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Primary education: listening and observing

About this free course

This free course provides a sample of level 1 study in Science

Education, childhood and youth

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Introduction and guidance

Introduction and guidance

This free badged course, *Primary education: listening and observing*, lasts 24 hours, with 8 sessions. Each session should take you around 3 hours. The eight sessions are linked to ensure a logical flow through the course. They are:

1. Observing and listening to primary school children
2. Observing in the playground
3. Observing learning
4. Learning at home
5. Connected children
6. Computing in schools
7. Creative support for children's learning
8. Adults and lifelong learning in the primary school.

The course is for anyone who wants to upgrade their knowledge of the primary school sector and ethical practices in education settings. It presents a set of practice-focused readings and observational readings. You will learn about small-scale research in the primary school and observe children's play and classroom learning, and listen to interviews with school staff and children. You will also explore cyber bullying and the primary school curriculum.

You will be able to test your learning in the interactive quizzes, of which Sessions 4 and 8 will provide you with an opportunity to earn a badge to demonstrate your new skills. You can read more on how to study the course and about badges in the next sections.

After completing this course, you will be able to:

- show knowledge of how to plan and carry out sensitive observation and information gathering appropriate to educational settings
- use appropriate small-scale research methods to understand and support children's learning
- understand ethical practices in educational settings
- use online and digital technologies for personal and professional learning.

Moving around the course

In the 'Summary' at the end of each session, you will find a link to the next session. If at any time you want to return to the start of the course, click on 'Full course description'. From here you can navigate to any part of the course.

It's also good practice, if you access a link from within a course page (including links to the quizzes), to open it in a new window or tab. That way you can easily return to where you've come from without having to use the back button on your browser.

The Open University would really appreciate a few minutes of your time to tell us about yourself and your expectations for the course before you begin, in our optional start-of-course survey. Participation will be completely confidential and we will not pass on your details to others.

What is a badged course?

While studying *Primary education: listening and observing* you have the option to work towards gaining a digital badge.

Badged courses are a key part of The Open University's mission *to promote the educational wellbeing of the community*. The courses also provide another way of helping you to progress from informal to formal learning.

Completing a course will require about 24 hours of study time. However, you can study the course at any time and at a pace to suit you.

Badged courses are available on The Open University's OpenLearn website and do not cost anything to study. They differ from Open University courses because you do not receive support from a tutor, but you do get useful feedback from the interactive quizzes.

What is a badge?

Digital badges are a new way of demonstrating online that you have gained a skill. Colleges and universities are working with employers and other organisations to develop open badges that help learners gain recognition for their skills, and support employers to identify the right candidate for a job.

Badges demonstrate your work and achievement on the course. You can share your achievement with friends, family and employers, and on social media. Badges are a great motivation, helping you to reach the end of the course. Gaining a badge often boosts confidence in the skills and abilities that underpin successful study. So, completing this course could encourage you to think about taking other courses.

How to get a badge

Getting a badge is straightforward! Here's what you have to do:

- read each session of the course
- score 50% or more in the two badge quizzes in Sessions 4 and 8.

For all the quizzes, you can have three attempts at most of the questions (for true or false type questions you usually only get one attempt). If you get the answer right first time you will get more marks than for a correct answer the second or third time. Therefore, please be aware that for the two badge quizzes it is possible to get all the questions right but not score 50% and be eligible for the badge on that attempt. If one of your answers is incorrect you will often receive helpful feedback and suggestions about how to work out the correct answer.

For the badge quizzes, if you're not successful in getting 50% the first time, after 24 hours you can attempt the whole quiz, and come back as many times as you like.

We hope that as many people as possible will gain an Open University badge – so you should see getting a badge as an opportunity to reflect on what you have learned rather than as a test.

If you need more guidance on getting a badge and what you can do with it, take a look at the OpenLearn FAQs. When you gain your badge you will receive an email to notify you and you will be able to view and manage all your badges in My OpenLearn within 24 hours of completing the criteria to gain a badge.

Session 1: Observing and listening to primary school children

Introduction

Welcome to the first session of this free course which looks at observation in the primary school.

Observation in primary schools is not a detached, 'scientific' exercise. It can be standing back to watch and listen to children, but it can also be working alongside children and talking informally with them, to understand how they're thinking. For instance, do you ever:

- notice what your own children, or other children that you know, say and do as they play?
- have conversations with a child or children, where they express their feelings and thoughts about their school friends or their teachers?
- help a child with homework, or sit nearby and watch as they try to work it out for themselves?
- talk to children or their parents about their experiences of a school?

In this course, you will extend these kinds of skills in a conscious way. If you are thinking about becoming a teacher in the future, or if you plan to work or volunteer in a school, these skills will help you to work more effectively with children and other adults.

When you observe and listen to children, you become a learner yourself, so this course will also develop your skills as an adult professional learner.

By the end of this session, you should be able to:

- understand some of the requirements to volunteer or begin to work in a primary school and basic ethical and safeguarding practices in education settings
- recognise the value and purposes of observing and listening to children in primary schools
- develop skills in sensitive information gathering for educational purposes.

The Open University would really appreciate a few minutes of your time to tell us about yourself and your expectations for the course before you begin, in our optional start-of-course survey. Participation will be completely confidential and we will not pass on your details to others.

1 Why observe in the primary school?

Figure 1

Observation involves looking and listening closely. The aim is to understand better. Observations in schools can take place within day-to-day routines, as children do normal activities inside or outside the classroom. This can tell you more about children as learners than observations of them in one-off or contrived situations. Observation and listening can tell you what children know and what they can do – not just what they don't know, and what they can't do.

There are many aspects of children's learning that you could observe in a busy primary school. A single moment may be filled with a dozen incidents of behaviour, learning and interaction. Primary school teachers and teaching support staff make 'in the moment' observations of children, individuals and groups, throughout the school day.

Primary school staff will observe what children say and do, and children's expressions and body language. They observe children's behaviour in the classroom, in the playground and in the dinner hall. They may ask children to talk about a particular topic, their likes and dislikes, their friendships, their learning at school and at home, and their thoughts about the curriculum. In this process, adults try to identify children's understandings and their misunderstandings.

Observations can be of a single child, or a group of children to see how they communicate and work or play together. Child observations often include more than one perspective, for example, the views of parents or grandparents, and sometimes the views of other professionals such as social workers or paediatricians.

In the next section, you'll meet a primary school headteacher. You will find out what he looks for in the adults who work and volunteer in his school, and how adults should observe and listen to children.

2 Meet a primary school headteacher

Mark Millinson is the headteacher at a primary school in Cambridgeshire. He's been a teacher since 1987, and a headteacher since 1996. He says that if you want to support children's learning, first of all, you must be a good listener – and even be a bit of a 'detective'. In the following video, he explains what he looks for.

Video content is not available in this format.
Video 1

You'll hear from Mark again throughout this course.

Next, you'll listen to part of a lecture by a professor of Childhood Studies.

3 Listen to an early childhood educator and observe children

In the previous section, Mark Millinson said that every child is different and unique. In the lecture you are about to hear, Priscilla Alderson, Professor of Childhood Studies at the University of London Institute of Education, makes a strong argument that when we observe and listen to children, we must see them as individual people.

In this audio, Priscilla Alderson talks about how we should treat children as people, not 'puppets'. This is an important idea when you think about observing and listening to children so you can understand their learning and their needs. People are complex and interesting, and sometimes unpredictable. It takes time to know and understand a person well, and it's important not to make assumptions.

Activity 1 The focus of observations

Allow about 15 minutes

Listen to the extract from Alderson's inaugural lecture.

In the lecture, Alderson argues for an end to 'compulsory' schooling. As you listen, think about her reasons for this. Make some notes in the box below.

Audio content is not available in this format.
Audio 1

Provide your answer...

Discussion

When children are at school, Alderson says, they are immersed in an adult-controlled world. She refers to the Italian educationalist Loris Malaguzzi (1920–1994) who said that children have 'one hundred languages, a hundred thoughts, a hundred ways of listening, marvelling, loving, singing and understanding'. Alderson argues that, too often, schools take away children's joy and their innate abilities to wonder and to explore. Alderson points out that, as learners, children and adults are the same because, whether we are young or old, we prefer to learn voluntarily rather than being forced to learn.

Alderson talks about how much children value their teachers, and how children and teachers can 'co-create' learning when teachers treat children as people rather than 'puppets'. Co-creation involves collaboration, with children having more input and decision-making in the learning process. Adults who listen to children can find out what children understand and feel, what they already know and what they want to learn.

It is unlikely that school will become non-compulsory for children, but Alderson is arguing for greater awareness of how children experience school. Observation and listening can help you to become more aware.

Next, you will read two case studies of observing and listening to children.

4 Observation and listening case studies

In the mid-1970s *A Language for Life* (Department for Education and Science, 1975), also known as the Bullock Report, captured the fundamental importance of language in our learning and our lives. This report surveyed 2,000 schools and produced findings related to reading, writing and spelling, and language, but it chose to highlight language in its title, and stated that many children need 'opportunities for talk with a sympathetic adult' (p. 67) and recommended that there should be 'additional adults' and 'teachers' aides' to do this, as well as teachers. Teaching Assistants, Pupil Support Assistants and Additional Needs Assistants in primary schools today often fulfil this talking and listening role with children.

In the two case studies that follow, the adults are examples of the Bullock Report's idea of sympathetic 'others' who provide children with opportunities for talk in an informal way. One of the examples involves children who are learning English as an additional language. The transcripts provide practical examples of how adults in school can learn about children, such as listening nearby while children work, or by working alongside children and talking with them.

4.1 Observing and listening: case study 1

Figure 2

In this activity, you will imagine you are listening to a conversation between three children.

Activity 2 Observing children drawing pictures

Allow about 20 minutes

In the following transcript, Sarah, Mia and Michaela (ages 5 and 6) are drawing pictures of rainforest animals – an activity organised by their teacher. They are working

independently. Their teacher is nearby, listening but not participating. As the girls work, they comment on the transformation of their drawings.

Imagine you are listening in on these conversations. What do you learn about the children from 'eavesdropping' on them?

> Sarah: I draw the tree like THAT [draws].
>
> Michaela: Oh, that's a nice tree. You drawed a tree beside it.
>
> Mia: I can't draw a tree. I have to draw a branch. These are the leaves. We did one smaller to this yesterday.
>
> Sarah: You can't really see it [a bird] because of the branches. It's hairy. In fact it has fur all around it… [continues drawing] Then a little bit of white.
>
> Michaela: That looks a bit silly. I put the legs all wrong. When you colour it in you won't see that bit.
>
> Mia: I've got a kitten cat at home.
>
> Sarah: I could change this [bird] into a lizard… how do you draw leopard feet?
>
> Mia: Like a cat.
>
> Sarah: Oh, claws!
>
> Michaela: [laughing] I was about to do another leg, a fifth leg!
>
> Sarah: I done a jaguar, a lizard like that, and a chameleon.
>
> Mia: If you come to my house this summer I won't be there. I'll be in Serbia. My family is in Serbia and I speak Serbian.
>
> (from Safford and Barrs, 2005, p. 71)

Provide your answer...

Discussion

The girls give running commentaries as they see ideas in their heads become reality on paper, and talking together seems to help them carry out the work. They make frequent evaluative comments on each other's work and on their own work, and Mia also offers information about her family life, her language and her summer plans. The children concentrate on the technical demands of the task, and reveal their awareness of techniques they could use. They are confident about fixing any mistakes, and they are aware of what is 'correct'. They also refer to their previous learning. They are working independently – asking and answering their own questions without going to the teacher. The transcript highlights the amount of self-evaluation, learning and reflection which goes on as children play, talk and work.

4.2 Observing and listening: case study 2

Figure 3

A good way to learn a language and to practise using it is by doing something with others: cooking, walking, building, painting, drawing, sewing, craft work, learning the rules of a game or the words of a song, shopping, role play or storytelling. In your home or your community, you may be responsible for organising such activities for children, where they will have opportunities to talk with you and with each other.

Activity 3 Observing children who use English as an additional language

Allow about 20 minutes

In the following transcript, a teacher and Year 6 children (ages 10–11) are painting farm animals and farm scenery together. The four children (two boys and two girls) are recent arrivals from Portugal and are at the early stages of learning and using English in school. Note down your observations.

Boy 1: Was there paint in the olden days?

Teacher: Yes, but it was always made from natural materials.

Girl 1: My mum has farm in Portugal, she has one pig and the floor is all dirty.

Boy 2: When I went to Portugal, we had a pig, I was holding the legs, the rope broke. I had to throw the knife at him!

Teacher: What! You held a pig? Why were you doing that?

Boy 2: To kill him.

Teacher: Oh I don't know if I could do that!

Girl 2: My Nan has a donkey on her farm, behind her house she grows grapes. Everyone knows my Nan and me! One morning I got up early and picked grapes and corn.

Teacher: I love grapes.

Boy 1: My Nan has a horse. Do you know why?

Teacher: No, why?

Boy 1: To put with the cart [mimes a horse and cart, shaking the reins].

Teacher: And do you think you prefer the city [here] or the country like Portugal?

Boy 1: I like the country.

(from Safford and Barrs, 2005, pp. 72–3)

Provide your answer...

Discussion

In this conversation, the adult is not directing the children and talking 'at' them but is working alongside and talking with them. The activity itself (painting farm animals) sustains a discussion where children talk at length about something that is of direct interest to them; they are not answering 'closed' ('yes' or 'no') questions, and so they have opportunities to produce and use spoken English in a meaningful, relevant way. The collaborative activity creates a space where the children and the adult can ask each other questions and learn about one another. Notice that Boy 1 asks about whether there was paint in the 'olden' days. He learned that English word in classroom storytelling sessions.

The teacher in this transcript later said:

> Talk is so directed in the classroom. It's only when you talk with them [children] that you find out where they are. Otherwise you never know where they are. It's by listening to them that you find out how they learn, what they need to know.

When you observe and listen, you can learn specific information based directly on what children say or do. For example, from the transcript you know that the mother of Girl 1 has a farm in Portugal.

You can also infer, or make educated guesses, based on your observations. For example, reading the transcript, you could infer that all four children have experiences of rural life.

Next, you'll learn about two important aspects of adult work in primary schools: safeguarding and ethical conduct.

5 Child protection and safeguarding

People who work and volunteer in schools have a legal duty of care to protect children. Every school will have a clear policy on child protection and safeguarding, and will make this available to visitors. Think of 'safeguarding' as the overall concept or plan to keep children safe and cared-for, and think of 'child protection' as the specific steps or actions within the overall plan. Schools will also have explicit processes for reporting any concerns about children, and a named person, usually a senior member of staff, who is responsible for safeguarding.

You met headteacher Mark Millinson in Activity 1. He says that any person who wants to work or volunteer in a school will need to have a formal check on their identity and their background. This is appropriate, because primary school staff have close contact with children.

Watch the following video in which Mark talks about the importance of safeguarding.

Video content is not available in this format.
Video 2

How is safeguarding defined, and what does it cover in a primary school? Find out in the next section.

5.1 Definitions of safeguarding

In England, The Children Act (2004), the schools inspectorate Ofsted (2015a, 2015b) and education departments (for example, DfE 2014) provide extensive and detailed guidance on safeguarding which can be summarised as:

- protecting children from physical or emotional maltreatment

- preventing impairment of children's physical, emotional and mental health and development
- ensuring that children are growing up in circumstances consistent with the provision of safe and effective care
- taking action to enable all children to have the best outcomes.

Every country has legislation and a protocol for child protection. Look for the relevant agencies in your country, for instance: Safeguarding Board for Northern Ireland (SBNI), Estyn the schools inspectorate in Wales, and Safeguarding Scotland.

5.2 Safeguarding and school life

Figure 4

Safeguarding is not just about protecting children from deliberate harm. It relates to all aspects of school life including:

- children's health and safety
- the use of reasonable force (for example, what is appropriate and safe to contain a child who is exhibiting violent behaviour)
- meeting the needs of pupils with medical conditions
- providing first aid
- educational visits (out of school, for example when children go to a museum; and in school, for example, when professional musicians give workshops or perform)
- intimate care (such as changing a child's clothes after an accident, or helping children dress for PE)
- Internet safety/e-safety
- appropriate arrangements to ensure school security, taking into account the local context.

Activity 4 Safeguarding issues

Allow about 10 minutes

What kinds of issues in schools do you think safeguarding covers? Think for a moment and jot down your ideas.

Provide your answer...

Discussion

Safeguarding can involve a range of potential issues such as:

- bullying, including cyberbullying (by text message or on social networking sites) and prejudice-based bullying
- racist, homophobic or transphobic abuse
- disabilities
- radicalisation and extremist behaviour
- child sexual exploitation
- sexting
- substance misuse
- issues that may be specific to a local area or population, for example gang activity and youth violence
- particular issues affecting children including domestic violence, sexual exploitation, female genital mutilation and forced marriage.

If you volunteer or work in a primary school, you must be aware of safeguarding procedures and know who to report to if you have a concern. Furthermore, the school has a legal requirement to vet you, to make sure you are safe to be in the school with children. The next section reviews these vetting procedures.

5.3 Vetting volunteers and staff in primary schools

Figure 5

Disclosure and Barring Service (DBS) checks help to prevent unsuitable people from working or volunteering with children and vulnerable adults. You may have heard this process formerly referred to as Criminal Records Bureau (CRB) checks. In Scotland, this checking process is managed by Safeguarding Scotland.

DBS checks in England, Wales and Northern Ireland, and Safeguarding Scotland checks, help schools screen potential employees and volunteers, to make sure that such people will not put any child at risk. The checks search an applicant's criminal record history. This helps headteachers to make informed recruitment decisions. Headteachers, school governors and local government authorities are responsible for safe recruitment in the school.

There are three levels of DBS check: basic, standard and enhanced. A basic disclosure is available for anyone living within the UK, and can be requested by individuals and employers. An enhanced check can find out whether an applicant is legally barred from working with children.

Any person who wants to work or volunteer in a school is eligible for an enhanced DBS check. This is appropriate, because primary school staff (paid and volunteer) will be in regular contact with children.

In addition to adhering to safeguarding and child protection protocols, adults who work and volunteer in primary schools follow ethical guidelines.

Adults in schools do informal observations of children and have informal conversations with children every day. They do this as part of their 'detective' work, as headteacher Mark Millinson put it earlier, to find out how children think or feel, what children know, and how children learn. These observations and conversations can be spontaneous or planned. This is not, strictly speaking, considered 'research'. But adults in these situations do follow certain principles for conduct and behaviour when they observe and listen to children.

In the next section, you will learn about these ethical guidelines for research with children.

6 Ethical practices in education settings

Figure 6

There are ethical requirements for adult behaviour and research in education settings. The British Educational Research Association (BERA 2018) has published specific guidelines for this, and if you work or volunteer in a school it is very useful to be aware of BERA guidance. Some of the key elements can be summarised as follows.

Voluntary and informed consent: You must take the steps necessary to ensure that children and adults understand the research process in which they are participating, including why their participation is necessary, how it will be used, and how and to whom it will be reported.

Openness and disclosure: Securing voluntary and informed consent must happen before research gets underway.

The right to withdraw: Researchers must recognise the right of any child or adult to withdraw from the research for any or no reason, and at any time, and researchers must inform participants of this right.

The interests of the child: Researchers in education settings must comply with the United Nations Convention on the Rights of the Child (United Nations, 1989). This requires that in all actions concerning children, the best interests of the child must be the primary consideration. Children who are capable of forming their own views should be able to express their views freely in all matters affecting them, and should be facilitated to give fully informed consent to do so. Researchers must also recognise that children may experience distress or discomfort in the research process, and must take all necessary steps to put children at their ease. Researchers must desist immediately from any actions, ensuing from the research process, that cause emotional or other harm.

Privacy: Researchers must recognise children's and adults' rights to privacy, confidentiality and anonymity, unless they or, in the case of children, their guardians or responsible others, specifically and willingly waive that right. Researchers must also ensure that data is kept securely and that the form of any publication, including publication on the Internet, does not directly or indirectly lead to a breach of agreed confidentiality and anonymity.

Now you will return to ways of observing and listening to children in primary schools, looking at techniques for interviews and conversations. As you continue through this course, pay attention to how teachers and other adults follow BERA ethical guidelines when they work with children.

7 Interviews and conversations

You will recall that the teacher in Activity 2 was having a conversation with the children about farm animals. They were chatting as they worked on painting scenery for a school event. A teacher or a teaching assistant can learn a lot about the children in this process.

Figure 7

Talking with children informally is far from a formal 'interview', but interviews can take the form of open-ended conversations. Throughout this course, you will hear interviews with adults and with children.

There are many types of interview in the education sector, ranging from very formal to very informal. Here are some types of interview that are carried out in education settings:

- structured interview, with preset questions that do not change
- survey interview with a group, which asks 'yes/no' questions such as 'Do you agree or disagree that the new school dinners are much worse than the old ones?'
- counselling interview, which offers support and guidance to the person being interviewed
- diary interview, a series of interviews to find out about changes or perceptions over time
- life history interview, an in-depth interview about a person's experiences
- semi-structured or unstructured interview, where questions are flexible and can change depending on how the interviewee responds, making it more like a conversation, where unexpected themes can emerge and be discussed.

The aim of any of the above is to achieve an understanding of another person's point of view.

7.1 Interview schedules

Figure 8

Interviews with children should be informal, semi-structured and conversational. They are more like chats with a specific purpose. If you have an opportunity to interview children, parents or school staff, you will have a clear idea of what you want to ask and you will want to use the time effectively, but you will also want them to feel relaxed and confident about sharing their thoughts with you.

If you have an opportunity to do an interview in a school, you would devise a list of questions you wish to ask. This is called an interview schedule. It is good practice to share the questions with those you are interviewing, so that they have a chance to think about how they might answer. At the start of the interview, you should talk with the other person about what you are trying to find out. Try to keep your list of questions brief, so you and the person you are talking with have time to discuss other, unexpected questions that might arise over the course of the interview. Ethically, you are obligated to allow the interviewee to stop at any time and not continue the interview. If this happens, the interviewee may also have the right to delete or destroy anything that was recorded or written down.

7.2 Case study: a teacher interviews parents and children

Denise is a Year 2 teacher (ages 6–7). She wants to find out more about two children and their reading, because in her observations of them in the classroom they seem to dislike reading and avoid having to do it.

Denise plans to do very informal interviews with the two children, and with their parents. As you read the case study, notice how Denise follows BERA guideline for openness, disclosure and privacy.

Activity 5 How a teacher follows BERA guidelines

Allow about 25 minutes

Jot down where you think Denise refers to these guidelines – not by naming them, but in her descriptions of what she does. Denise wants to carry out these interviews to improve her professional understanding, and specifically to help two children get more pleasure from reading.

> I want to find out what J (a boy) and S (a girl) like to read, so I can suggest books which they will enjoy. I want to do this because these two children often tell me they 'hate' reading and I see them trying to avoid reading when I observe them in 'free reading' time in class and in literacy lessons.
>
> J and S are chatty and confident about talking to me. Also, I want to invite their parents to give me some insights into what the children read at home. I hope this process can widen my own knowledge about children's books and help me to recommend different kinds of reading for J and S, and for other children who are 'reluctant readers'.
>
> I made two sets of questions, one for the parents and one for the children. I tried to make the questions informal and conversational, for example, for the parents:
>
> - Tell me about what S/J likes to read at home.
> - Does he/she have a favourite book or story at the moment?
> - I've noticed that in school she/he doesn't care to read much, but I wonder if at home she/he likes different kinds of reading (computer, comics, lyrics, catalogues, magazines, games).
> - What words would you use to describe J/S as a reader?
> - Why would you describe him/her that way?
>
> And for the children:
>
> - Tell me about what you're reading at home just now.
> - I noticed you brought your football magazine into school the other day. Can you tell me about that? I don't know much about footie magazines. What do you like about them?
> - I saw you doing the word search puzzle at playtime. I find them so tricky! What do you like about doing them?
> - What do you like to do on the computer at home?
> - Which face shows how you feel about reading? (Smiley face, indifferent face, unhappy face?)
> - Tell me why you chose this face.
>
> I explained to each of them why I wanted to talk with them, and I also let them know that they didn't have to do this if they didn't want to. I said that I wouldn't need to audio record anything, and that the information was just to help me as a teacher, and I wouldn't share it with anyone else.

Provide your answer...

Discussion

Denise has made an informal, semi-structured interview schedule which is appropriate for parents and children. She explains the purpose of the interviews to parents and children so she can have their informed consent for the process. She also tells children how she will record the interviews, and lets them know that they do not have to participate if they don't want to. Although Denise does not refer to privacy, she is clear that the interviews are for her professional understanding and not for wider publication.

Denise tries to ask about experiences and behaviours before she asks questions about opinions or feelings. She makes sure she is asking 'open' questions that do not have a single 'yes' or 'no' answer. This helps children or adults to express themselves, and children and parents can respond in their own words. She includes a way for children to answer a question visually, using illustrations. Denise also starts from her own observations, using phrases such as 'I noticed…' and 'I saw…'. This allows the interview to feel more informal and conversational, and balanced between the participants.

The phrase 'tell me' is always a useful beginning for a question that will help children and adults to speak freely. Her lists of questions are not long, giving time for children and parents to respond thoughtfully and without pressure. Over the course of a semi-structured, informal, conversational interview, Denise might find out other things that could help her teach the children more effectively.

8 This session's quiz

Now that you've completed Session 1, you can take a short quiz to help you reflect on what you've learned.

Session 1 practice quiz

Open the quiz in a new tab or window and come back here when you've finished.

9 Summary of Session 1

In this first session, you learned about some of the requirements to volunteer or begin to work in a primary school. You began to learn about the processes of observing and listening to gain insights into children's experiences, and the appropriate and ethical ways adults can observe and listen to children. There are ethical requirements for behaviour and research in education settings, and you learned about British Educational Research Association (BERA) guidelines for observing and interviewing children and adults.

You should now be able to:

- understand some of the requirements to volunteer or begin to work in a primary school and basic ethical and safeguarding practices in education settings
- recognise the value and purposes of observing and listening to children in primary schools
- develop skills in sensitive information gathering for educational purposes.

In Session 2, you will take these ideas into the primary school playground.

Session 2: Observing in the playground

Introduction

Most children and young people will spend around 1,500 hours of their life in their school playground. For many children, this will be more time than they spend in any other outdoor play setting. This unstructured outdoor time is more than double the time that children spend in PE lessons.

Figure 1

The focus of this session is observing children in the school playground and finding out what children and adults think about school playtimes.

By the end of this session, you should be able to:

- recognise some basic design principles for school playgrounds
- understand children's views of the school playground
- develop skills to evaluate play spaces.

1 The importance of the playground

Figure 2

Not every child has access to a private garden, a park or an area of woodland. But almost every child has access to school grounds. There's something significant about the daily experience of an outdoor space, experiencing it in all weathers and throughout the seasons.

If you ask children which part of the school day they enjoy the most, many will say 'playtime'. Nowadays, adults are much more aware of the importance of playtime for children's physical and social development and their well-being. Adults who are playtime supervisors in primary schools will confirm that the playground can be educational and directly supportive of classroom learning.

There are two places in primary schools where children can talk whenever they like and about whatever they like – one is the dinner hall (although adults often control the volume of talk) and the second is the playground.

Clearly, playgrounds and classrooms are very different kinds of designed spaces. To a large extent, children decide what happens in a playground; whereas, in the main, adults decide what happens in a classroom. Playgrounds provide children with opportunities for activity and spontaneous bodily movement that would be problematic in a classroom. If you want to have a sense of how children truly are when they are free, you should observe them at playtime.

In Session 1, you looked at two transcripts of children's talk, and you explored what this talk revealed about them. It is important to remember that non-verbal communication and 'body language' can be observed too. Body language includes facial expressions, particularly the use of eyes, hand and arm gestures, body posture, movements, as well as the clothes we wear and even the colours we choose. Even children at the earliest stages of language learning use their hands when they speak, especially if their parents do. Gestures often mirror speech.

Next, you'll hear from headteacher Mark Millinson again, about his perspectives on the playground and what happens there.

Activity 1 A head teacher talks about the playground

Allow about 15 minutes

Adults who work and volunteer in primary schools often find themselves in the playground during breaktimes or lunchtimes. It's a great opportunity to observe children moving freely, talking, singing, playing games, or simply sitting and watching. Adults often use this time to observe children's friendship groups and how children get along with each other. Headteacher Mark Millinson says the playground is part of the school day.

Video content is not available in this format.

Video 1

Mark says it's fun to be in the playground, because sometimes children ask him and other teacher to play with them. Later, you'll hear two children confirm this.

But what about problems and conflicts that arise in the playground? Mark explains his school's way of dealing with these, and why adults in the school need to help children resolve disagreements at playtime.

Video content is not available in this format.

Video 2

Provide your answer...

In the next activity, you'll observe a primary school playground and children's use of the spaces in it.

Activity 2 Observing a playground

Allow about 20 minutes

Watch this video of a primary school playground. This playground has two parts: a tarmac area, and a field area.

As you watch, scan the two playground spaces. Notice their physical and environmental characteristics. Look at how children are moving and gesturing, on their own and in relation to each other.

From what you can see in the sequences, sketch a rough plan of these areas. Include any distinctive playground markings, surface areas, objects or boundaries.

As you watch, also listen for the sounds of these playground spaces. What do you hear? Jot these down as well. Notice what the adults are doing in the playground too.

You can watch the sequence a few times and pause the video in order to record the details.

Video content is not available in this format.
Video 3

Provide your answer...

Discussion

The seemingly disorganised sounds that arise from playgrounds are not unlike the cacophony of sound that can be heard on a crowded beach. The detail of what is being said, and the reasons for individual interactions, will change over the years but the 'chorus' of combined and disparate sounds is timeless.

The children in the video that you watched seem to use all of the available space in the two play areas, tarmac and field. They have freedom and space to run and climb, and play team games. There are also quiet spaces, and a semi-wild woodland area. In the video sequence, you can hear a child ask 'Can I play?' and later you can hear children singing. The adults are circulating and watching, not participating in children's activities but ready to step in if necessary.

One benefit of playtime is that children of different ages can mix, and you may have noticed children playing a game at a table with older boys from a local secondary school who are acting as playground helpers.

Later in this session you will use some criteria to evaluate the playground spaces.

Next, you will listen to two children talk about the school playground that you have just seen.

2 What do children think about the school playgrounds and playtime?

Now you'll hear from two playground experts.

Daniel is 6 years old, and Isla is 7 years old. In this audio recording, they talk about their school playground, with Kimberly Safford from The Open University. The playground they talk about is the same one you watched in Activity 2.

In the interview, Daniel and Isla talk about what they like and don't like about the playground and playtimes in school. You'll hear them talk about the differences between the tarmac playground and the field area that you watched earlier. They talk about the playground tarmac artwork that you saw in the video, and they mention a 'Trim Trail' in the field area. They also describe things they wish they could have in their playground, like a 'quiet' area and a 'friend bench'. They talk about games they like to play such as 'It', 'Conga Line', and 'Everybody Sunbathe', and team games like handball and football. They talk about what makes them happy and what makes them sad in the playground. They also talk about what they would like to have in their 'dream' playground.

Activity 3 Children talking about the playground

Allow about 20 miunutes

As you listen to the interview, notice how Daniel and Isla seem very shy at first, but they but warm-up to the discussion after a little while. Note down your observations.

Audio content is not available in this format.
Audio 1

Provide your answer...

2.1 Reading: football pitches and Barbie dolls

Next, you will read an extract from a research study of a different playground that goes a bit deeper into some of the issues that Daniel and Isla mentioned, such as what girls and boys play, sadness and loneliness at playtime, and what children perceive as the risks of the playground space.

Activity 4 Social play, physical activity play, risk and gender

Allow about 30 minutes

Now read a short extract from the article 'Football pitches and Barbie dolls: young children's perceptions of their school playground' by Gemma Pearce and Richard P. Bailey:

Football pitches and Barbie dolls

These two researchers went into an inner city primary school to ask children what they thought about their school playground and playtimes. They asked children to talk about what they do during playtimes, and to talk about their positive and negative experiences of the playground. The researchers also asked children to draw pictures of what they do in their playground.

This reading has four themes which the research identified in children's comments and drawings: social play, physical activity play, risk, and gender.

As you read the research extract, notice how the researchers interview the children in a very informal and conversational way, and how the children's ideas and experiences are presented very clearly. Following BERA guidelines, the children are anonymous, identified only by the first letter of their names, or simply as 'Year 3 boy' or 'Year 2 girl'. The school and the city are not identified.

As you read, make some notes about the themes. Does any of these chime with your own experiences of the school playground, as a child or for children that you know? Does it reflect what you heard Isla and Daniel talk about in their interview?

Provide your answer...

In the following sections, there will be extracts from this article under themed headings.

2.1.1 Social play

Figure 3

Conversations with the children about their playgrounds were littered with references to friends. Some comments simply related enjoyment of certain types of activities with friends' enjoyment – 'Because I kind of like football … And my friends do' (Y3 boy) – while others portrayed complex dances of interactions in which the game and roles taken within it became inextricably bound together:

> It's a special game of It and someone was It, like Christian was first and we had to hide. If someone, if Christian gets out of the bench we have to run to the bench. After that, well Oliver was it and he saw Antonio there and he just came and punched him in the tummy.
>
> (Y2 boy)

Not surprisingly, perhaps, the social context of playground activities meant that some children felt isolated and alone. Loneliness was the most frequently cited negative association with the playground, and there were no evident differences according to gender or age:

> I drawed [sic] me how I was crying … Because I want to play with someone and they said go away.
>
> (Y1 boy)

and

> I'm drawing myself on the bench because I'm Lonely.
>
> (Y2 girl)

The failure of peers to follow rules, roles and conventions of play were often cited as reasons for games coming to an end or, at least, for becoming less enjoyable than they might otherwise have been. One boy spoke about the need for a referee or 'judge' as an arbitrator in the relatively complex games of the older children:

> It's kind of bad because one time there was a … because everyone was in a row. It happens every single day. See we don't have a judge who is going to actually do things for us and he's not going to help us.
>
> (Y3 boy)

Teaching assistants (TAs) were often called in to take on peace-keeping roles, but even then success was not guaranteed:

> Also sometimes the TAs, sometimes the other children think that the TAs will forget its blah-blahs turn we can just get another turn by standing outside the gate and saying it's our turn. So they go to the gate and say it's their turn and then they get two or three goes in the week, which means that some classes don't get their turn.
>
> (Y4 girl)

2.1.2 Physical activity play

Figure 4

The children were asked to draw themselves in the school playground. Not surprisingly, perhaps, almost all of them drew themselves engaging in some sort of activity. These accounts are fairly representative:

> I've drawn some hopscotch and I'm going to draw some people queuing up behind the tent because they're going to do it backwards because I can't just start here and draw all the people here so everyone's going to be there and in the sandbox people are digging and putting the sand into the buckets, but I didn't get to draw that … So here is going to be me hula-hooping and then I'm going to have the sun here and I'm going to have two butterflies flying and then I'm going to have Thelma skipping and then when I go into the garden I'm going to draw collected plants and things that have fallen on the floor.
>
> (Y2 girl)

> This one was holding a rope and it went around when it came to you, you jumped over it but these are all the people. This is Gary who's running away. He's going to jump over the rope when it came.
>
> (Y1 girl)

The children's accounts of physical activity play generally took one of two forms: creative and locomotor play. The first type of play involved imagination and the creation of characters: 'Maybe spies or something, and policemen' (Y1 boy). In one discussion, two boys were asked who they liked to be when they were pretending:

> M: Policemen. T: Soldier, one two three four, one two three four. M: Firemen.

Locomotor play was much more frequently cited, however, especially by the boys. Younger children talked about hula hoops, hopscotch and climbing frames. And children

of all ages spoke about the joys of running and chasing, such as this Year 4 girl: ‘And also I like the playground when some people are chasing after Pete the TA and then there’s most of the playground free to just walk around’. However, by far the most frequently discussed form of playground activity amongst this group of children was football:

> Ok, I’m playing football. I scored a goal. When I finished football Oliver locked Christian in the door. I came back to play another game of football and then I scored another goal and then after that game of football we went to line up.
>
> (Y2 boy)

Only a few children used ‘fun’ to explain their reasons for playing: ‘I like skipping because it’s fun’ (Y1 girl), and only one other child spoke of values intrinsic to an activity when asked why they played such games: ‘What I like about football is – I don’t know – scoring goals’ (Y2 boy). Everyone else spoke in rather instrumental ways about the benefits of activity. Health was the dominant discourse underlying the children’s rationales for playing physically active games. For example, these comments were representative of numerous other statements:

> Well it’s because then we can take equipment outside and play sports so we can be healthy.
>
> (Y3 boy)

> So not just running around, we can run, climb on things – cause climbing is a very exercises thing. Like if you climb high, if you go fast that will be very good because it’s exercise thing.
>
> (Y3 girl)

2.1.3 Risk

Figure 5

It seemed to be the case that most children's references to the dangers of their playground were to either the nature of the space (e.g. it was concrete) and objects on it (e.g. like a climbing frame) or to fears of injury. There were numerous stories of injuries resulting from falling on the floor, such as:

> And I don't like it when they hurt me. When someone hurts me … if I trip over somewhere or someone hurts me.
>
> (Y1 boy)

> That's just the concrete where we're playing it on…. It's rough … Sometimes we get over and … ow! …That means we get hurt.
>
> (Y3 boy)

The climbing frame, which appeared in many of the children's pictures of the playground, was seen by some as the source of greatest danger:

> And they get injured, they hurt your elbow. I fell off a climbing frame and broke my arm.
>
> (Y4 boy)

> I don't really like the climbing frame because it's really crowded and they play lots of really weird and unsafe games and I never go on it and some things like when everyone's on – I've seen some people do this a few times – there's a bar, it's like here to the roof, which is pretty high and people just jump off it and they could get really hurt.
>
> (Y4 girl)

2.1.4 Gender

Both boys and girls spoke about quiet and still games, such as board games. However, there were a far greater number of girls who spoke about non-physically active games than boys. Only one boy drew a picture of a non-active game: 'I did draw a picture of me and my friends doing a puzzle' (Y1 boy), whereas many girls drew and talked about similar activities. Some of the girls spoke enthusiastically about the introduction of a new 'quiet area', away from the main play area: 'I like it at some parts it's quiet and you can sit down on the decking and read a book' (Y4 girl).

There was an overwhelming sense in the conversations with the children at this school that gender segregation and stereotyping was simply taken for granted. On the whole, there was a shared perception that boys and girls had different interests and played different types of games:

> Well the boys play basketball…and they play soccer, cricket… [Girls] just play hula hoping and skipping…. Mums and Dads, like that.
>
> (Y1 girl)

A similarly clear division of activities was also upheld by a Year 2 boy:

> The girls don't like to join boys' games they just like to do their own games like Catch.

A consequence of such a clean split between girls' and boys' activities was that when the genders did come into contact with each other on the playground, their presence was usually seen as an annoyance. Girls, in particular, complained about interference of boys:

> When the boys are annoying you, you can rub your hands on the caterpillar [a plastic tube in the playground] and you can go shock them.
>
> (Y4 girl)

There was only one instance of boys speaking about the importance of meeting the needs of girls. In this case, however, their understanding of girls' interests seems rather less sophisticated!

> I: And why can't girls and boys play together then?
>
> A: Because boys are better.
>
> I: Because boys are better at football?
>
> A: And we're stronger and every time a girl does a mistake we get a bit angry at them because they just muck up a chance and do their own goals.
>
> E: Because girls don't really get the idea of football.
>
> A: But we don't really get the idea of Barbies.
>
> E: Yes. It's just like football and Barbies.
>
> (Y4 boys)

2.1.5 What do children's comments and drawings tell us?

In this research extract, it seems that boys and girls have very different playtime experiences. What is your own experience of this, for your own children or for children that you know?

The research shows that playground friendships are important to children, who express strong feelings about being included or excluded. The research also shows that some children might be cautious or even fearful about playtimes.

The reading refers to 'locomotor play', that is, movement in any direction for its own sake. Locomotor play appears to be a key feature of playtime, when children can run about without adult intervention. Tag, chasing games, 'It' and hide and seek, are all ways for children to express control over their physical environment.

3 Playtime supervisors

Figure 6

In the interview with Daniel and Isla, and in the reading ‘Football pitches and Barbie dolls’, you heard children express their likes and dislikes about their school playground and playtimes.

If you were an adult playtime supervisor in the playground, how would you use this information to make playtime a better experience for more children?

Activity 5 The views of two playtime supervisors

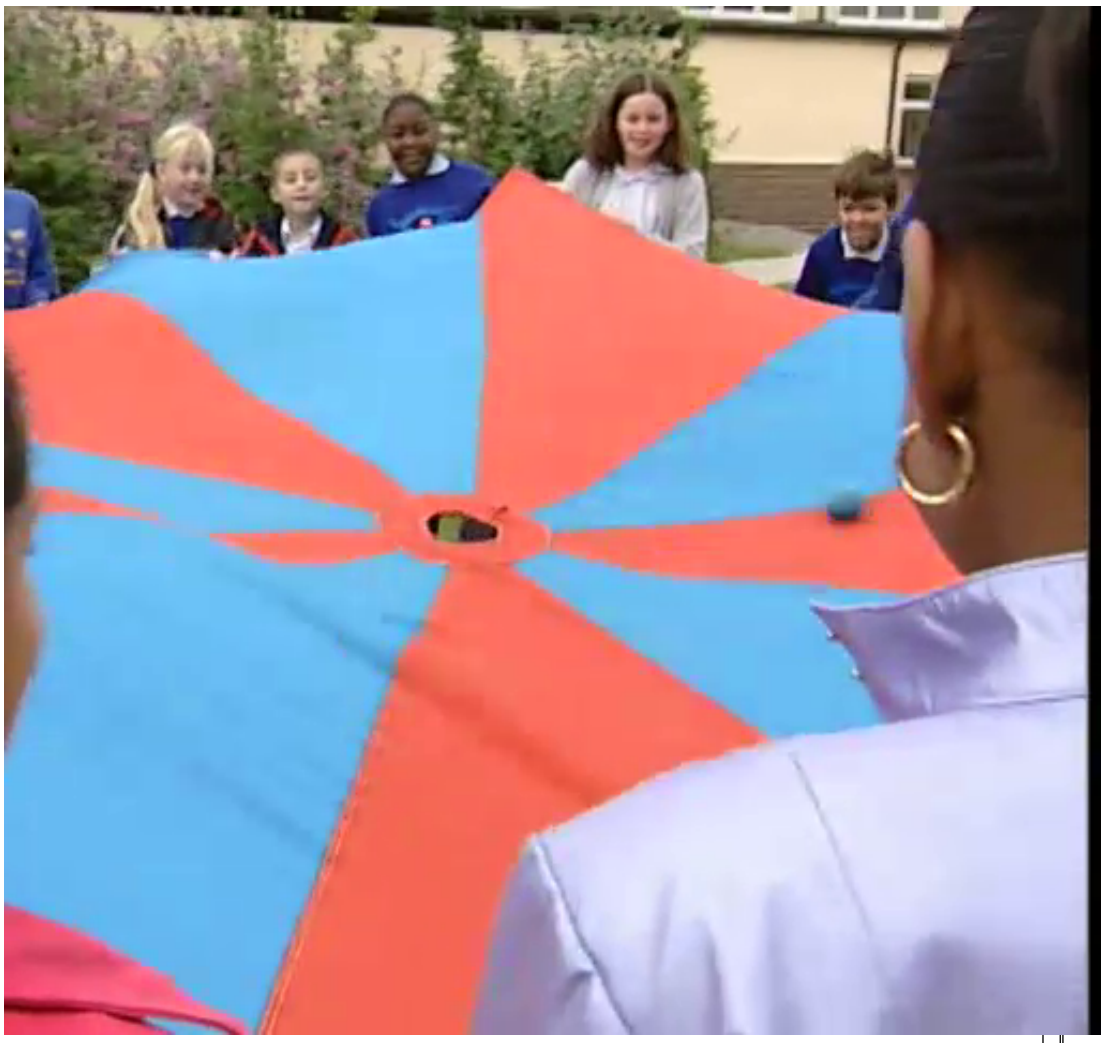
Allow about 15 minutes

Now you’ll hear two playtime supervisors give their views.

In the video, Jackie Pratt and Carole Lowry talk about what they do as playtime supervisors and the learning environment in the playground that they try to provide. As you watch and listen, notice their shared approach to their jobs, how they organise play activities for the children, and how they relate to the children and to each other. How do they use observation and listening in their jobs?

Please note that the video contains some still images alongside the audio and some children’s faces have been blurred to protect their identities.

Video content is not available in this format.
Video 4



Provide your answer...

Discussion

The two playtime supervisors talk about how they observe children's moods and feelings as they come out of the classrooms for playtime. They adjust their playtime plans and activities based on their observations. They encourage children to participate, share and respect one another. They emphasise that children must trust the adults in the playground and see the adults as impartial and fair.

Next, you'll look at playground design.

4 Playground design principles

The organisation Learning Through Landscapes (LTL) suggests that school staff should ask themselves: 'Is the school playground a place to enjoy, or a place to endure?'

LTL developed a set of design principles for school playgrounds which you'll look at now.

Figure 7

According to Learning Through Landscapes (2013), the most important playground design concept is 'possibility', so that children can choose and self-direct their play in a wide variety of ways. Another important concept for playground design is the use of 'non-prescriptive' features, so that children can use their imaginations in ways that are not directed by adults.

Natural materials and landforms provide both 'possibility' and 'non-prescriptive' elements. LTL says it can be helpful to think about fixed elements, often related to landform, and loose materials that can be moved and manipulated.

Examples of fixed elements are: mounds, tunnels, slopes, trees, shrubs and woodland, climbing frames, mazes, dens and shelters. These can break up large open spaces into more interesting child-friendly spaces that can be used for imaginative play.

Examples of loose materials are pebbles, seeds, grass, twigs, leaves, pruned branches and flowers, shells, cones, hazel rods or wooden discs. In addition to natural materials, playgrounds can have 'man-made' resources such as tarpaulins, pipes, rope, plastic crates, hoops, small toy figures and vehicles, chalk, planks and joinery offcuts. These materials can stimulate a wide range of play activities including den building, construction and the creation of fantasy or 'small world' play scenarios. They can stimulate children's creativity and encourage team work and collaboration.

According to Learning Through Landscapes:

> Variety is a key principle in designing a school playground. Any outdoor space will have learning opportunities, but a more varied space will present a wider range of options.

> Aesthetics are important; we learn well when we're in an attractive environment that's well cared for.
>
> Comfort is a consideration; to be able to sit outdoors, to have a surface to lean on and to find shelter from the wind or shade from the sun.
>
> It's useful for a playground to have a gathering space where teaching staff can give instructions.
>
> The design of the school building is important. How easy is it for pupils to access the outdoors from their classroom? How easy is it to change into or store outdoor clothing? How feasible is free flow access between indoor and outdoor areas?
>
> (Learning Through Landscapes, 2013, p. 11)

LTL says that adults in the playground should be:

> …observing closely to gain an understanding of what is happening – not just what children are physically doing but what is going on in their minds and relationships as they do it – and what the impact of this is on children.
>
> (Learning Through Landscapes, 2013, p. 6)

Activity 6 Evaluating a playground space

Allow about 15 minutes

Think back to the video of the tarmac and field playground spaces you observed in Activity 2. List what you see that you think demonstrates any of the following:

- possibilities for play
- non-prescriptive features
- variety
- aesthetics
- comfort
- fixed elements
- loose materials
- boys' play
- girls' play
- adult supervision or intervention.

Provide your answer...

Discussion

The two playgrounds – field and tarmac – are very different in what they offer for children's play, and aesthetically they are very different in look and feel.

The field area seems to present more possibilities and non-prescriptive features, such as the wild area and the open grass areas. The tarmac playground has markings which are fixed and suggest what children could do, for example, 'hop on one foot'. These markings seem to offer scope for involvement, and might help children who are

unsure what to play on their own or with friends. Children could also take these actions elsewhere, for instance to the field area, and improvise on them. The tarmac markings also encourage children to read and use language in their play.

Both spaces have fixed elements: the tarmac area has ground markings and a climbing wall, and the field has climbing apparatus and benches for children to sit comfortably. Neither area, on the day of filming, had ‘loose materials’ as described by Learning Through Landscapes, although some children have skipping ropes, and there is a table top game and football with pitches.

Both areas encourage locomotor play for girls and for boys. They run freely, walk, skip, and many of them talk as they play. The climbing frame and wobbly bridge seem to encourage gathering and chat. Adults are very present, but standing back and observing.

5 This session's quiz

Now that you've completed Session 2, you can take a short quiz to help you to reflect on what you've learned.

Session 2 practice quiz

Open the quiz in a new tab or window and come back here when you've finished.

6 Summary of Session 2

In this session you observed a school playground and used some design criteria to evaluate what you observed. You heard from children and from playtime supervisors about what makes for good playtimes. You also looked at some basic design principles for school playgrounds.

You should now be able to:

- recognise some basic design principles for school playgrounds
- understand children's views of the school playground
- develop skills to evaluate play spaces.

In the next session, you will observe children in their classrooms.

Session 3: Observing learning

Introduction

In this session, you'll continue to develop knowledge and skills to observe and listen to children in the primary school. You will make your own observations of children's behaviour, using videos recorded in primary schools.

Figure 1

By the end of this session, you should be able to:

- know about some observational tools appropriate to education settings
- understand and identify dispositions for learning
- develop skills to make observations in education settings.

1 Observing play, observing learning

Primary schools are busy places, where children play and learn. For young children, play IS learning. When children sing, for instance, this familiar counting and rhyming song, and make gestures as they count and sing, they are learning in a playful way:

> One, two, three, four, five, once I caught a fish alive.
>
> Six, seven, eight, nine, ten, then I let it go again.
>
> Why did you let it go? Because it bit my finger so!
>
> Which finger did it bite? This little finger on my right.

Activity 1 Children learning from song

Allow about 15 minutes

List what you think children learn from this song, and see if your ideas match the 13 ideas of a teacher.

1. Number names

Provide your answer...

2. Number sequence

Provide your answer...

3. Counting from one to ten

Provide your answer...

4. Rhyming words: five, alive, ten, again, go, so, bite, right, it, bit

Provide your answer...

5. Position words: on my right

Provide your answer...

6. Question words: why, which

Provide your answer...

7. Action words (verbs): catching and throwing

Provide your answer...

8. Describing words (adjectives): little

Provide your answer...

9. Time words (adverbs of time): once, again

Provide your answer...

10. Giving reasons and causes (conjunctions): because

Provide your answer...

11. Fish live in water and are alive when you catch them

Provide your answer...

12. Learning to join in and participate with others

Provide your answer...

13. Learning in an enjoyable, playful way

Provide your answer...

Discussion

You can easily observe and listen to children when they are doing something they enjoy and are interested in. Even when something is difficult for children to do, they will keep at it if they are enjoying the challenge.

Next, you'll listen to a primary school teacher talk about why she takes time to stand back and observe children as they play and learn.

1.1 A teacher on observing children

Sarah Johnson has been a primary school teacher for 15 years. She currently teaches the youngest children in the primary school, ages 4 and 5. She explains how she uses

observation and listening to evaluate what children know and plan the next steps for their learning. She says that by observing children, you can think about how to move their learning forward.

Video content is not available in this format.
Video 1

Sarah says that observing a child can tell you many things – about a child's interests and abilities, whether there are gaps in their learning, and above all it informs her planning and assessment.

2 Dispositions for learning

In the video in the previous section, Sarah Johnson talked about how she looks for ‘characteristics of effective learning’ when she observes and listens to children. These characteristics are also sometimes called ‘dispositions for learning’.

Dispositions are habits of the mind. They are not the same as skills or knowledge. Think of dispositions as similar to personality and the way someone learns. For example, some children can be positive about certain activities like playing in a group and learning with friends. Some children can be negative, giving up quickly when they can’t work out a problem. Some children start tasks with enthusiasm, while others may worry and become anxious.

Dispositions of effective learners include independence, confidence, curiosity and persistence. Other dispositions for learning are self-control, optimism, self-motivation, resilience, problem-solving and, in some cases, courage and risk-taking. All these habits of the mind are important for lifelong learning.

Dispositions affect how children feel about learning in school, and can affect their educational outcomes. Children who see themselves as able to try out new things, keep going when things get difficult, know when to ask for help, and learn from making mistakes, will be successful in school and in life. Teachers, teaching assistants and of course parents all play a part in helping children to develop positive dispositions for learning, by encouraging children and by being role models who demonstrate positive habits of the mind.

2.1 Observing dispositions for learning

Many teachers and teaching assistants record observations using post-it slips or their own personal form of shorthand. There is no particular format required to make classroom observations, but many professionals use a form to remind them of what they are looking for.

The image below is an example of a flexible observation form that a teacher created. It could be used to observe any activity in a classroom, or in the playground. The teacher will write notes in the large box and will use the words in the smaller box to remember the aim of the form: to observe dispositions for learning.

Figure 2

Next, you'll try out using this observation framework.

Activity 2 Observing 'Kevin'

Allow about 25 minutes

Now watch the video of a boy in a classroom lesson. 'Kevin' (not his real name) is 11 years old. In line with BERA guidance, which you learned about in Session 1, real names of children are not used.

This is an edited sequence of an art lesson that lasted one hour. In the lesson, children are observing a live snake (safely in a terrarium). A camera in the terrarium is projecting a magnified, highly detailed image of the snake's skin. The teacher has asked the children to draw the patterns, shapes and shades that they can see on the snake's scales.

As you watch, use the descriptions in the observation form above to identify the child's dispositions for learning. You may see other dispositions that are not listed on the form – so make a note of these too.

Video content is not available in this format.

Video 2

Provide your answer...

Discussion

What you have done is sometimes called 'naturalistic' observation. You looked carefully and jotted down your impressions of the child's attitudes, actions and behaviours. You used some criteria to guide your observation – you weren't looking at everything, but at the child's dispositions for learning. Your notes may have been words or phrases, or even drawings, to record what you saw.

The video you watched is an interesting observation of a child who has been identified as gifted and talented. He shows concentration, focus and perseverance in the drawing task, looking carefully and for long periods of time. He seldom speaks. When he does talk it is either to the teacher or to the child sitting next to him. By way of context, other children in the classroom (who you do not see in the video) chat and laugh quietly with each other as they do the drawing activity.

Kevin appears to be a confident and independent learner, and he shows considerable stamina in sustaining the drawing task. But he also shows some insecurity, and perhaps even some anxiety, checking with the teacher to make sure he has understood what to do and that he is doing it correctly. The teacher asks him if he feels confident and reassures him. He is cautious and careful in his drawing, working silently. He looks intently at the image of the snake's skin, projected onto a screen, and asks the teacher to clarify the instructions for making the drawing. At one point, he shows a great deal of patience, keeping his hand raised for over two minutes, waiting for the teacher to respond, and he asks the teacher what the drawing is meant to look like. He draws with very small, precise movements, using a tiny corner of his art sketchbook. He looks at the projection of the live snake, the teacher's drawing on the whiteboard, and at his own sketchbook, making connections between these three sources. The teacher encourages him to make some of his drawing larger, and comments that he is very methodical. Towards the end of the lesson, he looks at his friend's drawing and chats with the friend about it. When he is allowed to hold the snake in his hands, he smiles with pleasure.

Next you will look at a different way to observe, using codes.

3 Systematic observation

You can make more systematic observations using ‘codes’. Codes are pre-assigned numbers (or letters, or symbols) that represent specific actions, behaviours or words. When you observe using codes, for example, you log a number each time the child shows a specific behaviour.

For example, you could use these codes to describe a child’s behaviour in a classroom lesson:

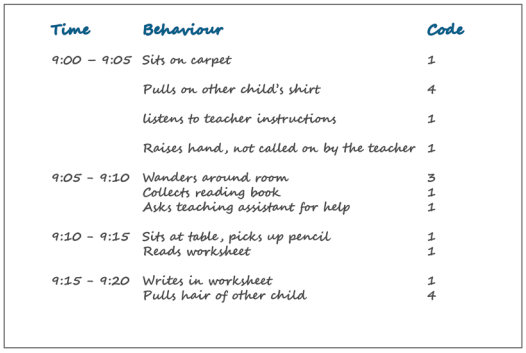
1 = on task (listening, speaking, reading or writing)

2 = not concentrating, looking around

3 = out of seat, moving around

4 = behaving inappropriately, physically or verbally

Then, as you watch the child carefully for 10 to 15 minutes in the classroom, logging each time the child shows each behaviour, you might create a picture of the child like this in Figure 3.



Time	Behaviour	Code
9:00 – 9:05	Sits on carpet	1
	Pulls on other child’s shirt	4
	listens to teacher instructions	1
	Raises hand, not called on by the teacher	1
9:05 – 9:10	Wanders around room	3
	Collects reading book	1
	Asks teaching assistant for help	1
9:10 – 9:15	Sits at table, picks up pencil	1
	Reads worksheet	1
9:15 – 9:20	Writes in worksheet	1
	Pulls hair of other child	4

Figure 3

Looking at the example codes, you can see that the child is on task just as often as she is off task, and there seems to be one incident of on task behaviour which is not rewarded by the teacher: the child raises her hand but is not called on to answer.

With this kind of systematic minute-by-minute observation, you can identify when and how a child begins to go ‘off task’ and to use this information to help prevent this from happening in lessons.

This type of observation can yield very specific information. Teachers and teaching assistants can use this information to develop action plans for children who find classrooms challenging.

But this type of observation can be more difficult to do than ‘naturalistic’ observation. You need to pay attention to the child’s behaviour, your codes, and the time.

In the next activity, you will observe a child who sometimes presents challenging behaviour in the classroom. His teacher has learned how to help him, by allowing him to move around the classroom and learn in a way that suits him.

Activity 3 Observing ‘Jack’

Allow about 20 minutes

‘Jack’ (not his real name) is 4 years old. Watch the video of Jack and his teacher in the classroom. Observe how Jack behaves as he goes about his work in school. Pay attention to his body language and his facial expressions, the way he moves around the classroom, and how he interacts with his teacher and with other children.

As you watch, try to apply the following codes to Jack’s behaviour, using the time code on the video:

1. interacts with teacher
2. works alone
3. interacts with other children
4. works alongside other children but does not interact with them.

It is recognised that the video is edited and not continuous, but it gives you an opportunity to try out using codes for a short observation. There is a short interview with Jack’s teacher towards the end of the video.

Video content is not available in this format.

Video 3

Provide your answer...

Discussion

4 (00:00 – 00:08)
1 (00:08 – 00:53)
2 (00:53 – 00:58)
3 (00:58 – 01:12)
1 (01:12 – 01:25)

2 (01:27 – 02:23)

The codes present Jack as working mainly on his own, or in one-to-one interaction with his teacher. These two codes cover the majority of the time in the video. Jack appears persistent and focused on the number activity, moving between the numbers on the board to his worksheet. His teacher describes him as independent and wanting to do things his own way.

Although Jack interacts with his teacher, he does not always look directly at her when he listens and answers her questions. This could mean that he is easily distracted, or that he is not interested in what she is saying. He answers her questions quickly and briefly.

There is one instance in the video where Jack makes his own, unprompted comment in conversation with his teacher. He notices similarities between the number 9 and the letter q ('quarrelsome queen' – from a commercial phonics (letters and sounds) scheme). You can also see Jack make this type of comparison when he sits next to another child and notices where an insect's antenna should go and says a letter card looks like 'bouncy bear' (from the alphabet scheme).

Jack as an individual

The comments that Jack's teacher makes about him echo the views of Professor Alderson that you heard in Session 1, about children as people. Jack's teacher sees him as an individual with his own preferences about how and what to learn. She says that Jack can be a very unhappy child if he doesn't see the point of what he is learning. Jack seems focused and persistent in the number activity we see in the video, but he seems sometimes distracted when talking to his teacher. He seems to like to move around the classroom, and you see him moving between the number line and his worksheet.

In some ways, Jack's behaviour (given his young age of 4 years) is well within expectations for a lower primary or reception classroom. Jack tries to find his own personal way to learn, and this can be a positive disposition. His teacher has found ways to help him make progress in the classroom. The curriculum the teacher refers to is Northern Ireland's Enriched Curriculum (Northern Ireland Council for Curriculum, Examinations and Assessment, 2007). This helps Jack because it is play-based and, to some extent, flexible in terms of what children must do and when they must do it in school.

In the next section, you'll observe a whole classroom, the teacher and the children.

4 Observing teaching and learning

In this activity you'll observe a whole class.

Activity 4 Observing a whole class

Allow about 25 minutes

The video sequence of a lesson you are about to watch is approximately 10 minutes, but the entire lesson is around 40 minutes.

The teacher has planned a lesson for Year 2 children (ages 6–7) on 2 dimensional and 3 dimensional shapes.

First, listen to the teacher talk about the class, her plans for the lesson, and what she wants to observe in the lesson.

Video content is not available in this format.

Video 4

Now observe part of the lesson. As you observe, or afterwards, jot down your answers to these questions:

How are the children organised?

What does the teacher do?

Are all the children doing the same thing?

What dispositions for learning can you see in the children?

Did you mainly observe the teacher – was it difficult to observe the children?

Video content is not available in this format.

Video 5

Provide your answer...

Now listen to the teacher's evaluation of the lesson:

Video content is not available in this format.
Video 6

Discussion

Observing a whole class can be a challenge. There is so much going on, with different groups doing different activities.

The teacher has organised the whole class into ability groups and given each group a different activity. Children are grouped by ability, and it seems that the more able groups are named for more complex shapes: pentagons and hexagons. A teaching assistant is working with one group but we do not see her. There are differentiated tasks: some groups are writing, and other groups are constructing, sorting and matching.

The teacher's goal is to observe children using the correct vocabulary to describe 2d and 3d shapes. She also says that she wants to see the children working independently. The teacher moves around the classroom throughout the lesson, checking on each group's progress and giving extra work to those who finish quickly. The teacher is very much in charge of the lesson, but she also talks to the children in a kind and warm way. She never raises her voice.

The children show persistence, independence and confidence in the tasks that the teacher has set. They follow her instructions and move as and when she directs them.

The video sequence shows the teacher teaching, but how much can you tell from the video about children's learning? The teacher does almost all of the talking, and directs all of the activities. The teacher is observing how much children use specific vocabulary, but she admits herself at the end of the lesson that many children found their activity too easy.

Although the children are not all doing the same activity – some are writing, others are making shapes – we do not gain insights into how they feel about their tasks. The children are allowed to talk quietly to each other as they work, and it would be interesting to know whether they are talking about shapes or about something else.

Imagine you could sit at a table with one group of children in this lesson and 'eavesdrop' on their talk as they do what the teacher is asking them to do. You would get a fuller picture of their learning and their understanding. Remember the Session 1 transcripts of Mia and Sarah, and the Portuguese children, and what you found out about them as they worked on tasks set by their teachers.

In the maths lesson on 2d and 3d shapes, you can get an occasional glimpse of what children know and understand. For instance, when a child says to the teacher that a right angle is 'like an L-shape', it shows the child can make visual comparisons and can see similarities and patterns, and knows alphabet letters. When another child names his shape 'Michael' for Michael Jackson, he shows humour, imagination and creativity, as well as his knowledge of popular music and culture.

5 This session's quiz

Now you've completed Session 3, you can take a short quiz to help you to reflect on what you've learned.

Session 3 practice quiz

Open the quiz in a new tab or window and come back here when you've finished.

6 Summary of Session 3

In this session you learned about some appropriate tools and methods to observe children, their dispositions for learning and their behaviour for learning, in education settings. You applied this knowledge to observe individual children and a whole classroom.

You should now be able to:

- know about some observational tools appropriate to education settings
- understand and identify dispositions for learning
- develop skills to make observations in education settings

In the next session, you'll learn about children's views of homework, and the different forms that homework can take. You will also learn what a global survey of parents finds out about homework and what's most important to parents when they choose a school for their children.

Session 4: Learning at home

Introduction

In this session you'll learn about children's views of homework and about the important part that parents play in children's learning. You'll listen to children talk about their homework, and hear from a headteacher about the purpose of homework. You'll also read some findings about homework from a global survey of parents.

By the end of this session, you should be able to:

- understand parental support for children's learning in school
- perceive children's views about homework
- develop skills to identify creative homework.

1 Primary school children and homework

In the UK, at the moment, there are no requirements in national education policies for children to do homework. Governments have left it to headteachers to decide how much homework to give children. Headteachers usually decide this in consultation with teaching staff, and sometimes parents.

In the following video, primary school headteacher Mark Millinson gives his views about homework. He says homework should be an opportunity for children to learn, and to involve parents in their learning.

Video content is not available in this format.
Video 1

Mark says homework is, literally, ‘learning at home’, where children continue to develop their knowledge of the world by involving others in their learning. He also says it’s an opportunity for parents to hear children’s opinions about what they’re learning in school.

In the next section you’ll meet two children from Mark’s school and hear about their views on homework.

1.1 What do children think about homework?

Now meet Luke and Esme. They are are both 11 years old. They get homework once a week, and longer projects over the holidays which they record in a ‘learning log’. They are preparing for their end of primary school assessments, called the SATs.

Kimberly Safford from The Open University started by asking them what was their most recent homework.

Audio content is not available in this format.
Audio 1

In the next sections, you’ll meet other children from schools across the UK and find out what they think about their homework.

1.2 Homework: beneficial or boring?

Who do you think should decide what kind of homework, and how much homework, children get: government, headteachers, teachers, parents or children themselves?

Activity 1 What do children tell us about homework?

Allow about 15 minutes

In the video that you're about to watch, children tell you what they think.

As you watch and listen, jot down their ideas.

The video is on the following page of the Newsround website. It is the second video on the webpage and is called 'What do you think of homework?'.

Provide your answer...

Discussion

The children have positive and negative views about their homework. They dislike it because it puts them under pressure and it can be stressful. Homework also takes away from leisure activities and time with family. But they also acknowledge that homework is beneficial because it helps them to feel more confident that they understand their school work, and it might help children who are struggling with school learning.

One boy notes that homework should be more fun and interesting to do. In the next activity you will look at some examples of creative homework.

2 Creative homework

In Section 1, you heard headteacher Mark Millinson say that interesting homework can be ‘tasks’ and ‘investigations’ that children do over several weeks, and this can get parents involved and enthusiastic about homework.

Activity 2 What are they learning?

Allow about 15 minutes

In this video, you’ll meet children who can choose what kind of homework they do. As you watch, jot down their choices and their reactions, and also the reactions of their families. See if you can link their homework activities to a curriculum subject like mathematics or science.

The video is on the following page of the Newsround website. It is the fifth video on the webpage and is called ‘Homework but not as you know it’.

Provide your answer...

Discussion

The girl who bakes cookies at home is learning maths (measuring, weighing, timing), science (combining ingredients and changing their properties from liquid to solid) and literacy (reading the recipe). Other homework the children talked about covered some of these curriculum subjects:

- Design a board game: maths and art.
- Nature walk: science, geography and sustainability.
- Fit body through piece of A4 paper: design and technology.

The homework to make a board game and fit your body through a piece of A4 paper also develops problem-solving skills and creative thinking. The homework to do a nature walk develops appreciation of the environment and observational skills.

This kind of homework also seems to increase children’s enjoyment of learning and of school. The children in the video seem to take a lot of interest and pride in their homework tasks. This kind of homework can be fun for parents, too, because they can have interesting conversations with children as they help.

3 Home–school communication

Figure 1

Homework is a daily activity for most children that takes their time, energy and emotion, not only for them but for their families as well. One reason for giving children homework is to help schools communicate with parents, and for parents to know more about what their children are learning in school.

Parents and teachers can, and should, work together to support children's learning. Good teachers know that parents are children's first and most significant educators. For effective homeschool partnerships, teachers need to keep parents well-informed. Digital and online technologies have made communication between home and school must faster and easier. Most primary schools now have websites, and even Twitter accounts where parents can see children's homework and get quick updates on their progress.

One reason many parents do not get involved in their children's homework is that they lack confidence in, for example, maths or writing. Creative homework, like the examples you saw in the video of Activity 2, are more inviting for parents. Most parents would be happy, for instance, to help their child cook, draw, observe the local environment, or build a simple model with recycled materials.

Homework should be a beneficial learning experience, where parents can participate. Teachers can design homework assignments where children interact with their family or their community. Read the case study in the following section for an example.

3.1 Homework case study

This is an example of homework that a child and a family member do together. It could be with a parent, a grandparent, or an older sibling.

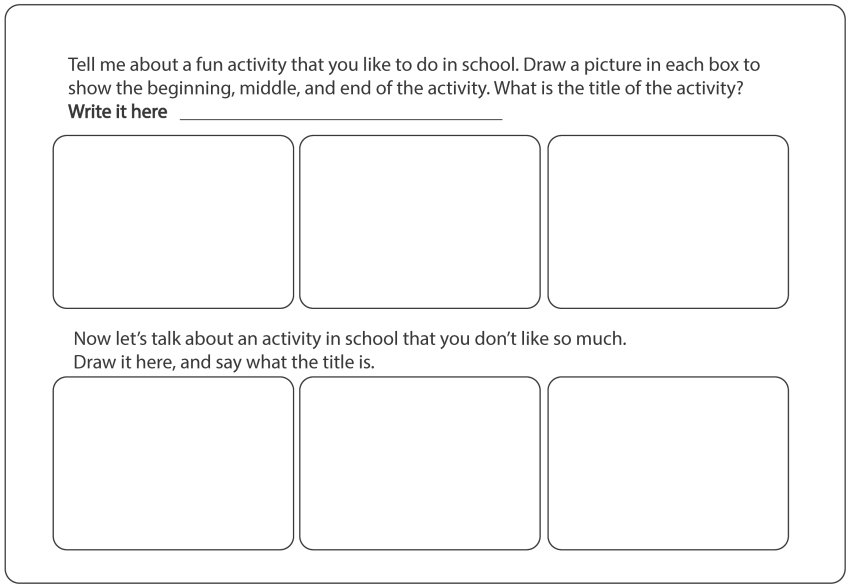


Figure 2

Now let's talk about an activity in school that you don't like so much. Draw it here, and say what the title is.

This homework develops a child's vocabulary and expressive language skills, and an understanding of narrative structures (beginning, middle, end). The homework develops these language skills through conversation, not drilling. It creates an opportunity for the child and an adult to talk together about school, and for the child to share their thoughts and feelings. It is a chance for the adult to ask questions such as 'Why do you like, or not like, doing this so much?', 'Tell me more about this part' and 'What happened next?' Talking and drawing are, for young children – and for many older children, and adults too – good ways to 'draft' or prepare for writing.

Next, you will learn about parents' involvement in children's homework around the world.

4 Homework around the world

A survey of more than 27,000 parents in 29 countries found a quarter of parents worldwide spend seven or more hours a week helping their children with homework (Varkey Foundation, 2018).

Parents in India helped the most, spending an average of 12 or more hours each week helping with homework and reading to their children. Parents in Japan spent the least, at about 2.6 hours. Parents in the USA spent 6.2 hours, just below the global average of 6.7 hours.

But the survey also found that children whose parents help a lot with their homework did not perform any better on tests than children who do their homework all by themselves. Educationalists generally agree it's important that parents at least know what their children are working on and how much time it's taking them to complete it. Taking an interest in a child's homework also helps to create a home in which learning is valued.

While a quarter (25%) of parents worldwide spend 7 or more hours a week helping their children with their education, this figure rises to 62% in India, 50% in Vietnam and 39% in Colombia. Parents in richer nations are spending less time, with only 5% spending 7 or more hours a week in Finland, 10% in France and Japan, and 11% in the UK. Parents in lower income economies are more likely to spend significant amounts of time helping their children outside the classroom than those in established economies. The most commonly occurring reason that parents don’t help their children – cited by over half of parents (52%) across the survey – is lack of time.

4.1 Parents’ hopes

Figure 3

Almost two-thirds (64%) of parents in the 2018 Varkey Foundation survey believe their child’s school is preparing them well for the world of 2030 and beyond. Asia has some of

the highest levels of confidence (India, Indonesia, China and Vietnam), and some of the lowest levels of confidence (Japan and South Korea).

Almost two-thirds (60%) of parents are optimistic about their child's future. Some of the highest levels of optimism were in lower income economies. Richer nations (such as Japan, France, South Korea and Germany) were generally gloomier.

Children's happiness is the most important thing to parents, according to the global survey, with 43% of parents worldwide selecting this as one of the top three factors that cause them the most anxiety about their child at school. This is closely followed by concerns of mental wellbeing and bullying. According to the global survey, when parents choose a primary school for their children the most important factor in their decision is the distance of the school from home. The next two most important factors for parents in choosing a primary school are the quality of teachers and whether the school has a happy environment.

5 This session's quiz

It's now time to complete the Session 4 badge quiz. It's similar to previous quizzes but this time, instead of answering 5 questions, there will be 15.

Session 4 compulsory badge quiz

Remember, this quiz counts towards your badge. If you're not successful the first time, you can attempt the quiz again in 24 hours.

Open the quiz in a new tab or window and come back here when you've finished.

6 Summary of Session 4

In this session, you looked at children's views of homework and how homework can be made more creative and engaging for children and for parents. You also learned what a global survey of parents found out about what matters most to parents about school and homework.

You should now be able to:

- understand parental support for children's learning in school
- perceive children's views about homework
- develop skills to identify creative homework.

In the next two sessions, you will learn about computing and the primary curriculum, and children's safety online.

You are now halfway through the course. The Open University would really appreciate your feedback and suggestions for future improvement in our optional end-of-course survey, which you will also have an opportunity to complete at the end of Week 8. Participation will be completely confidential and we will not pass on your details to others.

Session 5: Connected children

Introduction

This is the first of two sessions on children and technology. Children's use of technology tends to generate much debate, and some anxiety. Digital technologies offer many opportunities for children to learn and to play, but there can be risks to children in online environments, and 'e-safety' has become an important topic in primary schools.

By the end of this session, you should be able to:

- understand digital literacy and twenty-first century skills
- recognise the impact of technologies and digital literacy on children's lives and their learning
- identify some of the opportunities and risks that the connected world brings for children.

1 Technology in children's lives

Children today are born into a world where digital technologies are more prevalent than ever before. There is no aspect of our lives that is unaffected by technology – how we work, shop, socialise, communicate and entertain ourselves. From the moment young children become aware of the world around them, they witness the use of technology in one form or another. It is only natural, then, that they will be keen to explore this aspect of their world, as they would any other. Young children may feel less cautious than adults about making mistakes with technology.

Activity 1 What technologies are children using?

Allow about 10 minutes

Think about the range of technology in some homes today. What kind of devices might children of primary school age see being used by those around them? What might they have access to on their own? Jot down your ideas.

Provide your answer...

Discussion

The range of devices available to children in the home is ever-growing, but can include: smartphones, tablets, laptops, desktop computers, ebook readers, smart TVs, games consoles and smart speakers that channel voice assistants such as Alexa, Google Assistant, Siri or Cortana. There are also 'embedded' devices such as microwaves, central heating systems, dishwashers and coffee machines that form part of everyday routines, or entertainment devices such as music systems, wireless headphones, surround sound speakers, electronic keyboards, DJ decks or drum kits. Not to mention the increasingly large range of electronic toys on the market, from simple light and sound toys to build-your-own-robot kits and toy drones. The list will continue to grow.

Figure 1

What is clear is that when children go to school, they will bring with them their own unique set of experiences with technology. Not just in the devices, tools or toys they have access to, but in the experiences they have in using them.

According to a recent survey, 53% of UK children aged 3–4 go online for nearly 8 hours a week, 35% of 5–7 year olds have their own tablet and 39% of 8–11 year olds have their own smartphone, with nearly a quarter having a social media profile (Ofcom, 2017).

Activity 2 Children's increasing use of digital technologies

Allow about 15 minutes

Look at the statistics in the infographic in Figure 2. It's a snapshot of children's digital lives (Ofcom, 2017).

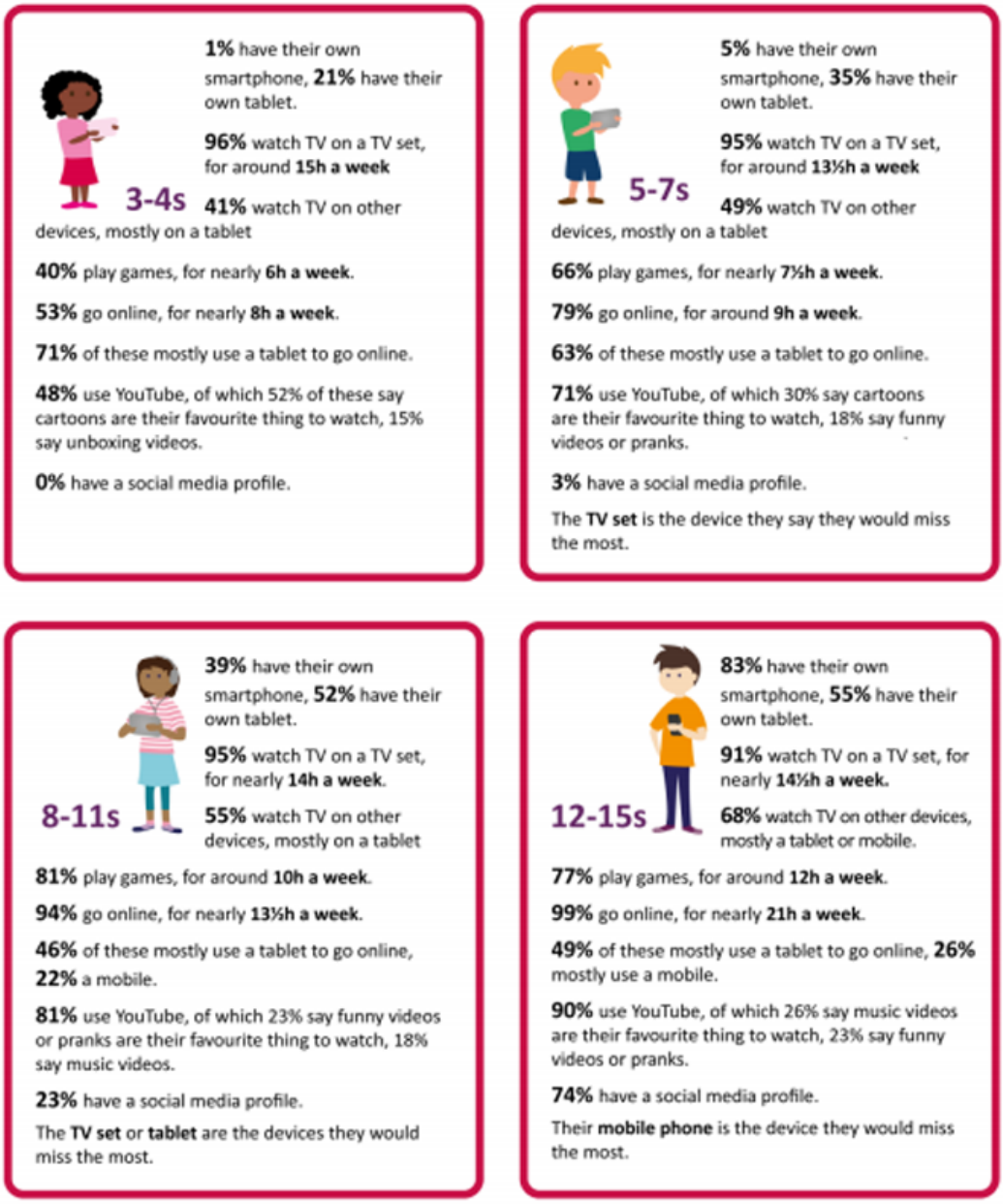


Figure 2

Add your responses to the following questions.

How do the figures compare to your experiences of technology when you were a child?

Provide your answer...

How do these figures compare with your 'digital life' now?

Provide your answer...

How do they compare with that your own children, or children that you know?

Provide your answer...

Next, you will read about the impact technology can have on children's learning.

2 Technology affects how children learn

Advances in technology and the internet revolution are driving a pace of change that would have been unimaginable 30 years ago. Schools are trying to balance the use of technology to develop children's learning, and also ensure that children are prepared to engage safely and effectively with technology.

Figure 3

Activity 3 The digital age and children's learning

Allow about 10 minutes

Read this extract from the Cambridge Primary Review's report, 'The Digital Age and its Implications for Learning and Teaching in the Primary School' (Burnett, 2016). The report draws on a range of research related to children's lives in the digital age in school and beyond school.

> For many children digital devices and the possibilities they enable are threaded through everyday life from the earliest days, and their early experiences and understandings are patterned by technology use... much of 'children's out-of-school learning is electronic and beyond the reach of either parents or teachers' (Alexander, 2010: 269). In education, therefore, there is a need to explore the significance of the digital age not just in terms of preparing children for an uncertain future, but in ensuring they are confident, safe and discerning users of digital technologies now…
>
> …understanding children's lives in a digital age is a complex task, and considering the implications for primary education is fraught with tensions. On one hand there are calls to recognise the sophistication of children's everyday uses of digital media and for much greater integration of technology in education to equip children effectively for their current and

> future lives. On the other hand there are anxieties about the implications of extensive screen-time and about what or whom children may encounter in digital environments that are hard to police and difficult to confine.
>
> (Burnett, 2016, p. 3)

3 Schools in the digital age

Figure 4

The needs of the digital age raise key questions about the role of school. It is clear that schools need to be able to support children's engagement with digital technologies now, as well as look to the future and ensure they are well prepared to participate effectively in society as adults in the workplace and beyond.

There is also a need to consider how different subjects are understood and taught in the light of digital technologies. For example, later you will consider what is meant by literacy in the twenty-first century. How should the English curriculum adapt as a result? What about other subject areas? And how do digital technologies relate to other school priorities such as social justice and citizenship?

While surveys (Ofcom, 2017) suggest that technology is all around us, children will vary in what they know about technology and their experiences of it, when they come to school. There are issues of equal access to technology. Internet-enabled devices and high-speed internet connections are unevenly distributed across the UK and many other countries. The role of the school therefore is key in ensuring children have access to a range of digital technologies and, importantly, ensuring the experiences they have in using it are wide-ranging.

Next, you will look at children and how they use the internet.

4 Children and the internet

Children are going online at an increasingly young age. Ofcom (2017) reports that in 2017 over half (53%) of 3–4 year olds are now online, as are 79% of 5–7 year olds, 94% of 8–11 year olds and 99% of 12–15 year olds. For the two youngest age groups, the figures are up by 10% on the previous year.

The EU Kids Online Network project, Zero to Eight, illustrated how pervasive technology is becoming for younger children. The seven-year project, which focused on investigating children's engagement with the internet, identified a significant increase over a five-year period of children under nine years old going online (Holloway et al., 2013). They also noted a particular trend for pre-schoolers to use tablets and smartphones to access the internet.

Figure 5

In the next section, you will watch a video about the risks and opportunities the internet brings to young children.

4.1 Risks and opportunities

Sonia Livingstone, the lead author of the EU Kids Online Network project, has warned that the lack of technical, critical and social skills among younger children puts them at real risk online. Older children and teenagers are seen as more resilient and able to cope with the dangers they may face (Livingstone et al., 2011, p. 3). This is a risk that both parents and schools need to manage.

Activity 4 How children engage with the internet

Allow about 30 minutes

Listen to Sonia Livingstone taking about the risks and opportunities access to the internet brings. As you listen consider the following:

- note the range of experiences of children (for example, some report no negative experiences; age and gender are mentioned)
- consider how well acquainted you are with guidance about how to support children's use of the internet
- can you think of ten great websites, apps or educational computer games for children as the audience are challenged to?

View at: youtube:SyjbDUP1o0g
Video 1

It is easy to understand why some fear for children, with stories of cyberbullying and grooming peppering news headlines. But Sonia Livingstone argues that we need to balance our reactions, and not necessarily impose more restrictions. She notes that as a society we always fear change and in particular technological revolutions, whether that be the invention of writing, 'moving pictures' or the internet. She argues that opportunities and risks are inextricably linked. By limiting their exposure to risk, we are limiting their opportunities to develop skills such as independent thinking and resilience.

Provide your answer...

4.2 E-safety in school

By better understanding what children do online outside of school, teachers are better positioned to support both children and their parents and manage the risks appropriately.

Activity 5 Thinking about e-safety

Allow about 20 minutes

Watch this video of Luke Crickwood, a teacher, e-safety and IT coordinator at All Saints Inter-Church Academy in Cambridgeshire, England. Every year he leads an audit to find out how their pupils use the internet, as part of the school's e-safety review.

Video content is not available in this format.
Video 2

Notice the difference Luke highlights between the girls' and boys' perception of cyberbullying, as well as how it seems to be more prevalent the older the children get.

According to Ofcom (2017) just 12% of 8–11 year olds say they have been bullied, with this more likely to have been face to face (6%) than on social media (1%). These numbers do rise to 12% respectively for children aged 12–15. There are clearly more risks in being online than just cyberbullying, but it is worth noting that nearly all internet users (97%) aged 8–15 report having been taught how to use the internet safely by a teacher, parent or both (Ofcom, 2017).

Next, you will read about a research study of children and how they play and learn online in 'virtual worlds'.

5 Play and learning online

Children love to play with new technologies, with and without adult support. Jackie Marsh has studied and reported extensively on how young children play and learn with technology. She carried out an enquiry into primary children's use of virtual online worlds and social networking websites, and she deliberately chose to study profit-making commercial websites rather than those developed for educational purposes in and for schools. Marsh chose to study two commercial websites (Club Penguin and Barbie Girl) because, in her words, 'these worlds are becoming increasingly prevalent in children's out-of-school lives and it is important that educators become familiar with the way in which children use these environments in order to build upon these experiences further' (Marsh, 2010, p. 26).

Figure 6

One hundred and seventy-five children aged from 5 to 11 years took part in Marsh's enquiry, where they accessed the two websites and reported (in questionnaires and interviews) on what they did there. Playing games featured strongly in their responses. Ewan, aged 5, for example, said: 'It's all games. I like the games' (Marsh, 2010, p. 30).

Marsh observed the types of play that children engage in within these virtual worlds:

1. Fantasy play, where they develop characters, roles and narratives, 'dressing up' and adopting imaginary personas (known in online worlds as 'avatars').
2. Socio-dramatic play, where they enact everyday or domestic scenarios which involve communication via text messaging.
3. Games with rules mirroring real-world play such as 'hide and seek'.
4. 'Ritualised' play where children use actions and symbols to demonstrate feelings and participate in group activities.

Shopping with virtual tokens/money and caring for virtual pets were other popular forms of play for children in this study. Unlike the virtual worlds of older children and adults,

however, Club Penguin and Barbie Girl did not offer children opportunities to create their own 'in-world' objects or customise their avatars.

For the children in this study, there were many similarities between offline and online play, and Marsh argues that their activities in the websites are not 'virtual' but 'real' play – pointing out that much online play is, like face-to-face play, a social practice constructed through interactions with others. An important difference, the study notes, between face-to-face and online play, is that in the virtual world children do not always know who they are playing with. Marsh argues that this presents an opportunity to teach children about online safety, and she concludes: '[children in virtual world play] have opportunities to construct, re-construct and perform identities and learn how to engage with others in online forums ... Children's engagement in online virtual worlds might offer useful opportunities to develop skills that will enable them to navigate online environments more safely and appropriately' (Marsh, 2010, p. 36).

Activity 6 Children's virtual online worlds

Allow about 15 minutes

Here are some suggested websites; you might be familiar with these and with others. When you access your chosen website, you will need to sign up and create your own profile (this should be free to do on all the sites listed below). Spend some time exploring the website. You should not communicate with others on the website.

Disney UK

Moshi monsters

Bin weevils

Reflect on your experience, using the following questions to help you.

- To use this website, what do you need to understand and know how to do?
- What are the ethical issues of adults accessing websites designed for children to use?
- What did you do in the virtual world you selected?
- What did you find interesting, fun, challenging or worrying?
- Can you see it being appropriate for school in any way?
- Did you have any concerns about children's safety on the website?
- Did you feel that the website offered opportunities to play? Describe these.
- Did you feel it offered opportunities to learn? What were these?

Provide your answer...

Discussion

Children's use of technology often seems to blur the boundaries between play and learning, perhaps because much of children's technology is linked to leisure, commercial culture and consumer products, which may sit uncomfortably in the school 'learning' context. Like children's real-life play and popular culture, there is perhaps something subversive and ungovernable about their online culture and play.

In supporting children's learning, teachers and teaching assistants may experience a gap between what children know and do outside school with technology and what they learn to do in school with technology. Educators like Jackie Marsh try to find commonalities across these experiences, so that adults can support children to apply what they know to their learning in school.

6 Games in education

Games are increasingly appearing in classrooms and there is a trend of creating education-specific versions of well-known games. For example, Minecraft is a hugely popular game among children, with over 60 million players worldwide at the time of writing. Minecraft is considered a 'sandbox' or open-world game, in which are there are no given tasks or objectives to complete and instead players are free to explore and interact with the world in their own way, much like young children would if playing in a real sandbox. Players can build or explore, play alone or with others. Every world (or map) the players explore is entirely unique; there are no rules or even guidelines for play so there are infinite possibilities.

The education-specific version of Minecraft, MinecraftEdu, provides teachers with additional extras including: camera and portfolio tools to assess or record activities and document progress; the ability to act as a guide rather than a player in the game; and moderation tools to manage or restrict collaborations.

Figure 7

Activity 7 Parents, children and 'Minecraft'

Allow about 35 minutes

Read The parents' guide to Minecraft. Think about the kinds of skills children could develop while playing. Next, watch this video of Nathaniel Bott, a grade 10 student from Tasmania talking about the Minecraft in Schools Transforming education (MIST) project that took place in his school.

View at: youtube:UI9TiuVHc0A

Video 3

Having read the guide and listened to Nathaniel's experiences, think about the following questions and note down your responses.

How might Minecraft be used to support teaching and learning, particularly of STEM (science technology engineering and maths) subjects in the primary years?

What kind of environment for learning does Minecraft create?

Provide your answer...

Discussion

Minecraft provides an immersive environment and one what learners have control over – they can choose their own level, the way they engage and the challenges they take up. For some learners the space may feel 'safer' than the real world, an environment in which they can experiment and explore without the fear of being wrong, or the anxiety of speaking to or in front of others.

The immersive and interactive nature of Minecraft means that learners can engage with mathematical or scientific problems in a more authentic or exciting way. The ecology of the world is reflected and ecosystems modelled and experimented with, the effects of gravity can be observed, iron or gold can be smelted to produce pure metals and sand transformed into glass. Mathematical operations can be visualised, concepts of area and perimeter explored, symmetrical structures created and more abstract geometrical concepts visualised.

7 Digital literacy and twenty-first-century skills

How digital technologies are referred to in the primary school curriculum has changed significantly in recent years and varies from country to country. Terminology varies too and confusingly, people often use different terms to refer to the same thing. Some refer to IT (information technology), some to ICT (information and communication technology) and others to computing or computer science. In recent years there has been a global shift towards the discipline of computer science, in countries including India, the USA, Australia, England and South Korea (University of Edinburgh, 2016). As a result language has shifted and you may see terms such as 'computational thinking', 'logical reasoning' and 'algorithms' used in primary schools.

The development of children's 'digital literacy' is regarded as key to developing what are often referred to as 'twenty-first century skills' (ATC21S, 2012; Binkley et al., 2012). These twenty-first century skills are not tied to particular subject areas, but apply across the curriculum and include skills such as digital information literacy, collaboration, problem solving and critical thinking (ITL Research, 2011).

Digital literacy can be interpreted in a variety of ways, but Hague and Payton's (2010) definition provides an effective summary:

> Digital literacy involves critically engaging with technology and developing a social awareness of how a number of factors including commercial agendas and cultural understandings can shape the ways in which technology is used to convey information and meaning.
>
> It means being able to communicate and represent knowledge in different contexts and to different audiences (for example, in visual, audio or textual modes). This involves finding and selecting relevant information, critically evaluating and re-contextualising knowledge and is underpinned by an understanding of the cultural and social contexts in which this takes place.
>
> Digital literacy gives young people the ability to take advantage of the wealth of new and emerging opportunities associated with digital technologies whilst also remaining alert to the various challenges technology can present.
>
> In short, digital literacy is the 'savvyness' that allows young people to participate meaningfully and safely as digital technology becomes ever more pervasive in society.
>
> (Hague and Payton, 2010)

ATC21S (2012) defined ten twenty-first century skills, which fit into four broad categories: ways of thinking; ways of working; tools for working; and ways of living in the world (Figure 8). The successful development of these skills does not rely on the technologies alone, but on the digital literacy of the educators making use of ICT and their capacity to engage with new ways of teaching and learning.

Figure 8

How well do you think school prepares children to live and work in an ever-changing society?

Now watch this video of Grant Lichtman, a US-based former teacher and senior leader sharing what he has learned about teaching twenty-first-century skills in schools:

Video 4 What 60 schools can tell us about twenty-first-century skills

Next, you will consider how digital literacy impacts on how children read and write.

7.1 The impact of technologies on children's reading and writing

Children develop different kinds of reading and writing skills to make meaning from the array of multimedia and virtual worlds they now encounter. From your own experiences, you may be aware of children who use technology for a range of reading and writing – accessing, for instance, online worlds, authors' homepages and homework revision websites.

There are six ways in which digital literacy and twenty-first century skills have influenced how children read and write (Merchant, 2013):

1. Being multi-modal: mixing words, images, video, audio, animation and using digital and other media.
2. Linguistic innovation: for example 'text speak', the use of abbreviations and acronyms, for character-limited tools such as Twitter or the use of emoticons.
3. Remixing: the creative use of digital tools to remix, edit or recombine existing media: for example, sampling audio and adding it to existing video.
4. Being playful: for example, creating a 'meme' by adding humorous or playful text to an image that is then spread via social media.
5. Participating: sharing information and media in online environments, and getting feedback.

6. Connecting: social relationships formed in online spaces with both known and unknown users.

Activity 8 Merchant's six characteristics

Allow about 15 minutes

Now watch this video about the STEAM week at Bridgewater Primary School in England. As you watch, look for examples of Merchant's (2013) six characteristics and note them down.

View at: youtube:jecVKxBrplA
Video 5

Provide your answer...

Discussion

There are many examples of the six characteristics throughout the video, but some specific incidents have been highlighted here.

The playfulness in the children's activities was evident throughout the video, for example in their interviews with invented characters.

Year 1's work creating animals for their virtual world is an example of remixing, their work being inspired by the nest of strange eggs. They made prints, created digital mind-maps, took photos of their work and used these for an online puppet show and going on to create a video with audio overlay which they shared on the community blog.

The wider school community was connected via the blog and twitter feed and the use of Edmoto, an online networking tool, to 'twin' classes enabled the sharing of ideas further afield.

The multimodality of the work produced by Year 4, who invented people for the virtual world, was evident as they combined filming using green-screen techniques, with animated drawings and interview scripts.

The linguistic innovation was particularly apparent in Year 3's soundscapes of the virtual world, where they invented their own method of notation so they could play their own compositions.

7.2 Children using multimedia in school

In schools, children often use software and apps to write stories, poetry and non-fiction reports, and incorporate sounds, interviews, photographs or video into their writing. Tools include VoiceThread which allows for text, narration and sounds to be sequenced alongside images, and PuppetPals in which photos can be used to make scripted on-screen puppet shows. With programs such as Photoshop, children can digitally play with and change their own artwork and photographs, and incorporate these into their writing. In Session 4, you heard a child talk about his homework to make a PowerPoint presentation on the scientist Charles Darwin.

Photoshop and stories

A class of 8–9 year old children created a series of images in paint, pastel and clay, and they also took photographs of themselves: all of these images were processed using Photoshop and then put into a presentation. Children then wrote stories describing adventures in the imaginary landscapes of their artwork, adding music and sound effects.

Figure 9 is an example of a child's Photoshop collage.

Figure 9

The teacher said that writing stories based on their Photoshop collages inspired the children to draw together a range of their communication resources (words, artwork and images) to create a complete text, putting considerable visual and digital literacy skills to work in their writing.

PowerPoint report

'Ben' (age 11) created a PowerPoint presentation (Figure 10) all about James Bond (the character, the movies, the actors, the cars, the gadgets, the villains, the Bond girls and so on). His use of sound effects (loud gunshots and creeching cars), moving images and animated text created a lively piece of writing driven by his obvious expertise and enthusiasm for his subject.

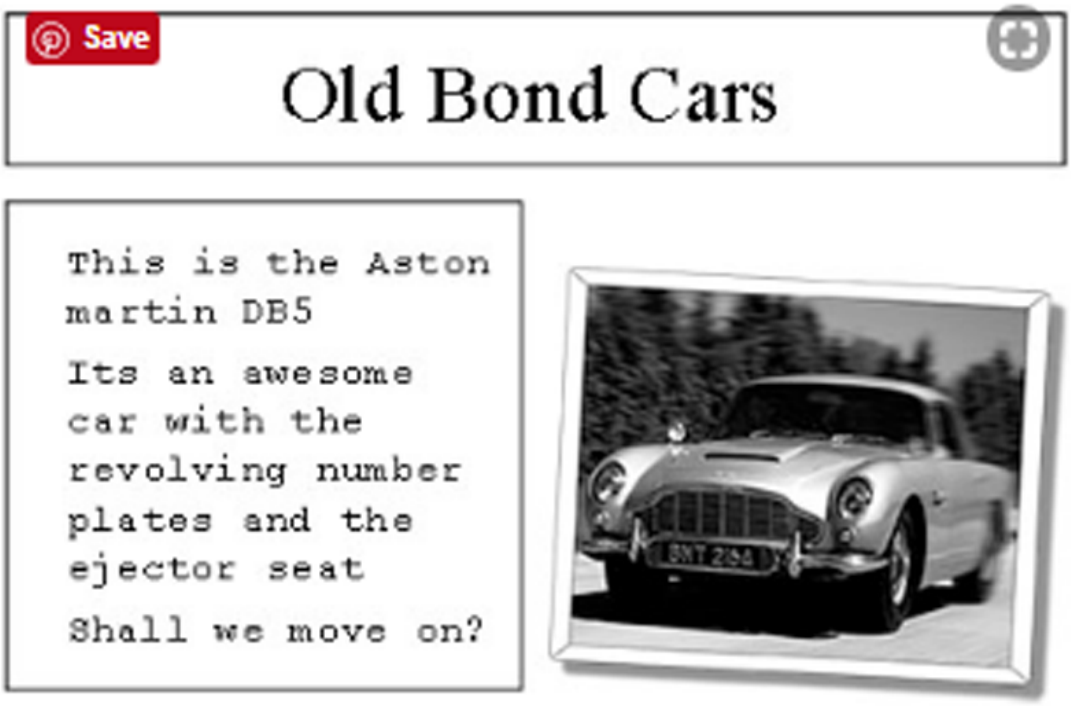


Figure 10

You can observe how Ben's play, media and book interests are fully expressed in his writing, and how he is gaining experience as a writer in this process. Ben created his PowerPoint presentation entirely at home, and brought it into school. His teacher, however, was uneasy with some of the content of the text (guns and Bond girls) and was reluctant to share it with the class – an example of the tensions that may exist between home and school literacy practices.

Digital texts such as Ben's can involve considerable research, and they can link to further fiction and non-fiction writing. If children are creating stories using digital technology – say, about bears – they could create hyperlinks to files of other writing, so for example about the habitats of bears, poems about bears, how hibernation works, or a discussion forum about the pros and cons of keeping wild animals in zoos. The whole class could also contribute diverse written and visual elements to the larger digital text, and this could be shared with parents using tools such as Edmodo or Showbie or presented at an assembly or put on to the class or school website.

8 This session's quiz

Now that you've completed Session 5, you can take a short quiz to help you to reflect on what you've learned

Session 5 practice quiz

Open the quiz in a new tab or window and come back here when you've finished.

9 Summary of Session 5

In this session you learned about technology in children's lives, digital literacy and twenty-first-century skills, how children use the internet, e-safety, and how digital technologies have changed the ways children read and write.

You should now be able to:

- understand digital literacy and twenty-first century skills
- recognise the impact of technologies and digital literacy on children's lives and their learning
- identify some of the opportunities and risks that the connected world brings for children.

In the next session on digital technologies, you will learn about computing as a school subject, why it is considered important, and some ways to teach computing in primary schools.

Session 6: Computing in schools

Introduction

Following on from Session 5, where you learned about children and technology, in this session you will learn what computing is, and about computing as a school subject. You will learn why computing is important and look at some ways of teaching computing in primary schools.

In this session you will be introduced to some vocabulary and ideas that might be unfamiliar to you, such as ‘algorithms’, ‘coding’ and ‘unplugged computing’. In some activities, you will be asked to think about your own responses to what you read and see. This might feel a bit challenging at times, but stick with it and you should feel a lot more confident about this topic.

By the end of this session, you should be able to:

- appreciate computing and its role in the primary curriculum
- understand some ways to support children’s learning of computing
- develop your own skills for computing.

1 What do we mean by computing?

As you saw in Session 5, the way we talk about digital technologies varies depending on how and where they are used, and this is also true for computing.

Computing in primary schools is also known as ‘computer science’ or ‘informatics’. Countries including Australia, India, Finland, France, South Korea and the UK have integrated computing into the primary curriculum in recent years (Euractiv, 2015).

Figure 1

Definitions vary, but, for example, in schools in England computing is made up of three core strands: computer science, information technology and digital literacy.

> The core of computing is **computer science,** in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use **information technology** to create programs, systems and a range of content. Computing also ensures that pupils become **digitally literate** – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world
>
> (Computing at School, 2014)

In Session 5 you looked at digital literacy for children, and in this session you will focus on aspects of computing for children. Computing is a subject that has lots in common with mathematics, and you can think of computing as a way for children to understand the world.

1.1 Computing and the school curriculum

Figure 2

In England, computing replaced ICT as a national curriculum subject for all age groups. Similar changes have taken place across other UK countries, Europe and beyond. Read the table to see these similarities.

Table 1 Computing in schools

England	The first country in the European Union to make computing compulsory for 5 to 16 year olds.
Northern Ireland	Using ICT is a statutory cross-curricular skill in the primary curriculum.
Scotland	Technologies is a primary curriculum area and includes computing as a distinct aspect of knowledge.
Wales	A Digital Competence Framework includes computer science as a subject in the primary curriculum.
Finland	Programming is a mandatory element of the primary curriculum.
New Zealand	Digital Technologies curriculum for primary schools.
Australia	National Curriculum in Digital Technologies for primary schools.
Sweden	Computing is introduced from the first year of primary school.

As the table shows, computing is increasingly seen as an important subject. But this presents some challenges. Teachers report that they are unsure about their own computing subject knowledge, and what are the best ways to support children's computing learning (Sentence and Csizmadia, 2017).

1.2 Computing programmes of study for children

Read the Computing programmes of study for primary school children from the National Curriculum in England.

After you read, ask yourself:

- Am I surprised by what is on the computing curriculum for children?
- Are there areas that I already know about? Would I feel confident explaining these areas to other adults or to children?
- Are there aspects that I am not familiar with?

For the rest of this session, you will learn more about computing as a subject and some effective ways for children to learn about it.

2 Why is computing important?

Figure 3

The Royal Society's 2012 report, 'Shut down or restart? The way forward for computing in UK schools', reported that 'Computer Science is a rigorous academic discipline of great importance to the future careers of many pupils' and that 'Every child should have the opportunity to learn Computing at school'. In England, the Department for Education (DfE) says children who understand computing will be able to change the world:

> A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.
>
> (Department for Education, 2013)

Education Scotland takes a similar view on the importance of studying computing:

> Children and young people will develop their creativity and entrepreneurial skills and be encouraged to become innovative and critical designers of the future. These attributes are essential if, in the future, our children and young

people are to play a major part in the global economy and embrace technological developments in the 21st century.

(Education Scotland, 2013)

Activity 1 Computer science is changing everything

Allow about 20 minutes

Now watch this video from Code.org on computing. The vision presented in the film is that computing plays a role in almost every aspect of life.

View at: youtube:QvyTEx1wyOY
Video 1

After you watch, ask yourself:

- How does this compare with the vision of technology in society when I was in primary school?
- Do I think that the vision presented in the film is accurate?

Provide your answer...

2.1 Why learn about computing?

While the introduction of computing into the primary school curriculum has been welcomed by many, some question the value of it.

One criticism is that it isn't necessary for all children to learn computing, because only a fraction of children will go on to become computer programmers.

This idea is based on a commonly held misconception that computing is just about learning to program or to code. In fact, computing is about problem solving, thinking analytically, and finding ways to tackle complex tasks creatively or efficiently. These skills are transferable to many aspects of life and learning.

There is also an economic argument for studying computing. Livingstone and Hope's Next Gen. report (2011) focused on the importance of high-tech and creative industries in the UK and other countries' economies. Even in 2011, the UK video game sector alone was worth over two billion pounds. The authors believed that the UK's position as a leader in technology, innovation and creativity was at risk due to a skills gap. They argued that schools need to fill this gap by equipping the next generation of young people with the knowledge and skills necessary for these industries. Their solution? That computing should be in the school curriculum.

Transferable skills and economic arguments aside, there is almost no aspect of life today that is not touched by technology: we use it for working, socialising, studying, shopping, accessing healthcare, playing, travelling and communicating.

An overriding argument for including computing in the curriculum is about equity and social justice. If we don't equip all children with the skills to use technology in an informed

way, and the knowledge and skills to influence what the technology is, what it does and how it is used, we are denying children an opportunity.

Liukas (2015) argues that we need to imagine 'a world where the stories we tell about how things get made don't only include the twentysomething-year-old Silicon Valley boys' and Naughton (2012) said that without educating children about computing we will 'be breeding generations of hamsters for the glittering wheels of cages built by (Facebook founder) Mark Zuckerberg and his kind'. The inventor of the World Wide Web agrees:

> I want you to know that you too can make new programs which create new fun ways of using computers and using the Internet. I want you to realize that, if you can imagine a computer doing something, you can program a computer to do that. Unbounded opportunity … limited only by your imagination. And a couple of laws of physics.
>
> (Tim Berners-Lee, n.d.)

Consider the following questions:

- What do you know about computing?
- How would you go about convincing others – children, parents or teachers – that computing is important?

Figure 4

As you learned earlier, computing is a relatively new addition to the primary curriculum in many countries. What they have in common is a focus on two key areas of computing: computational thinking and coding. These form the basics of much of children's initial learning about computing or computer science.

In the next activities you will learn about children and coding, and about children and computational thinking.

2.2 Children and coding

Coding is creating a set of instructions for a device to carry out. It is also called ‘programming’. Coding is one strand of computing.

Activity 2 Should everyone learn to code?

Allow around 20 minutes

Watch this video about why children should learn to code.

Video 2 What most schools don’t teach

After you watch, answer the following question:

- How much do you agree with the argument that learning how to code is a universal skill that should be taught to all children? Is it as important as literacy or numeracy?

Provide your answer...

Discussion

Teaching computing is not about training future software engineers (although some argue that increasingly many more people will be employed the tech industry), but on equipping young people with the transferable problem-solving skills that are applicable across all walks of life. You will read more about such computational thinking skills shortly.

Some, including the House of Lords Digital Skills Committee (2016), argue that teaching coding is an economic imperative, and that there is already a significant gap in the skills required by a technology-driven economy and those focussed on in schools.

2.3 Children and computational thinking

Computational thinking is a way of thinking to solve problems.

It allows you to take a complex problem, analyse it, break it down and develop possible solutions.

The term was popularised by Jeanette Wing, Professor and Head of Computer Science at Carnegie Mellon University. She was keen to emphasise that computational thinking is not about developing software, interrogating data or writing a game – although that might be the end result – but it is the development of thinking skills that support learning and understanding.

> Computational thinking is a fundamental skill for everyone, not just for computer scientists. To reading, writing, and arithmetic, we should add computational thinking to every child’s analytical ability… Computational thinking involves solving problems, designing systems, and understanding human behavior, by drawing on the concepts fundamental to computer science.

> Computational thinking includes a range of mental tools that reflect the breadth of the field of computer science.
>
> (Wing, 2006)

Computational thinking is a logical thought process by which problems can be solved (Csizmadia et al., 2015). It covers key areas or steps in problem-solving.

Figure 5

Logic (or logical reasoning) is the process by which we make sense of and understand why things happen. Children often do this instinctually. For example, a child may watch an adult use a tablet, begin to experiment for themselves and very quickly begin to develop a mental model of how it works, swiping or tapping on the screen to get the response they want. It is about connecting action and reaction or, in terms of computing, connecting an 'input' to an 'output' and using your knowledge about a system to predict how it will behave, or why it is not behaving quite as it should.

Decomposition involves taking a problem and breaking it down into a series of small and more manageable parts. These smaller parts can then be analysed and solved separately. This is an approach that children use, for example, when they write a story: the teacher might encourage them to break it down and think about plot, characters and setting. It also involves thinking about and recognising the importance of sequencing, for example, when baking a cake children will quickly learn that the eggs must be broken before they can be beaten with the sugar.

Once a problem has been decomposed, you look for similarities and patterns in the smaller parts that will help you solve them quickly and more efficiently. You try to generalise. Can the solution to one part be used or adapted to solve another part? Patterns can very quickly lead to rules. For example, in maths children may explore the angles in a triangle and eventually discover that they always add up to 180 degrees. Once that pattern has been discovered, subsequent problems are easier to solve.

Abstraction is the process by which you ignore the irrelevant parts of a problem and remove unnecessary detail. It is a way of dealing with complexity. For example, when teaching young children about the solar system, adults may ignore many of the

complexities and create a more abstract and simple model of the planets orbiting around the sun. One of the most famous examples of abstraction is the 1933 London Underground Map. This ignored the actual distances between stations and instead focused on the key areas necessary to help people navigate the system and see how the lines and the stations connect.

Figure 6

An algorithm is a set of step-by-step instructions used to solve a problem or complete a task. Think about the steps to tie a shoelace, plant a seed or make a cup of tea. These are all simple examples of algorithms and there can be many different algorithms to complete the same task. In making a cup of tea for example, most algorithms will start with boiling the kettle but will then vary as to when the milk is added or if sugar is used.

Boil kettle → put teabag in cup → add boiling water to cup → wait 1 minute → remove teabag → add milk

In computing, computer programs are created using algorithms. The programmer will try to find the quickest and most efficient way of completing a task. For example, numerous algorithms are used to decide the order of results when you search the internet, to ensure what the user most likely wants is at the top of the list.

Evaluation and de-bugging the solution to a problem will ensure it works as it should and does so efficiently. For example, the route you have plotted to get to the museum may get you there, but could it be done more quickly? Evaluation may also be about whether the solution is elegant or pleasing. For example, when children write a story they are not simply making sure that it has a plot, characters and setting; they are also evaluating whether it's funny, sad or suspenseful. In computing, evaluation is the process of refining and 'optimising' the solution. When applied to computer programming, evaluation usually leads to 'debugging', the process by which mistakes or 'bugs' in the algorithm (the program) are found and fixed.

3 Programming

Programming (or coding) is essentially about applying computational thinking to solve a problem using a computer.

A program is a set of instructions (code) to complete a task, written in a language (the programming language) a computer can understand. Programs can be incredibly simple, for example instructing a toy car to drive forwards, or highly complex, like predicating which search results you want to see when searching the internet or calculating the flight path of a space shuttle. The various aspects of computational thinking – applying a logical approach, decomposing a task, abstracting it and looking for patterns and developing and evaluating an algorithm – are used as the basis of the program. Programs are written using code and there are many languages in which it can be written.

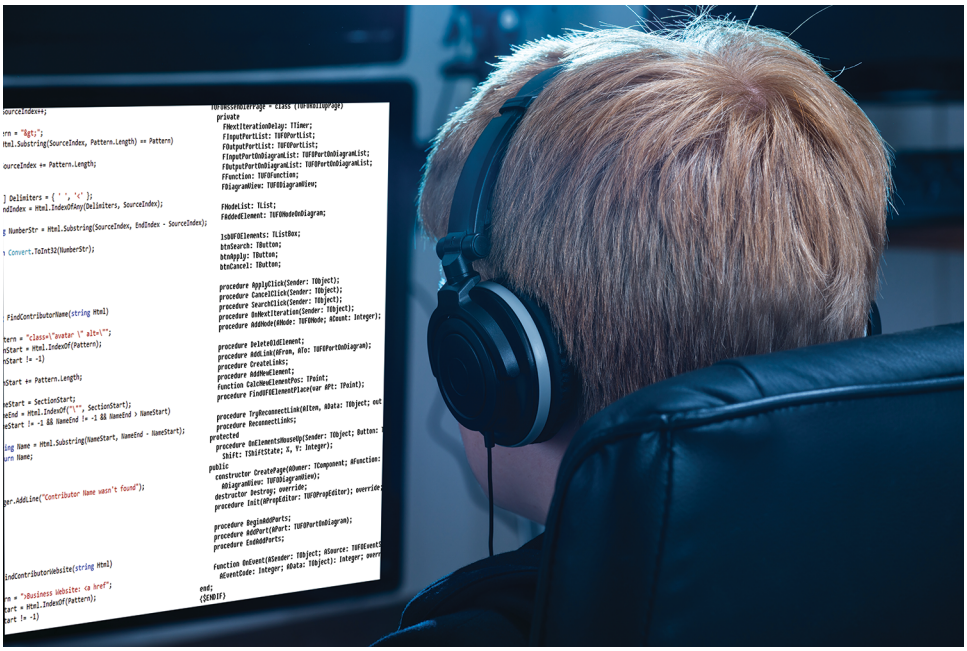


Figure 7

In primary schools, programs tend to be written using simple visual languages such as Scratch, Alice, Logo or Kodu.

3.1 ‘Unplugged’ computing in schools

‘Unplugged’ computing is taught without the use of computers.

The term originates from the Computer Science Unplugged project (Bell et al., 2009) that was based at Canterbury University in New Zealand. The goal was to focus on the development of computational thinking skills, without either the distraction of digital technology or an unintentional focus on learning to program or write code. In the hands-on unplugged classroom, children learn though problem-solving.

Activity 3 Problem solving in context

Allow about 25 minutes

Watch this video of a lesson in which children are exploring how to 'program' their teacher. This lesson focuses on supporting learners to construct a simple set of instructions to program a teacher robot to make a jam sandwich.

View at: youtube:leBEFaVHllE
Video 3

What aspects of computational thinking are on display here?

Provide your answer...

Discussion

The children have applied their logical reasoning to decompose the task of making a sandwich into its constituent parts. They continually evaluate, simplify and refine their instructions (algorithm) as the 'program' runs.

Now watch this video of a lesson in which children are exploring how numbers can be sorted into order.

View at: youtube:M-z5pDjqtZk
Video 4

What aspects of computational thinking are on display here?

Provide your answer...

Discussion

The problem of sorting several numbers has been decomposed into sorting pairs of numbers. A pattern is quickly established and the same rule – a simple algorithm – is applied to sort each pair of numbers until the process is complete.

These lessons were carried out without any digital technology and show that teaching computing does not require any expensive equipment. In the 'Jam Sandwich' video the children can be heard supporting and collaborating with each other as they try to refine or debug the algorithm. They show resilience and a determination to get the algorithm to work. As they program the human robot, they are learning that programming is about giving clear instructions and having someone or something carry out the instructions. It is easy for the children to watch their program being executed in real life and then to evaluate the effectiveness of their algorithm. Humans can make good robots because they can interpret (and misinterpret) natural language instructions. The human robot misinterpretations can add a good deal of humour to a lesson and make the process of debugging entertaining and memorable. This example enables the teacher to quickly and easily demonstrate how much 'extra' understanding humans typically bring to such interactions.

3.2 Try out unplugged computing

In the next activity, you will try an unplugged activity for yourself. It has been adapted from the Barefoot Computing Company activity *Crazy Character Algorithms* (Barefoot Computing, 2014a) and is aimed at introducing algorithms to young children.

Activity 4 Going 'unplugged'

Allow about 15 minutes

You are going to be asked to follow a set of instructions from an illustrator to draw a particular game character. Carry them out by yourself, without consulting others.

1. Draw a circle for the body
2. Add two eyes
3. Add a crown
4. Add wings
5. Add legs

Answer

Look at what you have drawn. Now look at some examples of what others drew following the same instructions.

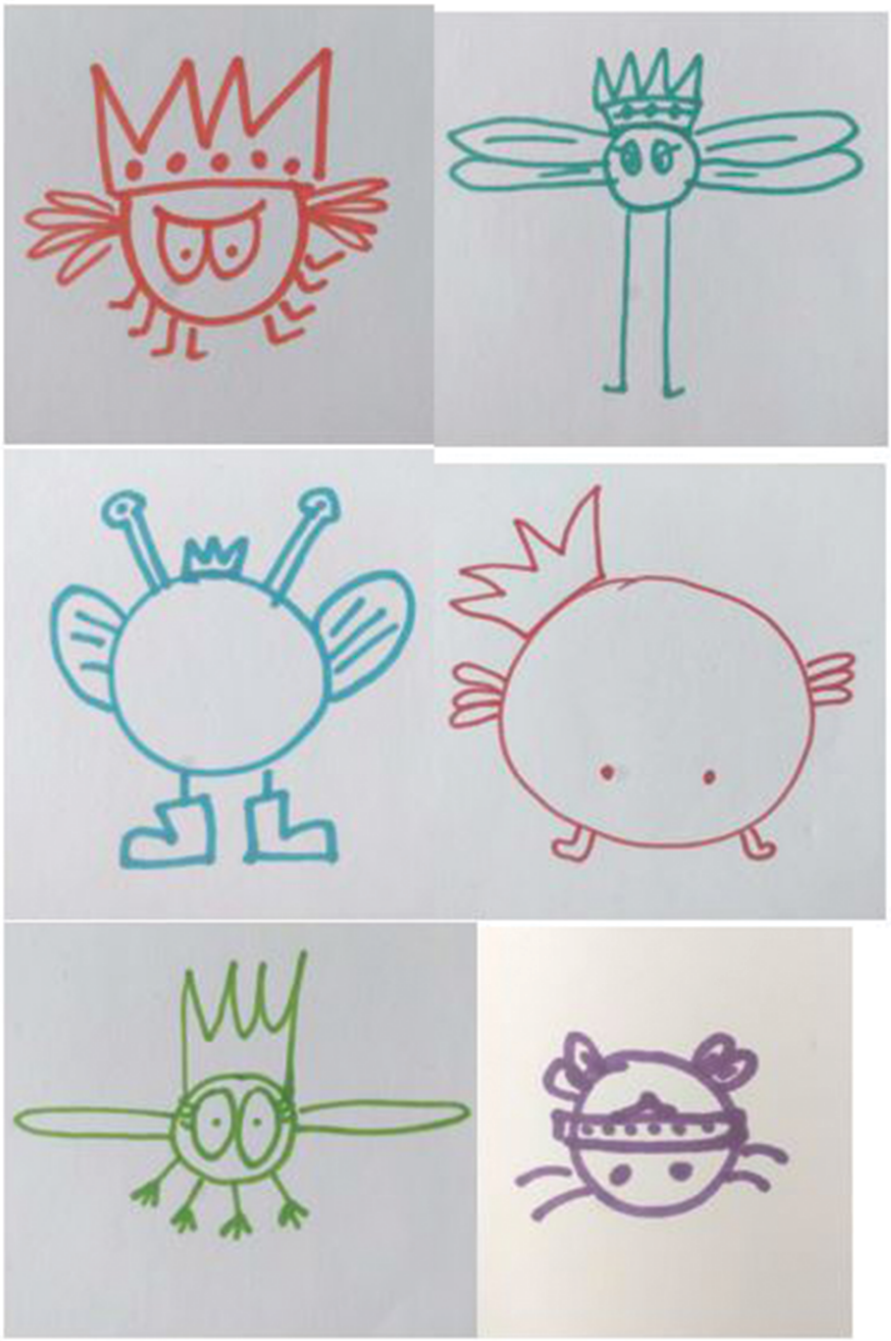


Figure 8

What aspects of computing does this activity touch upon? What teaching points might the difference in the pictures highlight?

Discussion

These instructions are an example of an algorithm, albeit a poorly written one. The instructions are unclear and open to interpretation, so it is unlikely they were evaluated effectively before use. Whilst all the drawing were created following the same set of instructions, the 'outputs' vary. Questions about whether this variation is acceptable could be explored. If the illustrator wrote the instructions to help draw a specific character it is likely they had something particular in mind. The children could be asked to refine the algorithm, test it out, evaluate it and refine it again.

Unplugged activities help children to develop a mental model of how technology works. They will recognise the need for instructions to be clear and precise, at the appropriate level of detail and sufficiently flexible to deal with different but related situations. The focus is on developing an understanding that computing is about logical and creative problem solving. In such activities, children develop their ability to talk about how they are applying computational thinking skills to devise workable solutions. They use their existing knowledge of a system to predict future behaviours. Exploring these concepts in a relatable context, such as making a sandwich or drawing a picture, can be a good way of introducing concepts to children before introducing them to programming software.

4 Learning through exploring and making

Children are usually willing to explore and experiment. Just observe what happens when a very young child is given a tablet or smartphone. This willingness to try things out is key in learning computing. For very young children, playful learning is an essential stage in their development. For older children, play can be a way of understanding how something works and of connecting cause and effect. This process of experimentation and exploration in computing is often referred to as 'tinkering' (Barefoot Computing, 2014b). Tinkering is not a mindless exploration; it's a way for children to construct a mental model of how something works. Children and adults will explore systems (a digital device, a computer program or a game) in different ways, following what interests them, trying things out and making connections.

Computing is a creative subject and is often about making things – a game, a tool, an animation or a robot. In school, helping children to design and make things can be particularly rewarding. Learning to program allows children to become 'digital makers'. Programming can be described as:

> …the process of designing and writing a set of instructions (a program) for a computer in a language it can understand …
>
> (Barefoot Computing, 2014)

Computing at School (2014) describes programming as a two-step process:

1. Analysing a problem or task and designing a solution. This process draws on the full range of computational thinking skills (logical reasoning, decomposition, pattern recognition, abstraction, generalisation and evaluation) to design an algorithm to solve or model the problem.
2. Translating these ideas to a programming language that a computer can understand. This is 'coding' and the instructions that make the program are called 'code'.

In the next activities you will learn about practical ways of teaching computing in the primary school.

4.1 Navigation and algorithms

Programmable toys such as Bee-Bots can be a good starting point for young children. Bee-Bots are simple devices that can be programmed to move around and can be used in a wide variety of ways, from treasure hunts to storytelling.

Activity 5 Making use of robots

Allow about 25 minutes

Read Kristine Kopelke's
Making your classroom buzz with Bee-Bots: Ideas and Activities for the Early Phase.

What aspects of computational thinking can you identify in some of Kopelke's examples?

Provide your answer...

Discussion

Children who are designing and creating their own games and scenarios such as Bot Detectives or Pollen Hunts are exploring algorithms as they continually come across problems that require decomposing, solving and evaluating. Navigation is a task that even very young children understand and is a simple and effective introduction to programming. If children are challenged to navigate the garden or treasure map, they will be required to use their logical thinking and decomposition skills as they write an algorithm. They will need to continually 'debug' their program, considering different possibilities to make it to the treasure as quickly as possible.

4.2 Tinkering and making things

Another way to introduce computational thinking can be through a programming environment such as Scratch. Scratch was created by the Lifelong Kindergarten Group at the IT Media Lab to enable children to create their own interactive stories, games and animations. It was inspired by the work of Papert (Papert, 1980) who suggested that children should be given the opportunity to experiment and explore ideas by tinkering with things. The intention is that learning is self-directed, with children free to tinker and build their own mental model of how the environment works. As they do this, children develop computational thinking and programming skills (Maloney et al., 2010). Using Scratch, children are free to open, explore and 'see inside' tens of thousands of programs shared by others and 'remix' them, that is, adapt them or use parts of them in any way they like.

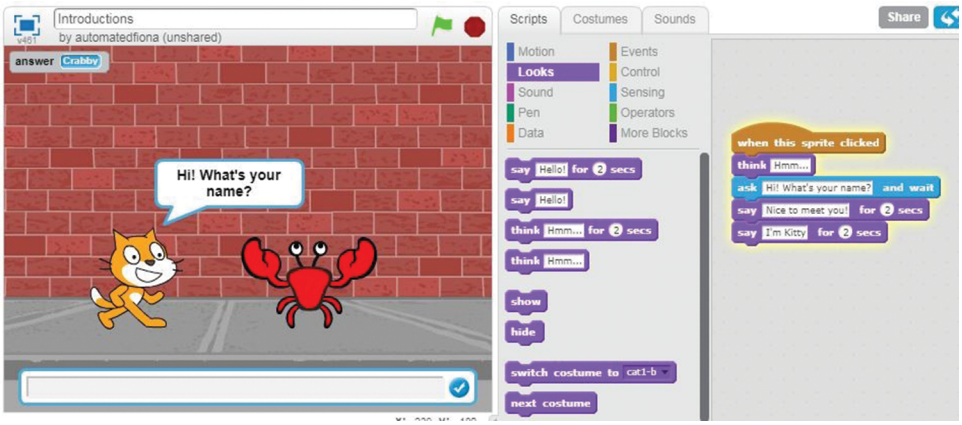


Figure 9

Scratch is a visual programming language in which programs are written by fitting together blocks. The blocks contain individual instructions that program on-screen elements such as characters and objects. In the very simple program shown in Figure 9, the cat character asks the crab character his name and on receiving a reply, introduces herself as Kitty. The program that does this can be seen to the right of the figure. A key feature in the design of Scratch is that you don't need to have any previous programming experience to use it. You can use it without direct support or guidance. Making it 'tinkerable' in this way encourages hands-on learning and supports children to start with

simple actions and build complexity. This is often referred to as a bottom-up approach (Maloney et al., 2010).

Activity 6 Using Scratch for programming

Allow about 15 minutes

Watch this video from Carolside Primary School in Scotland. The school felt that there was a gap in their support of programming for their students and so decided to partner with their local high school to devise a programme of study focused on programming using Scratch.

View at: youtube:IMSoW6yBi4g

Video 5

If you are interested in learning more about Scratch, visit the Scratch website, the Scratch Educators group or access this free 4-week course on Learning to programme with Scratch.

5 This session's quiz

Now that you've completed Session 6, you can take a short quiz to help you to reflect on what you've learned.

Session 6 practice quiz

Open the quiz in a new tab or window and come back here when you've finished.

6 Summary of Session 6

In this session you learned about computing and why it is important for children to learn about it. You learned about computational thinking, ‘unplugged’ computing and algorithms, and you saw some practical ways of teaching computing in schools.

You should now be able to:

- appreciate computing and its role in the primary curriculum
- understand some ways to support children’s learning of computing
- develop your own skills for computing.

In the next session, you will learn about cross-curricular projects and creative ways to help children’s learning.

Session 7: Creative support for children's learning

Introduction

You're into the final two sessions of this course.

You've learned about ways to observe and listen to children in primary schools, and about IT and computing in the primary school curriculum. In this session, you will explore creative and cross-curricular learning.

By the end of this session, you should be able to:

- understand cross-curricular thematic planning in primary schools
- recognise cross-curricular links across academic subjects
- identify some creative ways to support children's learning.

1 Cross-curricular projects

In Session 4, you heard children talking about homework. They said they would like to have homework that is fun and interesting. Children are very likely to say the same about their classroom learning.

In primary schools there is an emphasis on literacy (reading and writing) and numeracy (calculating and number work), but there is also an emphasis on cross-curricular thematic projects or 'topic' work, where children learn a number of different curriculum subjects under one theme.

You met teacher Sarah Johnson in Session 3. Watch her now as she talks about cross-curricular work and how she plans it. At the moment, she is teaching a wide range of subjects to 4 and 5 year old children, all linked to the story of Peter Pan.

Video content is not available in this format.
Video 1

Which curriculum subjects do you think children are learning in the Peter Pan topic and the trip to the sea life centre? Take a moment to jot these down, and then check your ideas with what Sarah says.

Video content is not available in this format.
Video 2

Were you surprised that when Sarah plans play and exploration activities for young children that she has curriculum subjects such as literacy and numeracy in mind, and that she blends different curriculum subjects into children's play?

Sarah uses a couple of terms that you may not be familiar with:

- PSED stands for Personal, Social and Emotional Development.
- Julia Donaldson is a children's author.

1.1 One theme, many subjects

Remember in Session 4 you heard headteacher Mark Millinson talk about a homework project on the Egyptians, where children made pyramids at home from recycled materials. As children learned about the ancient Egyptians over several weeks, they covered a range of academic subject areas.

Figure 1

Activity 1 How does cross-curricular learning work?

Allow about 10 minutes

See if you can work out which subjects link to the activities in the theme of 'Egyptians'. Type your answers into the right-hand column of the table. Some activities may have more than one related subject.

Activities to learn about the Egyptians	Academic subjects
When pyramids were built	*Provide your answer...*
How ancient Egyptians lived	
The Pharoahs, King Tut, Queen Nefertiti	
Egypt is on the world map	*Provide your answer...*
Egypt's deserts and rivers	
The Nile	

Timeline of ancient Egypt	*Provide your answer...*
Egyptian mathematical and number system	
Ancient Egyptian board games	
Reading information books, historical accounts and diaries of archaeological expeditions, Howard Carter and discovery of Tutankhamun's tomb	*Provide your answer...*
Making information books about Egypt	
Writing diaries 'in role' as (pretending to be) Howard Carter	
Learning hieroglyphics meanings	
Rosetta Stone languages and deciphering	
Writing own hieroglyphics	
How bodies are mummified and preserved	*Provide your answer...*
Making papyrus	
Pyramid forces	
Egyptian art and monumental statues	*Provide your answer...*
Making models of pyramids	*Provide your answer...*
Creating dance and movement based on Egyptian art	*Provide your answer...*
Ancient Egyptian sport and games	
Egyptian deities, rituals and afterlife	*Provide your answer...*
Exploring the British Museum Egyptian collection online	*Provide your answer...*
Listening to archival recording of Howard Carter	

Discussion

Activities to learn about the Egyptians	**Academic subjects**
When pyramids were built	History
How ancient Egyptians lived	
The Pharoahs, King Tut, Queen Nefertiti	
Egypt is on the world map	Geography
Egypt's deserts and rivers	
The Nile	

Timeline of ancient Egypt	Mathematics
Egyptian mathematical and number system	
Ancient Egyptian board games	
Reading information books, historical accounts and diaries of archaeological expeditions, Howard Carter and discovery of Tutankhamun's tomb	Language and literacy
Making information books about Egypt	
Writing diaries 'in role' as (pretending to be) Howard Carter	
Learning hieroglyphics meanings	
Rosetta Stone languages and deciphering	
Writing own hieroglyphics	
How bodies are mummified and preserved	Science
Making papyrus	
Pyramid forces	
Egyptian art and monumental statues	Art
Making models of pyramids	Design Technology
	Maths
	Art
Creating dance and movement based on Egyptian art	PE (Physical Education)
Ancient Egyptian sport and games	History
Egyptian deities, rituals and afterlife	RE / RS (Religious Education / Religious Studies)
Exploring the British Museum Egyptian collection online	Computing and IT
Listening to archival recording of Howard Carter	

As you matched the subjects to the activities, you were probably aware that in most cases children are learning more than one subject at a time. Children make better sense of their learning when it's connected, in other words, when they are not learning isolated 'bits' of information.

For instance, when children read and write about archaeological expeditions they are developing their language and literacy skills. At the same time, they are learning history, science, geography, biographies of historians and explorers, and about the science of archaeology. When children write 'in role', pretending to be Howard Carter, they are also using their imaginations and their creativity to describe entering King Tut's tomb. Likewise, when children design and make models of pyramids, they are learning about mathematics and physical forces.

This is why cross-curricular thematic projects or 'topic' work is often referred to as 'integrated learning'. When children can make connections between subjects, and are involved in their learning through hands-on activities, they are more likely to remember what they have learned.

1.2 Cross-curricular case study

Cross-curricular teaching means children are not learning subjects in isolation. When children see meaningful connections between subjects, they become skilled in applying their learning to different problems and situations, and they have a more holistic experience of learning.

Figure 2

Activity 2 Playful learning

Allow about 20 minutes

Read the account by Deborah Whitehouse, a primary school teaching assistant, about a cross-curricular project in her school. As you read, try to identify the subjects children are learning.

> We had a 'forensic morning' in our school, a brilliant cross-curricular morning devised by one of our youngest and more creative teachers. The local community police sent three of their officers along for the morning and 90 children (the whole school) had to solve a crime. We roped in a willing parent to don balaclava and swag bag, who proceeded to 'nick' a laptop and make a getaway through the playground, dropping clues as she did. The children then spilt into groups and dusted for fingerprints and took casts of footprints and proceeded to eliminate suspects using clever detecting. They produced wanted posters, collected evidence in evidence bags, putting on protective gear in true CSI fashion.
>
> They made their own police notebooks and kept detailed timings and records of evidence found. One child who struggles with handwriting was overheard to say 'we have to be neat, we can't use the evidence in court if it isn't neat writing'. At this moment, I saw this child make the link between what he was learning in school and the 'real' world. He saw the point of it all. That's what a creative curriculum does, makes learning meaningful.

In the make-believe 'forensic' activities, children are learning a number of things: some are related to academic subjects, and others are about skills and dispositions (you read about dispositions for learning in Session 3).

Jot down your ideas about the subjects children are learning, and then check your ideas.

Provide your answer...

Discussion

- Police notebooks: literacy and language development
- Wanted posters: art and design
- Recording timings: mathematics
- Dusting for fingerprints and making casts: science and technology
- Finding clues: evaluating information
- Sharing ideas: collaborative working
- Eliminating suspects: inference and deduction

2 Planning and assessing cross-curricular projects

Next you will watch a video on cross-curricular planning.

Activity 3 Observing children in cross-curricular learning

Allow about 15 minutes

The video has several sections, so you can pause and watch at different times.

Listen to how the teachers and headteachers describe their work, and their observations of children. Are you familiar with any of the ideas they talk about, from your own experiences of school or the experiences of children you know?

Video content is not available in this format.

Video 3

Provide your answer...

Discussion

The teachers and headteachers in the video say that there is a world of difference between a cross-curricular project or topic that is well-planned, achieves its curriculum

objectives and engages children, and unfocused topic work which, at its worst, makes forced connections between subjects that are confusing for children and adults alike.

The comments by teaching staff in the video illustrate how they observe children's enthusiasm and enjoyment of cross-curricular topic work. The teaching staff use their observations to assess children's learning and plan new learning experiences. But they also comment on how they use such observations to reflect on their own teaching and how much children are benefiting from it. They recognise, as one teacher says, that children don't learn in small boxes. Cross-curricular work helps teachers to create exciting learning environments which children can get involved in.

Teacher Sarah Johnson, who you met in Session 3, says an important aspect of cross-curricular projects is that they allow teaching staff to observe and listen to children, and learn what makes them 'tick'. She also says cross-curricular work lets children take on different ways to learn and participate.

Video content is not available in this format.
Video 4

Teachers also talk about the value of shared experiences in topic work, where there is no assumed knowledge, and there is an atmosphere of mutual encouragement where no one is afraid to ask questions.

In the video that you watched, a teacher says it's a good idea to find out what children know before you begin to teach them anything. These kinds of comments show that adults in primary schools can consider themselves as learners too.

In the next section, you will look at specific aspects of creative support for children's learning in the primary school and listen to teaching assistants talk about their work.

3 Creative support for children's learning

In primary schools, creative support for children's learning is exploratory, imaginative and resourceful. It is an investigative and problem-solving approach to children's learning which is based on observation and listening.

Read these definitions of creative support. Think about how you have used these kinds of skills, with children or in any other situation.

Practice speculations. These are 'in-the-moment' decisions based on first-hand knowledge and understanding of a child's individual needs, deciding what might work most effectively in specific situations and observing the impact of these decisions. Practice speculations can involve trying something out, based on what you know about a child's dispositions and development.

Diagnostic thinking. This involves using prior knowledge, observation, evidence and close work with a child to make an informed evaluation of that child's needs. Diagnostic thinking is possible when you know a child well, and can understand a child's meaning from verbal and non-verbal cues. Diagnostic thinking enables you to analyse a problem and devise an approach to solve it.

Possibility thinking. Sometimes this is known as 'blue skies' thinking, asking 'what if?' questions and making genuine investigations. Possibility thinking encourages prediction and improvisation. It involves a shift from 'What is this?' to exploration – 'What can we do with this?' It is thinking which is open to change and experimentation.

Creative approaches. Creative approaches to supporting learning can involve play, making connections, innovation, being imaginative and sometimes taking risks. Creative approaches value processes as well as outcomes. Creative approaches will involve possibility thinking and encourage self-determination.

Headteacher Mark Millinson says creative support is also about building trust with children, and their families.

Video content is not available in this format.
Video 5

In the next section, you will hear from primary school teaching assistants about how they work with children, individually and in groups. As you watch and listen, think about how these practitioners illustrate what Mark says about building trust with children.

4 Creative support in action

In this video, primary school teaching assistants talk about their work with children.

Activity 4 Adult support for children's learning

Allow about 20 minutes

You will not hear them use the specific terms 'creative practice', 'practice speculations', 'diagnostic thinking' or 'possibility thinking', the terms you have learned about. But as you watch and listen, see if you can apply these concepts to what they say and to their practical work with children.

Video content is not available in this format.

Video 6

Provide your answer...

Discussion

Sam organises playground activities. She recognises and draws on the skills and experiences of older children to be role models for younger children. She encourages fairness, turn-taking and sharing. She gives responsibility to children and stands back to observe their interactions. She takes decisions to change or adapt activities based on what she sees and hears.

Billie supports a child who has Down's syndrome. She makes moment-to-moment decisions in order to balance close 1-1 support for Zoe with encouraging her to be independent. She manages her close proximity to Zoe by observing her closely and stepping in when necessary.

Vicki says awareness and problem-solving are important in her physical work with children who have a range of individual needs. Her awareness of what is going on all around, and problem-solving to respond to behavioural problems, help Vicki to ensure all children are included and can participate. She says you have to know the children very well.

Suzanne supports a child with a visual impairment. Her observations of Aaron as he works in the classroom help her to support and evaluate his development. She understands the challenges of abstract concepts for Aaron, and uses resources specifically to help him understand

Justine supports children in a literacy group. She says listening, communication and sympathy are important skills to support children's learning. Justine knows the children very well, and she uses this knowledge to decide when and how to adapt the teacher's lesson plan to suit their needs.

5 This session's quiz

Now that you've complete Session 7, you can take a short quiz to help you to reflect on what you've learned.

Session 7 practice quiz

Open the quiz in a new tab or window and come back here when you've finished

6 Summary of Session 7

In this session you learned about creative support for children's learning and basic elements of cross-curricular thematic work in primary schools.

Observing and listening are a big part of creative support for children's learning. In Session 1 of this course, you heard Professor Alderson talk about 'co-construction', and cross-curricular, creative approaches can open possibilities for children to take an active part in their learning with adults.

You should now be able to:

- understand cross-curricular thematic planning in primary schools
- recognise cross-curricular links across academic subjects
- identify some creative ways to support children's learning.

In the final session of this course, you will look at how adults who work or volunteer in primary schools are learners themselves.

Session 8: Adults and lifelong learning in the primary school

Introduction

You have nearly completed this course. Hopefully this final session will be useful to your thinking and your planning to work or volunteer in a primary school.

In primary schools, we expect children to be learning and developing. What about the adults in school? How are they learning and developing as education workers and professionals?

In this session's activities, you will explore how you have learned in the past, and how you may be currently learning, whether that's in your home, the place where you work or volunteer, or in your community.

By the end of this week, you should be able to:

- recognise specific elements of lifelong learning
- understand adult professional learning in the primary school
- develop skills to encourage children to be lifelong learners.

1 A headteacher talks about lifelong learning

For this final session, headteacher Mark Millinson was asked about the learning of adults who work and volunteer in his school. He says he sees many similarities between children and adults as learners.

Video content is not available in this format.
Video 1

2 Workplace learning

Learning happens in school and outside of school. If you think of yourself as a learner, where do you think you have done the most learning? What learning was most important or memorable to you?

Figure 1

If you have ever learned in a workplace, or 'on the job', this probably felt different to how you learned when you were in school. Perhaps it felt more meaningful and motivating. Although you learn as an individual, of course, you are also very likely to learn collaboratively with others in a workplace situation. These may be colleagues who are more experienced than you, or those who share your level of experience. You also learn when you support less experienced adults, or children.

Research (such as Hodkinson and Hodkinson, 2004) has identified four overlapping dimensions to workplace learning:

1. Your prior knowledge, understanding and skills.
2. Your dispositions (habits of mind, or attitudes, which you learned about in Session 3).
3. Your sense of identity and belonging to the workplace community.
4. Your opportunities for learning in or through the workplace.

The first two dimensions are what you bring to any new work or volunteer situation. The third and fourth dimensions develop over time as you gain experience as a worker or volunteer.

3 Learning Lives

The Learning Lives project was a large-scale, four year study by the Economic and Social Research Council (ESRC). Its aim was to increase understanding about formal and informal learning. The project involved in-depth interviews with 117 adults, aged between 25 and 85 years. The project took a 'biographical' approach by asking adults about their learning biographies and life learning 'trajectories' or pathways.

Figure 2

The project found that constructing a 'life story' or a 'life narrative' is a helpful way to identify what and how you have learned from events in your personal life and in your work life.

The Learning Lives project suggests that a life narrative or a life story has a 'plot' that the author (you) uses to select, organise and present life events in a particular order. This order might be as a sequence of events, but it might be presented as a series of themes. In short, constructing a plot enables you to make sense of your life in a coherent way and to identify patterns of learning in your experiences.

Next, you will read a case study from the Learning Lives project.

3.1 A Learning Lives case study

Anne was a participant in the Learning Lives project. She was interviewed six times between 2004 and 2007, during a significant period of change in her life. With her husband and three children, Anne had uprooted in 2002 from one part of the country to another. The Learning Lives project gave Anne the opportunity to tell stories about this life-changing transition.

This reading is in the following sections:

- meet Anne and find out a bit about her
- the themes of Anne's 'life story'

- how her life story creates potential for learning
- how her life story creates potential for action and change.

Meet Anne

Anne, aged 38 and married for 16 years, was the mother of a teenage daughter and two infant sons. The family came originally from the urban Midlands of England where Anne had lived all her life until she and her husband decided to move to a village in the rural South West. She came from a close-knit family where she was accustomed to visiting parents, grandparents and sisters regularly and, despite close family ties and an established pattern of life, Anne and her husband took the risks involved in making a major change. They had no previous connection with the village they moved to and yet were willing to leave behind their familiar lives for the sake of living somewhere new that was close to the sea.

When she left school, Anne had trained and worked for several years as a hairdresser. She described herself as being a 'people person' who found enjoyment in that profession. In the village and through her son's primary school, Anne came into contact with the government initiative Sure Start, becoming a volunteer mentor for the scheme. Subsequently she was invited to become 'parent rep' for the village at Sure Start organisational meetings and became active in a number of community groups. In time Sure Start employed her as a community development officer with responsibility for leading several projects for parents and children. Alongside her workplace learning were elements of formal education, including an NVQ 3 in Early Years Education. When the Sure Start initiative came to an end, Anne continued to be employed by her local authority as a community development officer.

Anne's 'story'

The 'plot' that emerges from Anne's narrative is of a wife and mother resuming her career after moving to a different part of the country. She presented as a vigorous, active, enthusiastic and sociable person engaged in an exuberant quest to engage in life's opportunities. Even the interviews were scarcely episodes of quiet reflection: she emerged as the epitome of the uninhibited multitasking mother, attending to her toddler, taking care of a pet, dealing with phone calls from work and phone calls about house improvements. She was excited by life and its possibilities and this exuberance characterises her stories about her own life, even when talking about family problems and conflicts.

Most striking during the research period was Anne's resumption of her identity as a woman with a career. This resulted in stories about changes to routines, knowledge and skills and in her physical change. The clue to Anne's perspective on the existence of a plot in her narrative is contained in the frequently used comment that she sees herself as a 'people person'. In her new location, becoming a community development worker enables Anne to pursue her interest in people in new ways – going into housing estates and caravans to locate small children and ensuring their carers are aware of their rights and responsibilities. Anne relishes 'being on a mission' and meeting the challenge of coordinating people and resources in projects. She loves doing this in a work environment where she can co-operate with others she finds congenial. However, she has a daily

challenge of reconciling her aspirations and preferences with her concerns about her domestic life.

Anne's learning potential

In early interviews we heard many stories about Anne's learning as a result of moving to a new home. Some adjustments were material such as how to cope with everyday matters like transport and shopping in a rural area. Others involved the way she related to her husband and children as she started to develop a new sense of identity in her new home and community. We heard of the skills and knowledge she gained from her voluntary and then her employed work for Sure Start. Anne's stories were of the experiences in which and from which she learned.

During the final interview Anne was asked to reflect on the experience of taking part in the project and this shifted the quality of her responses, away from a descriptive account to a more reflective stance. She commented on what a rare opportunity it had been:

> I've really enjoyed doing it. I've enjoyed doing it because it's, it's not very often that somebody sits there and lets you tell them about what you are and what you do and how you do your [pause] how your life has been, has been really.
>
> (Interview 6, June 2007)

It was suggested that perhaps the experience was like talking with friends or with relatives. While she agreed that friends may well get together and reminisce, it was never to the extent that someone talks about themselves at length. She added that family members have so many interests and commitments that they would not listen to each other for long.

Anne's action potential

There was an embodied manifestation of the changes that Anne had experienced by our fifth interview. Anne had started attending a slimming club and lost three stone in weight. She resembled far more the glamorous young hairdresser featured in photographs in the family home. She spoke of having regained interest in buying new clothes and caring once more about her appearance.

A change in Anne's approach to telling stories was in the way she reported chronology: in our early interviews, Anne's sense of time was mainly 'family-centric' – she recalled chronology in terms of when things had happened to family members. By the final interviews she was 'organisation-centric'. She said she enjoyed taking part in the interviews and reading the transcripts and found they offered an important insight into herself and the changes she had experienced:

> I'm doing more for a starter. I'm completely different in what I do. I'm working now. More confident in myself as I was three years ago, and more knowledgeable in what I do as well. The different outlook on things, you know, in my work, because I'd only ever been, as I say I'd only ever been a hairdresser.
>
> (Interview 6, June 2007)

However, in the final interview Anne communicated some of her underlying anxieties about getting older and the personal costs that were involved in pursuing her job. She said it was a 'horrible feeling that I've no baby in the house anymore'. She was moving beyond her motherhood identity to becoming someone who enjoys being at work and sees it as necessary to fulfil herself as a 'people person'. At the same time she recognises the personal cost of being no longer available for her children in the way she was. Nevertheless her narrative justifies a departure from her established norms and patterns of belief:

> I would have been a right miserable bugger or, you know, I don't know how I'd have been. So life takes you in such funny ways you never know what's there… so just go with it.
>
> (Interview 6, June 2007)

Learning through reflection

The case study of Anne illustrates that the act of putting together a longitudinal version of your life story offers you a chance to learn about yourself. The Learning Lives project researchers say that the 'stories' you tell about yourself can have a big impact on how you see yourself as a learner and how you make choices as a learner:

> Perhaps our most significant finding is that the differences between the stories people tell about their lives do indeed connect with ways in which people learn from their lives and that such learning affects how they conduct their lives. This not only suggests that life-stories and life-storying are important 'vehicles' or 'sites' for learning from life. It also suggests that the differences between stories matter for such learning.
>
> (Tedder and Biesta, 2008, p. 26)

4 Learning lives in the primary school

In the video that you will watch in a moment, the following six people talk about how they came to be in their roles in a primary school and how they continue to learn 'on the job':

- Vicky, a teaching assistant who is also training to be an occupational therapist
- Tina, a higher level teaching assistant (HLTA), who began working in the primary school after her own children had started school
- Jean, a pupil support assistant, who also began work in a school after being a full-time mum for many years
- Hugh, a grandparent and retired police janitor, who helps with Primary 1 children, especially the younger children who sometimes require a bit more support
- Lucy, a teaching assistant who used to work in a supply capacity in schools, often having to learn on the spot
- Pam, a volunteer parent studying for a teaching assistant certificate and with a particular interest in special needs.

Activity 1 Different starting points for learning

Allow about 20 minutes

As you watch and listen to these six people talk about their backgrounds and their learning lives, think about the questions that follow.

Video content is not available in this format.

Video 2

- What kinds of formal learning can you identify in the teaching assistants' comments?
- What kinds of informal learning can you identify?
- What knowledge, skills and understanding have the teaching assistants developed through formal and informal learning?
- How do the teaching assistants apply their learning to their current jobs in the schools?
- How are they continuing to learn in their workplaces? What knowledge, skills and understanding are they developing in their current roles?
- Linking to the reading you did earlier about Anne and the Learning Lives project, can you identify how each of the teaching assistants creates a 'story' about her or his learning?

Provide your answer...

Discussion

The six people who work and volunteer in the primary school all had different starting points as learners. Some had formal academic qualifications or training when they began to work in the primary school – sometimes from quite different professions to primary school education. Others learned informally, at home or in the community. They draw on the skills and knowledge they developed in other walks of life and bring these to the primary school. Crucially, they all have an interest in children's learning and development. They use this interest to reflect on their own learning, attitudes and behaviour as adults.

As they work alongside children and other professional adults, they develop skills in observation, sensitive listening, and knowing when and how much to intervene. They get to know children well, and this knowledge enables them to provide appropriate levels of support for children's individual needs. They are developing knowledge of curriculum subjects like maths and literacy. They are also developing 'soft' skills for communication, team working and collaboration.

They can all describe their 'story' as adult learners, identifying where and how they learned and how they made decisions as learners. All this helps them to work in a productive and professional way with other adults and with children.

5 Children and adults learning together

Good teachers and education workers know that they don't have all the answers all the time, so it's important to see yourself as a learner if you want to support the learning of children.

Headteacher Mark Millinson says adults who see themselves as curious, lifelong learners will be able to help children develop these dispositions for learning.

Video content is not available in this format.
Video 3

In the final sections of this session, you will begin to sketch your own learning life story.

6 Sketch your learning life story

Have a go and start to construct your own learning life narrative.

Activity 2 Developing your profile

Allow about 25 minutes

Thinking about what you have read and seen so far, answer the following questions. Please note that some of the questions refer to a 'workplace', but these questions can equally apply to what you do in your home or in your community.

Now write a short paragraph about your learning life. Where did you learn, when, why and how? Describe your journey. What have you noticed? What are the key elements of your 'plot'?

- How does your current role influence the ways in which you create or access opportunities for your own learning and development?

Provide your answer...

- What prior skills, knowledge and understanding do you have in your current role that you could bring to a primary school?

Provide your answer...

- How does your thinking and behaviour influence the life of your home, your current workplace or your community?

Provide your answer...

- How does the home, workplace or community (people, ways of working, relationships) influence how you see yourself?

Provide your answer...

Discussion

Use these notes to create, or add to, your LinkedIn or your Facebook profile, or your CV.

A lot of professional learning happens informally, although there can be a complementary relationship between formal and informal learning.

When you apply for a voluntary role or a job in a primary school, you do your best to present your experiences and skills and how these are relevant to the primary school. You would talk about your formal and informal learning, where and how this happened, and what you gained from it.

Once you are in a primary school, in addition to the experience and skills that the headteacher and other staff know about, you might start to bring more of your 'self' and talents to shape the way you work or volunteer. If this helps increase your motivation to do a job and enables you to do it more effectively, this personal expression is an important aspect of effective working.

7 This session's quiz

Congratulations on almost reaching the end of the course.

It's now time to complete the Session 8 badge quiz. It is similar to the badged quiz that you took at the end of Session 4, with 15 questions in total.

Session 8 compulsory badge quiz

Open the quiz in a new tab or window and come back here when you've finished.

8 Summary of Session 8

In this final session you explored lifelong learning and how adults in primary schools are learners as they support children and work alongside children.

You should now be able to:

- recognise specific elements of lifelong learning
- understand adult professional learning in the primary school
- develop skills to encourage children to be lifelong learners.

Hopefully you have enjoyed this badged course on observing and listening to children in the primary school.

Good luck in developing your future career.

Where next?

If you've enjoyed this course you can find more free resources and courses on OpenLearn.

New to University study? You might be interested in our courses on education studies.

Making the decision to study can be a big step and The Open University has over 40 years of experience supporting its students through their chosen learning paths. You can find out more about studying with us by visiting our online prospectus.

Tell us what you think

Now you've come to the end of the course, we would appreciate a few minutes of your time to complete this short end-of-course survey (you may have already completed this survey at the end of Session 4). We'd like to find out a bit about your experience of studying the course and what you plan to do next. We will use this information to provide better online experiences for all our learners and to share our findings with others. Participation will be completely confidental and we will not pass on your details to others.

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