowledge and techniques had improved and provided a powerful summary and record of their individual progress.

Professional Development

The following examples illustrate a range of materials for teachers and learners to support and develop effective questioning.

Tab. 5: Examples of a teacher's questioning repertoire in a Storyline.

Open-ended questions	Closed questions (used mainly for recall of facts or simple comprehension)
'What might happen if …?' *'Is this true in all cases?'* *'What do you think about …?* *'What other solutions might there be?'*	*'What is 3+7?'* *'How many days are in a week?'*
Making a suggestion	**Expand an idea**
'You could try …' *'Have you considered …'* *'What about …?'* *'Sometimes it's useful to …'*	*'Could you tell me more about …?'* *'What made you choose …?'* *'Why did you attach the … here?'*

Using prompts (displayed on wall) *'Have you remembered to …?'* *'Check your work against the criteria.'* *'Did you get the results you were expecting …, if not why not …?'*	**Elaboration** *'After that what did you do …?'* *'Explain in your own words …'* *'I like what you did here, tell me more about it.'*
Reflection *'Do you remember when …?'* *'When you made … what solution did you come up with? Might that be helpful here?'* *'Check back at what you did with … I think you will find that useful.'* *'Ask someone else who is doing the same task.'* *'I am sure you said … That would be very useful here*	**Checking for understanding** *'Tell me how …?'* *'Is this the complete sequence?'* *'What do you understand by …?'* *'Tell me what this means in your own words …'* *'Explain your experiment/findings to someone else.'* *'Could you give me some more detail …?'* *'Why did you come to that conclusion?'*
Extending thinking *'What is the most important message you want to get over?* *'What is the difference between …?* *'What is another way to look at it?'* *'What would be another example …?'* *'What do you think …?'*	**Follow-on** *'That is a good idea, now what will you do …?'* *'Yes, that's right but what about …?'* *'Taking into account … what's the next step?*
Checking for clarification *'Can I just check that …?'* *'Are you clear about …?'* *'Summarise for me, in your own words the main focus of today's lesson.'* *'What was the outcome of the experiment? Did that surprise you? Why?'* *'After you read the article, I would like you to summarise, in your own words, the main points.*	**Echo** *'I remember you said …'* *'I see, you think that …'* *'What you said about … is very interesting …'* *'What ideas have changed since you first spoke with me …?'*
Offering some information *'It might be helpful to know that …'* *'… came up against the same problem. It might be useful to discuss it with them.'* *'There's some good information about that in …'*	**Encouraging** *'You have made sure you …'* *'I can see that you have met all of the criteria.'* *'What, in particular, are you most pleased with?'* *'You have lots of good ideas.'* *'I see that you have taken great care over …'*
Analytical *How might you explain why this happened?* *How can you support your opinion?*	**Evaluative** *What makes this a successful model?* *Compare this solution to … What are your thoughts?*

Observation and Feedback

As part of their professional development, teachers designed an observation sheet to help them give constructive feedback to their colleagues. The feedback was then used to acknowledge good practice and support and promote effective questioning across the curriculum and throughout the school.

Tab. 6: Self-awareness and improving questioning techniques – observation feedback sheet

Observation sheet for effective questioning	Date: Teacher: Class:
What were the key questions in the lesson?	
Give an example of a question that asked children to follow instructions.	
Give an example of a question that made children think.	
Give an example of a child asking another child a question.	
Give an example where a follow-on question was used: • to clarify understanding • to elaborate • to promote discussion	
Give an example of a question used in the plenary.	
Comment on the range of questions.	
Comment on the effectiveness of 'wait time'.	
What was most successful in the lesson?	

I have also used this observation sheet in workshops with student teachers.

A Whole School Approach to Effective Questioning Using Storyline

As part of our whole school initiative for closing the attainment gap, we decided to look at the possibility of introducing TSA to every child. In our school, I was the only teacher trained in TSA. I used my class to model the approach. I also worked with other colleagues and encouraged them. Staff gradually grew in confidence and every teacher became more involved. TSA began to develop in every classroom. I provided staff development on the background, the philosophy and the key principles of TSA.

I worked with other members of staff on beginnings, middles and endings of Storylines and in partnership began to implement TSA in their classes. This was not an overnight process. Over several years, each staff member grew in confidence and some were very keen to write their own Storylines with support. A staff development programme enabled teachers to work on the following: *Why effective questioning is important in learning. Key questions and their purpose. Questioning throughout a Storyline and impli-*

cations for other areas of the curriculum. Is questioning as effective as it could be? If not, why not? Developing the Storyline. Review, evaluation of practice, and identification of next steps

The teachers recognised the importance that effective questioning played in children's learning. With the opportunities for experiential learning and associated questioning possibilities, teachers were keen to develop their own practice further. Teachers at every stage in the school implemented Storylines. Some members delivered staff development to neighbouring schools, some at local authority level and two at an international conference. The school gained an excellent reputation for the quality of the teaching, its child-centred approach and the innovative learning opportunities it provided for every child.

Results of our Whole School Approach

The children became more confident and thoroughly enjoyed their learning in the exciting, creative and supportive environment where each felt valued. Teachers observed that the climate was conducive to asking and answering questions as part of the normal daily routine and that 'wait time' improved the length and detail of answers. This was evident in all areas of the curriculum and learners were supported and encouraged to transfer their skills across subjects, for example, from technology to design. The questioning techniques and strategies learned and used in a Storyline became familiar and transferred easily to all other aspects of the curriculum. For example, problem-solving strategies and investigation techniques used in mathematics could also be applied to science, outdoor learning, art and design, technology and music. The school; learners, staff, parents and carers, developed a 'can do' attitude clearly evidenced in science, technology and mathematics challenges. Learners all benefitted from raised self-esteem and enjoyed involvement in celebrations of achievement throughout the school and nursery.

The implementation of 'wait time' and other strategies had effects beyond mere increased participation and enjoyment. Learners' higher-order thinking skills and concentration improved and as a result, they were able to offer much more thoughtful and detailed responses. There was concrete evidence in both their spoken and written abilities. Their questioning skills improved as demonstrated by their ability to ask and answer questions confidently. Teachers found that their experience of learning about, developing and implementing effective questioning strategies in a Storyline also improved their questioning and general teaching ability across all subjects.

Concluding thoughts

With the importance of effective questioning, not just in TSA, contributing so visibly to learning, it is not something that can be left to chance. There is a collective professional responsibility to ensure that it is an integral part of student teacher and teacher training and professional development. Initial teacher education can play a vital role in ensuring that effective questioning is taught and embedded in all course work. In my experience,

questioning is a skill that needs to be taught. It can be developed from quite simple interactions to ones that are more complex. It requires skilled planning to ensure that a range of different question types is used. Teachers also need to plan their own questioning strategy and be prepared, because of answers to 'open-ended' questions, to develop tactics on the spot. For this reason, I included a section on Professional Development with suggestions for teachers and student teachers for learning about and improving their questioning skills.

Where a school has implemented a whole school policy on effective questioning, not just in a Storyline but also across the curriculum, the impact and quality of learning and teaching is significantly improved. The interactions of teacher and learner encourage deeper understanding and there is more involvement and engagement in using higher-order thinking skills. In my experience, the learning environment becomes a place where exciting, creative, and interdependent learning and teaching takes place and learners develop a sense of curiosity and ability to ask their own effective questions.

Acknowledgements

References

Alexander, R.J. (2006). *Towards Dialogic Teaching: Rethinking Classroom Talk*. York: Dialogos.

Assessment Reform Group (1999). *Assessment for Learning: Beyond the black box*. Cambridge: University of Cambridge School of Education.

Assessment Reform Group (2003). Success Criteria. In S. Clarke, *Enriching Feedback in the Primary Classroom*. London: Hodder and Stoughton.

Bell, S., & Harkness, S.C. (2006). *Storyline: Promoting Language Across the Curriculum*. Hertfordshire: UKLA.

Black, P., & Wiliam, D. (1998). *Inside the black box*. London: Nfer Nelson.

Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2002). *Working inside the black box: Assessment for learning in the classroom*. London: Nfer Nelson.

Bloom, B.S. (ed.) (1956). *Taxonomy of Educational Objectives. Vol.1: Cognitive Domain*. New York: McKay.

Browne, M.N., & Kelley, S.M. (2014). *Asking the Right Questions: A Guide to Critical Thinking.* Upper Sadle River, New Jersey: Pearson.

Bruner, J. (1986). *Actual Minds, Possible Worlds*. Cambridge, Massachusetts: Harvard University Press.

Clarke, S. (2001). *Unlocking Formative Assessment*. London: Hodder and Stoughton.

De Bono, E. (1994). *The Six Thinking Hats.* New York: Back Bay Books.

Dweck, C. (1986). Motivational processes affecting learning. *American Psychologist, 41*(10), 1040–1048. doi: 10.1037/0003-066X.41.10.1040

Feuerstein, R. (2015). *Changing Minds and Brains*. New York: Teachers College Press.

Hastings, S. (2003). Questions article TES in teachertools. London: The Times Educational Supplement.

Omand, C. (2014). *Storyline: creative learning across the curriculum*. Leicester: UKLA.

Omand, C. (2017). *Storyline: Developing effective questioning.* United Kingdom. Self-published.

Snyder, L.G., & Snyder, M.J. (2008). Teaching Critical Thinking and Problem Solving Skills. *Delta PI Epsilon Journal*, *50*(2), 90–99.

Vygotsky, L.S. (1978). *Mind in Society: The Development of Higher Psychological Processes.* Harvard: Harvard University Press.