

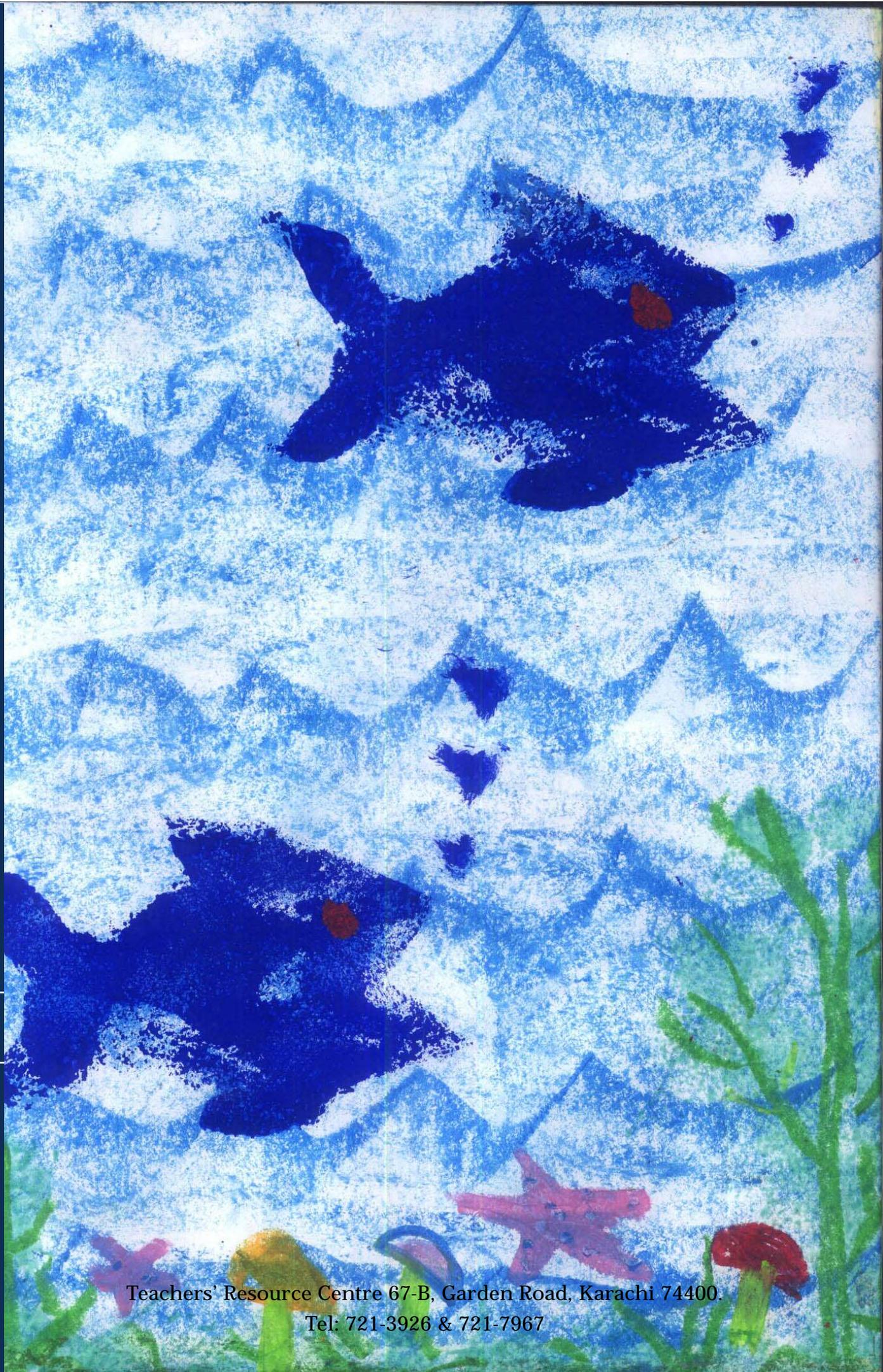
Quarterly
TRC Newsletter

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Dear Reader,

During this quarter most of you will be busy with admissions and settling into the new academic year, followed by the summer break. Besides our on-going projects and programmes, there is a lot going on at TRC too.

As some of you who are working with us are aware, TRC is currently involved in reviewing and revising all the primary level textbooks, in collaboration with the Sindh Textbook Board (STB). Textbook development is in itself a rigorous process; given the time constraint, (six months) it has become doubly challenging. If there are any illustrators among you who are willing to help, please get in touch with TRC.

TRC's Annual General Body Meeting took place in January. Being election year, members voted in a new governing body whom we welcome and look forward to working with more closely. We also hope to see more representation from schools at the AGM next year.

In January this year, we completed a drive to collect basic educational material for Afghan children. This was in response to a request by the Academy of Educational Development, a Washington based non-profit organisation, to provide emergency educational support to Afghan children. Thanks again to those of you who responded so promptly, with pencils, erasers and sharpeners. Special thanks are due to our out station members, Jacobabad Public School, Engro Chemical Grammar School (Daharki) and Dewan Farooq Memorial High School (Thatta) for their special efforts.

In keeping with TRC's history of organising joint ventures between public and private sector schools, in February we held a tree plantation activity in five government girls' primary schools in collaboration with eight private member schools. The children jointly sang a song, carried out an environmental activity and planted 100 saplings which will grow into large shady trees. This activity was part of the tree plantation campaign- Greening The City of Karachi, by the City Government.

By now, you must have received information about Kya Khoya Kya Paya, a play being organised by TRC at PACC to raise funds towards its endowment. The play is a light comedy presented by Katha. We look forward to seeing you there!

As always, we are sending you activity ideas to celebrate Earth Day. Some of you will remember the Earth Day slogan from 1990, "Earth Day is Everyday!" So, celebrate on 22 April and beyond!

Until the next issue, Happy Reading!

Observation, Assessment and Portfolios in the Early Childhood Classroom

Velma Doran, Professor,
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Teachers use the dynamic process of observation and feedback on a daily basis, to determine if children are learning. In the Early Childhood Environment, educators use observation as a means of capturing what each child does and says during a specific period of time, in as much objective detail as possible. Those observations are used to discuss and analyse with other teachers to build on learning experiences for children. Ideally, all adults involved with children should observe and provide analytical feedback to discover the opportunities for a child's growth and development, and to find ways to support and expand them. As Alfie Kohn says, "The best evidence we have of whether we are succeeding as

educators comes from observing children's behaviour." (Educational Leadership, 52, October 2, 1994, p.40) Observing children's behaviour is the foundation of 'best practices' in early childhood education.

Observational practices have been an integral part of the early childhood education field for many years. In the 1930's the whole language movement used "kid watching" to find out how children learned. Qualitative researchers collected raw data observations on individual children and then sorted, interpreted, and quantified them to find trends and hypothesise about potential results. Much of what we know about child development was discovered

through careful and documented observation of children. The "portfolio" movement is being employed to collect evidence that documents children's learning and justifies specific programme and curriculum philosophies, and in some cases, programme funding. Naturalistic or authentic assessment is seen as a valid way to evaluate children by watching



how they behave in their homes. "Performance assessments" are used to determine how children carry out specific tasks and to determine their potential success. All of these practices rely on the careful observation of children's behaviour.

Experienced educators use several different ways to observe children. They must possess observational and recording skills to make an accurate assessment of each child's developmental profile. Educators can plan effective programmes for children only if they have a sound understanding of each child's physical, emotional, social, and intellectual functioning. The child's cultural and family background, individual talents and interests also help determine classroom practice. Experienced educators know children's abilities and developmental levels. This helps them plan an appropriate curriculum, devise teaching strategies and appropriate interaction, so that they can communicate children's progress to parents, and refer children who are identified as needing further assessment.

Through observation teachers can identify children's interests. Knowing what a child or a group of children like and respond to, can help teachers and children plan learning experiences that take into account their preferences. This maximises their learning, for example, a group of children interested in insects, might plan a walk to find them, discover where they live and what they eat. A child might be interested in earth-moving equipment and bring a toy bulldozer to assist with moving dirt to look for insects. Toy bulldozers and spades could also

be added to the block area, and real insects in a terrarium could become the class science project.

Observation is one way to make an informal assessment of a child's functioning in several different developmental domains. Teachers can chart the development of each child and for this the teacher should be aware of the cognitive, physical, social and emotional development of each child. And also whether the observations fall in the normal range for that particular age group.

Having developmental knowledge of each child assists the teacher in planning an appropriate curriculum based on individual needs. A child may be advanced in cognitive development but weak in social skills, according to age norm ranges. The teacher could plan activities to encourage that child to use his cognitive abilities to share information or assist other children in the class, thus gaining social skills too. Another child may be physically adept, but at the same time have difficulty containing emotional outbursts. The teacher may be able to plan an activity that provides the child with opportunities to learn to express uncontrollable outbursts through physical movements such as dance or exercise. Every child develops at his own unique pace. Children may be at different developmental levels in different domains. Knowing this through observation, allows teachers to individualise the programme they create for children.

Regular observations of children's behaviour also allows teachers to find out how they are progressing.

To document changes or growth in children's behaviour, some systematic schedule of observation is necessary. This often provides the necessary documentation when discussing children's progress at parent/teacher conferences.

Observation can also help early childhood educators evaluate their own teaching practices and design appropriate professional development. While observing children teachers should be aware of their own behaviours too. After careful observation and analysis, educators may discover that they interact only with certain children and not with others, that a certain discipline technique works with only a few children, or that a particular story grabs their attention. They might want to



examine their own facial expressions and body language. They could also pay attention to what they say, to see how often they use positive words. This observation and analysis of staff strengths and weaknesses can be used to design professional development plans that provide growth opportunities for educators.

Observation can provide an

objective overview of the programme, and at the same time, provide analysis of specific classroom management strategies. Group cohesiveness and interdependence of its members are critical factors in determining if the group is “working”. Often objective observations will reveal changes that need to be made to make the programme more effective in creating a supportive psychological climate for children.

Observations made by a skilful early childhood educator can provide insights that are useful for planning strategies to meet each child’s needs. However, simply watching children is not enough. Observations should be recorded rather than relying on memory, as it can be quite difficult to decide how the observations will benefit the children.

Observational Methods

Using a variety of different observational methods is useful in providing most of the information. Deciding on the method is determined by factors such as staff available to conduct observations and the purpose of the observation.

For example, if the purpose of the observation is to determine the developmental levels of each child, a simple standardised developmental checklist may provide a base level of accurate information. However, in order to continue to assess the child’s progress it may be necessary to use anecdotal notes on a daily basis. Over a period of time, these collective observations provide great insight into a child’s growth and development, especially if maintained in a portfolio for each child. Regardless of the method selected, it is important for educators to use objective, unbiased descriptions of what is being observed.

Anecdotal notes are the most common form of observing children’s behaviour. An anecdote is a brief account of some event – like telling a story objectively. Anecdotes recorded over time which represent all developmental areas can give a comprehensive picture of a child’s development and become the basis for programme planning. They are quick and easy to do and require only a pencil and paper. They can be used to focus on significant

behaviours in different developmental domains and provide a richer picture of the child than other methods. They are effective because they are based on real performance of the individual child, rather than on an artificial testing situation. They help educators observe children’s strengths, rather than focusing on what the children cannot do. The teacher can take notes during regular classroom activities and use them to facilitate team planning. The observations can give the teaching team new insights about the classroom experiences and the materials they are providing. A word of caution though, when using anecdotal notes – it is possible that, while writing, bias seeps in because the observer chooses what to record. Secondly, anecdotes may not give a complete picture of the behaviour, as it may focus on a unique incident as opposed to being representative of the child’s behaviour.

By asking the following questions teachers can look objectively at their ECE programme: What are the children’s interests? What are the strengths of the programme?

Some guidelines for writing anecdotes:

Format:

- Date each anecdote
- Beginning – identify when, where, who
- Middle – describe what the child did and said
- End – when applicable, state the outcome

Writing Objective Anecdotes:

- Focus on what the child did and said
- Be factual, specific, and brief

Hints for Taking Anecdotes:

- Use abbreviations
- Write on sticky notes or mailing labels
- Wear a necklace type pen for quick access

Transferring Anecdotes:

- Formalise anecdotes by recording in the Child’s File at a later time



Are we neglecting any child development area? Are there materials to support the different domains of development? What materials and experiences can we add? Are our routines comfortable for children? Anecdotes help teachers put everything in perspective – the child’s perspective.

Another method of observation in the early childhood classroom includes checklists and rating scales (which are another form of checklists). Checklists are an easy way to gather specific information about a group of young children. A checklist lists certain behaviours while in a rating scale, the observed behaviour is scored on a specified scale. Good checklists have clearly defined items, with one behaviour to observe per item. For example it would be fairly easy to observe which children in a small group at the art table are able to cut along a straight line with scissors. Checklists can thus be completed naturally without putting the child in a “testing” situation. When a teacher has completed a checklist of skills, it’s easier to see at a glance what a child’s strengths are and the areas for growth. While there are many checklists available commercially, teachers may identify the behaviours they want to target and make their own checklists.

However, sometimes teachers can use checklists rigidly to dictate the nature of the curriculum. That’s when they are less effective as an observation tool.

Many teachers have tried multiple ways of observing and evaluating children and found the portfolio to be an effective way of collecting data on each child. (Meisels & Steele 1991; Paulson et al. 1991; Grace & Shores 1992). This is especially useful when reporting to parents about the child’s progress. Teachers and children can work together to select work samples such as drawings, photos of constructions, tape recordings of the child reading or telling a story, or writing samples to include in the portfolio. Teachers can also include their own checklists or other examples of systematic observations. All work should be dated to allow them to chart the child’s developmental progress in all areas. The portfolio should focus on the child’s success rather than his failures.

Early Childhood Programmes need good assessment tools. The challenge of early childhood assessment is to apply the methods of the assessment field to the goals of the early childhood field. This would include process as well as outcome goals. But the standard assessment practices (testing) – developed for older children, adolescents and adults – conflict with these process goals. The early childhood field must not surrender its process goals to resolve this conflict, for this would bring irreparable harm to the field and the young children it serves. Rather, the assessment field must develop new practices, such as performance-based assessment, that are consistent with the process goals.

There are two types of early childhood assessment – screening and progress assessment. Screening examines children’s performance to determine who should enter a programme (Miesels, 1985). Progress assessment clarifies programme objectives and how well children, teachers, and programmes are reaching these objectives. An effective early childhood assessment tool should meet four criteria; it should be a) developmentally appropriate, b) reliable, c) valid, and d) user-friendly.

In an effort to assess we must also be concerned with the “misassessment” of young children (David Elkind 1987). Much testing of young children is actually misassessment because it is not developmentally appropriate. Many assessment tests present young children with a series of demands to answer there and then, not taking into account that they may not be inclined to respond immediately. Also for most test questions, only a single answer is acceptable; yet the child may give a creative answer which is considered incorrect. Or alternatively he may not understand the question. Many assessment tests give children the underlying message that the teacher is in charge and they must do exactly as the teacher says. Ironically, many such tests also undermine teacher authority because tests are designed to be teacher-proof and achieve their high reliability by minimising the role of teacher judgement in the assessment process.

An alternative assessment is needed that embraces the various aspects of child development and



permits young children to take initiative for at least some of the activities on which they are being assessed. That alternative is the observation of children's everyday activities in developmentally appropriate programmes. Observations are a part of an interactive curriculum, in teachers and children give-and-take regularly. While careful observation requires effort, such an approach has high validity and presents minimal intrusion into children's activities in early childhood programmes. Children's activities naturally integrate all dimensions of their development. And observing these activities results in effective assessment and accountability.

Resources

Billman, Jean, Sherman, Janice A.; Observation and Participation in Early Childhood Settings, a Practicum Guide; Allyn and Bacon, Needham Heights, MA; 1996

Hohmann, Mary; Observation and Feedback: Why They're so Important for You, for Children; Extensions Newsletter, High/Scope Press, Ypsilanti, Michigan, 1991

Assessment Participant Guide, 2nd ed.; High/Scope Press, Ypsilanti, Michigan, 1997

Related Web Sites

"The Portfolio and Its Use: Developmentally Appropriate Assessment of Young Children" by Cathy Grace

<http://ericae.net/edo/ed351150.htm>

"Critical Issues: Assessing Young Children's Progress Appropriately in Pathways

<http://www.ncrel.org/ncrel/sdrs/areas/issues/students/earlycl/ea500.htm>

"A Developmental Approach to Assessment of Young Children" by Lillian Katz

<http://ericeece.org/pubs/digests/1997/katz97.html>

"Standardised Achievement Tests for Young Children? Not Yet!" – ACEI Position Paper

<http://www.nauticom.net/www/cokids/Standard.testsNOT.html>

Reflective reading



Children should be more than just able readers of standard school texts; they need to experience a wide range of texts which place different demands on their reading and comprehension skills. Make a start with some of these ideas.

As children get older and become more able readers, it is easy to fall into the trap of seeing them as competent readers. Sometimes parents feel there is no need to hear their children read because they know that they have adequately mastered their school reading book.

However, it is important for children to develop their reading skills beyond the basic school text and discover demands on their reading and comprehension skills. These higher order

reading skills enable children to reflect upon what they are reading and to distinguish between the different ways we process information. Children should be encouraged to make their own choices about what they read, and the experience of different types of text will help them

develop a more informed approach to their choice of reading matter.

An excellent way to develop higher order reading skills is to



begin with activities based on children's personal reading, the class reading book and familiar authors, and then extend the activities into another area, for example, media studies. Homework activities can be further developed by follow up class activities which will enhance the value of homework in the children's eyes and enable the teacher to focus on their variety of responses as a class.

It may be helpful to keep parents informed by letter so that they can offer support to their children. This should also help them to realise that reading development does not end once a child appears to be an able reader.

Beginnings, middles and ends are especially important. Begin with what is familiar to the children by looking at story structure within the books they are reading in school and at home.

What makes a good beginning?

- Discuss with the children what they think is a good beginning to a story.
- Photocopy the beginnings of five books and ask the children to choose their favourite one and give reasons for their choice.
- Discuss the reason for their choices, looking at vocabulary and build up of tension.
- The children could write their own beginning to a story and then read it to the rest of the class and discuss whether it makes the reader want to read on?

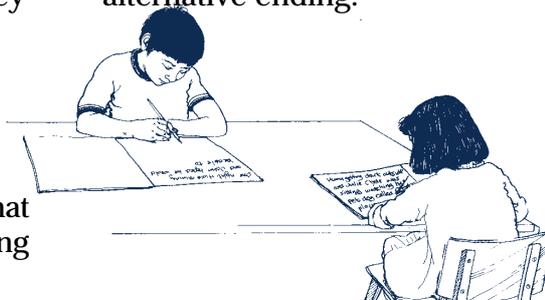
Next, move on to the 'middle',

looking at the important events or turning points of a story.

- Ask the children to develop a board game based on the events of the story. This could be extended by offering an alternative series of events depending on the choices made within the game.
- Tell the children to imagine that they are salespeople for a booksellers. Ask them to write a persuasive 'sales pitch' for their current book. Remind them that it should really grab the reader's imagination.
- Take a class vote and find out how many people would buy the book.

Ending a book

- Photocopy the ending of a book and ask the children to predict what had happened prior to this point.
- As a follow up to this exercise the children could write an alternative ending.



Characters

- Ask the children to choose a character with whom they would most like to be stranded on a desert island.
- Hold a class discussion about how the author has described the characters.
- Ask the children to find a magazine picture that most resembles the key character from their reading book. They could stick it on to a piece of paper, then 'brainstorm' about some descriptive words and

write them down around the picture.

- They could also choose a book character that they would like to be and prepare to be interviewed by the class. A role play situation could follow up.



- Seat the children in pairs and ask them to choose and pretend to be a character from different books. They should then write a letter to each other.

Extending the range

When the children have completed these activities with success, it is time to develop their interest with a wider variety of texts. It is particularly important for them to be able to distinguish between reading fiction and reading for information texts. By examining different kinds of texts, children will learn to appreciate the different forms of communicating information. For example, possible areas of study are: history texts which explain events (expository genre); directions or instructions, perhaps about how to play a game or how to make a simple dish (procedural genre); or purely - factual text (reference genre), all of which demand a reasoned rather than emotional response from the reader.

An area which is easily accessible and motivating for

children is media studies. The main aim is to help children to see that all texts are constructed by authors for particular reasons with a targeted audience in mind. It is also important for pupils to experience a range of texts that are not specifically aimed at children.

Newspapers

- Look at how news articles are written, paying particular attention to headline, composition, vocabulary, setting and type face. Ask them to look at the way the story begins - it gets straight to the heart of the matter. What do they notice about the way language is used in a news story? What restrictions are involved when writing a news story?
- Suggest they look at the newspapers they have at home. Does the way in which stories are written differ from paper to paper?
- Give the children a photograph from a newspaper then ask them to write the story that accompanies it.
- The children could choose a

current news story and rewrite it from a different viewpoint, for example, from the point of view of the losing team.

- They could also choose a well-know story and rewrite it in a different style, for example, The Three Little Pigs as a horror story or as an information leaflet.



Advertisements

- Ask the children to list the different types of advertisements, for example, newspapers, magazine, billboards and so on. Discuss the images used and the words chosen to promote a product, then ask the children to guess the audience it was aimed at. How would they describe the style in which advertisements are written? What devices are employed to catch the eye?
- The children can then transfer responses from the written to the visual medium. Tape a collection of TV adverts and discuss the images, timing, music, voice-overs, types of shots and the producers' intentions.

- An awareness of audience can be fostered by comparing adverts shown at different times.

Though they have moved away from the written text, the children are still employing the kind of reflective responses developed through their reading. This opens up their critical faculties and fosters an enquiring approach to the way information is presented and communicated.

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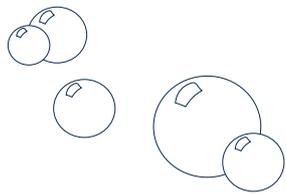
Based on ideas by Wendy Hodgkinson and Jo Bowrah, Maynards Green Primary and Highfield Junior School, Eastbourne. Junior Education, May 1995



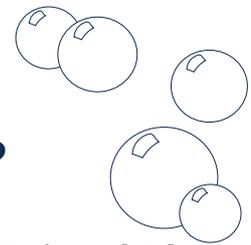
Brain Busters

1. Which five - letter word contains four personal pronouns, with the letters in the correct order?
2. Make a single common English word from the following letters: pnllleeeesssss.
3. Add one vowel to the letters wthfl, then unscramble them and make a word.
4. Fill in the blanks, using the same set of letters in the same order in each blank, and make a sensible sentence:
A _____ doctor was _____ to operate because he had _____
5. Which word is made shorter by adding a syllable to it?

Answers on page 11



What are Bubbles ... and Why are they round?



What are bubbles, and why are they round? Questions such as these provide an excellent opportunity to talk to children about air, that mysterious and invisible gas that is necessary for breathing. We live immersed in an ocean of air, just as fish and other sea creatures are immersed in an ocean of water. Both 'oceans' are held onto the Earth by gravity and both exert pressure on everything within and around them.

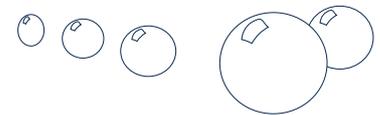
In the context of water play, where the question is most likely

to arise, bubbles are formed when air is trapped under water. The water pressure squashes the air into the smallest possible space that it can occupy which makes it spherical. Air is lighter than water so the air bubbles float quickly to the surface.

When we blow soap bubbles into the air the soap film around the outside of the bubble takes on a spherical shape for the same reason. The film has an elastic quality and it makes the smallest possible shape around the air that is trapped inside.

Bubbles in fizzy drinks are formed when the gas (carbon dioxide), that has been dissolved in the liquid during production, is released. The can or bottle is closed under pressure but as soon as the container is opened the gas is able to come out. Again, the gas bubbles are lighter than water so they float to the surface.

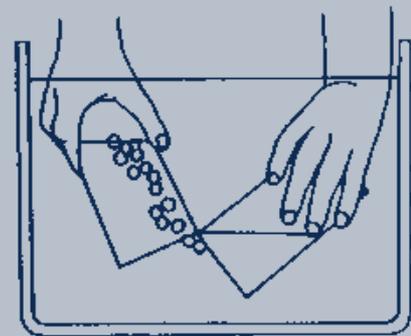
Source:
Child Education, September,
1999



How to answer the question

During water play we can encourage children to play with air as well as water. A simple demonstration is usually sufficient to keep a child engrossed in the behaviour of air for some time. The following procedure can be carried out in a water tray or a plastic tank, preferably with transparent sides.

- Take two jam jars or glasses and immerse them upside down in water.
- Pour the trapped air gently out of one of the jars until it is empty to show that it has a fluid quality in the 'upside - down world of the water' - 'it pours upwards'.
- Encourage the children to watch the bubbles and describe their shape.
- Ask the children what it was that came out of the glass and then...
- ...continue to hold the two glasses upside down in the water and ask them what is in the first glass (the one that still has the air) that stops the water from going in.
- Now pour the air from the first glass into the one full of water to show how the air pushes the water out of the glass - and to show that it really does behave as if it's in an 'upside down world'.



To help children understand why bubbles are spherical, ask them to make themselves as small as they possibly can. You can then explain that the air has to do exactly the same thing when it is released in the liquid because it's squashed (under pressure) from all sides. The air makes the smallest shape it can which is 'round' (or spherical). Children can check this for themselves by trying to blow soap bubbles of other shapes using bubble blowers made from garden wire twisted into non-circular shapes.

Can Environmental Education Help Change the Behaviour of Learners?

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Environmental education is usually defined as education of environmental issues and acquiring knowledge of these issues through formal learning. Some practitioners use the cliché 'environmental education' to include things in the environment, for the environment, and about the environment. Yet others feel that environmental education is an interdisciplinary channel that helps integrate different hard core subjects. To some extent, all these concepts can be used to understand theories underlying environmental education. However, we need to think at a higher level to understand the ability of environmental education to change human attitudes and behaviour towards environmental issues. This is important if we want to understand the impact of environmental education on behavioural responses of learners.

Various scholars and researchers have defined learning as a process that leads to a "change in behaviour". Cognitive learning styles of adults (teachers and non formal educators, for example) are described as information processing habits in the learner's typical mode of perceiving, thinking, problem-solving, and remembering. These learning styles can also be defined as lifelong learning, or the process of learning that continues throughout one's lifetime based on individual needs, circumstances, interests, and learning skills.

When we explore the level of environmental understanding amongst our educators, it appears that their environmental literacy has evolved from learning through lifelong experiences and not through formal education. Thus we can safely assume that this constructivist approach to learning is achieved through multiple channels, other than those used to acquire knowledge. Lifelong learning is one thing and academic learning is another. It is this holistic approach to education that has been identified as a dynamic reality when we try to change behaviour through environmental education. This needs to be considered when we plan any educational programmes for promoting environmental literacy in learners, teachers and students alike.

The primary goal of environmental education is appropriate and responsible environmental behaviour. Attitudes towards environmental issues are influenced by our behaviour towards them. For example one issue of concern to us is the pollution around us. We unanimously agree that this pollution is unhealthy, harmful, and dangerous to our lives, and that it is increasing at an alarming rate. We all desire a cleaner and healthier place to live in. However, when it comes to taking decisions about matters of waste disposal or garbage collection, we do not feel responsible for taking this decision, or even to consider it our right.

This attitude reflects that we have actually made a decision not to participate and it indicates our lack of understanding of the issue. Responsible environmental behaviour would include thinking critically about the issue and taking decisions, however small or unimportant they may seem.

As educators, it is our primary responsibility to promote and enhance responsible environmental behaviour in learners. Simple awareness of issues does not lead to change in behaviour towards the environment. Activities need to go beyond awareness and knowledge of issues. The desired behavioural change includes not only educational practices but also environmental activities, and these activities need to be supported by the development of action skills, the psychometric facet of learning.

Two major levels of learning for teachers become evident: personal commitment and professional development. At the personal level, it is important for an educator to first and foremost designate herself /himself as a learner. As mentioned before, we learn from all we do, be it talking to a stranger, going shopping, or watching television. We come across environmental issues and deal with environmental concerns that impact our lives, daily. As learners, we need to understand the social, cultural, economical and even political and religious impact of

all that we do. Understanding individual actions and their relationship to the larger picture will help us recognise and determine actions that will eventually (and hopefully!) lead to behavioural changes towards environmental issues.

In striving for professional development, there are a number of opportunities that exist. The challenge is to identify them and explore the possibilities. However, the key is to understand and honestly determine the level at which one currently is. And it is also important to know that exploring a new horizon is always fun. You may have been a science, maths, or language teacher for a number of years, and yet you may need technical information on various environmental topics. You may also need to learn new teaching strategies for these topics. Teachers Resource Centre frequently offers seminars and workshops. These opportunities focus on ways of linking environmental education to core subjects in the curriculum such as science, maths and social studies. The workshops also focus on ways to increase environmental awareness and responsibility through the classroom.

Furthermore TRC's annual Earth Day newsletter outlines various practical activities which can be easily carried out in the classroom, and which aim to make the young learner a more environmentally aware and responsible one.

Communication is a critical issue in any learning situation. Once a teacher has acquired sufficient skills and knowledge about an environmental topic, is she able to successfully communicate this knowledge to students in a

meaningful way? And is she able to achieve this in a classroom of 35 to 40 students within a predetermined time period? Let us explore a couple of these real challenges.

The most important task for a teacher is to complete the syllabus in a given time in order to be able to evaluate learners through tests and exams. However the overriding goal of all education is to provide factual knowledge in an evocative fashion that will help learners develop critical thinking skills. Subjects such as science, social studies, religious education, and language provide excellent opportunities to let children explore environmental topics in detail. This cognitive development positively impacts the affective domain of learning and at the same time lets the teacher, teach the topics in the syllabus. One example is the topic of water. The learner can be taught about its sources, forms, uses, need for life, consumption, utilisation by industry, scarcity (as a result of misuse, pollution, and dumping of waste) through science, social studies, language and various other subjects which provide the ideal forum for environmental education. Once the students have grasped the relationships, we can expect a gradual change in the behaviour of students, which is the ultimate goal of environmental education.

Lack of resources is another challenge that a classroom teacher faces. Environmental education provides innovative ways to overcome these barriers. In environmental education the 3 Rs go beyond what they have traditionally stood for (reading, 'riting, and 'rithmetic) and provide

a new meaning: reduce, reuse, and recycle. By using creative ways to utilise available resources the teacher not only stresses the importance of responsible environmental behaviour but also enhances the civic and social responsibilities in students. The art teacher and computer lab instructors can also effectively participate in designing environmental activities.

Environmental education has been globally defined as "the process of developing a world population that is aware of and concerned about the local environment and its associated problems, and which has the knowledge, skills, attitudes, motivation, and commitment to work individually and collectively towards solutions of current problems and the prevention of new ones." (Belgrade Charter, 1975) As educators in Pakistan, we need to understand these goals, and be willing to learn, in order to enable our students to successfully address environmental issues that are important and relevant. I present this challenge to you and encourage you to share your experiences with Teachers' Resource Centre.

Sabiha S. Daudi can be reached at sabihad@msn.com

Answers:

Brain Busters

on page no 8

1. Usher: us, she, he, her
2. Sleeplessness
3. Add e to make twelfth
4. A notable doctor was not able to operate because he had no table.
5. Short