What can Schools Learn from Children about Use of Culturally Relevant Methods and Materials?

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Abstract

The methods and materials used by teachers in schools has been examined by various researchers. However, sibling teaching and the materials and methods used during sibling teaching is an area that has not received much attention. There is therefore a paucity of literature on the teaching strategies older siblings use when instructing younger children. This paper therefore is based on a study that set out to investigate the materials and methods used during sibling teaching among children in Kenya. This study was important as most children spend a significant proportion of their time with their siblings resulting in siblings having a great influence on each other. In this study, the older siblings were found to use locally available materials such as stones, sticks, leaves and seeds to teach various concepts and skills to younger children. They also used traditional games, songs and story telling. They taught their younger siblings not only the appropriate norms and values, but also instructed them on various concepts taught by teachers in Kenyan schools. This paper therefore recommends that teachers just like older siblings should use locally available materials and culturally appropriate teaching methods.

Keywords: home instruction, instructional materials, non-traditional education, peer teaching, preschool education, sibling teaching.

INTRODUCTION

Research has revealed the importance of siblings in children’s cognitive (Perner, Ruffman, & Leekam, 1994), social (Brody, Kim, Murry, & Brown, 2003) and emotional (Howe & Ross, 1990) development. Studies have also examined sibling teaching in laboratory studies where older siblings have been instructed to teach younger children cognitive or construction tasks (Azmitia & Hesser, 1993; Cicirelli, 1972, 1973; Hancock & Kaiser, 1996; Klein, Feldman & Zarur, 2002; Klein, Zarur & Feldman, 2003; Stewart, 1983). Mother-child teaching has also been compared with sibling teaching (Cicirelli, 1976) and other studies (Volk, 1999) have focused on a single family where a kindergartners’ older siblings teaching strategies were compared to those used by the kindergartners’ teacher. Research therefore has established that older siblings teach younger children various concepts and skills.

Parents have also been perceived of as “trainers” (Harkness & Super, 1995) and various studies (Jahoda, 1982; Middleton, 1970) have labelled childrearing customs “education”. Studies based on this perspective have focused on the detailed description of processes through which adult culture is transmitted to children, and how educational practices have signalled the demands of adult life.


limitation of the study

Although most of the families approached by the researcher agreed to take part in the study, a few families declined to participate. The reasons given for this included a fear of being videotaped since there was a belief by some of the families that video tapes and pictures could be used to bewitch those who had been video taped or whose photographs had been taken. However, in spite of this, the researcher was able to collect adequate data for the study.

METHODOLOGY

Gatundu North division of Thika district in the Central Province of Kenya was the study site. Thika district is situated approximately 40 kilometres east of Kenya’s capital Nairobi. This site was selected because it provided a fairly homogeneous rural community. The sample frame included 67 older siblings and 34 toddlers. The older siblings were aged between four and twelve years old and included 38 girls and 29 boys. The toddlers were all around two years old with their ages ranging from 20 to 33 months. There was an equal number of toddlers according to gender that is, there were 17 boys and 17 girls. Two year olds were chosen for this study because two years is the age at which children begin to enjoy playing near other children and also join in others play activities (Malley, 1991). It was expected that the two year olds in the selected sample would be engaged in play with older siblings.

All the participants in the study belonged to the Agikuyu ethnic community. The Agikuyu community was chosen because like many communities in Kenya, it is a community that employs sibling caretaking with older siblings often young children themselves tending to their younger siblings from infancy. The participants were recruited on a volunteer basis after a research clearance permit had been obtained from the Ministry of Education. The researcher and a research assistant approached the selected participants after the research assistant helped identify suitable families having both two-year-old toddlers and older siblings aged between four and twelve years old.

The data collection was carried out in thirty four homesteads. Video recording was done as older siblings interacted with the two year olds. However, before the actual fieldwork began, the researcher and research assistant prepared a schedule for two visits to each home which were not communicated to the families in order to get the most natural situations. The actual data collection was carried out during the second visit while the purpose of the first visit was to familiarise the families with the researchers in order to minimise any disturbances that may have been caused by their presence when the actual videotaping began later on.

During the first visit, the families were briefed about the manner in which the data collection procedure would be carried out and some video recording was done on this day but this data was not included in the data to be analysed at the end of the study. The families were informed that the main interest of the study was to find out what siblings did during the day when they were together.

The videotaping session was carried out during the second visit for one hour while the siblings interacted. However, videotaping began ten minutes after the researcher and research assistant arrived in the homesteads in order to reduce the intrusive effect of the researchers. Other family members who were in the homesteads but whose ages were not within the required age range were requested to go on with their daily activities as the videotaping took place. Some family members went on with their usual routines while others sat at a distance and watched the interactions.

After the videotaping, the teaching episodes in the video tapes were extracted from the longer tapes before transcription was carried out. It was important to extract the teaching episodes from the longer tapes because not all the contents of the videotapes were considered to be sibling teaching episodes for example, the children sometimes interacted with adults. From the 34 hours of tape, 14 hours, 43 minutes and 32 seconds of teaching episodes were extracted.

Teaching was defined as any activity the older siblings drew the toddlers’ attention to that could have had the possible effect of transmitting knowledge. Therefore both verbal and nonverbal actions were considered as teaching activities. The teaching sessions were considered to have begun when the older siblings verbally or nonverbally tried to get the toddlers attention while the ends of the teaching sessions occurred when either the toddler or the older sibling who was interacting with the toddler left the scene without returning. Teaching episodes were also considered to have come to an end when either of the children changed tasks and began a new episode with a different activity. The children’s interactions were analyzed by qualitative data analysis.

RESULTS

The findings of this study were that the older siblings taught the younger children various skills and concepts which included appropriate norms and values, school related activities, personal hygiene matters, how to perform daily chores and how to play children’s games.

The children were found to use locally available materials such as stones, sticks, leaves and seeds in

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their instruction. In addition, they used traditional games, songs and story telling. Excerpts from the transcripts showing some of the skills and concepts the older siblings taught the younger children and the methods and materials they used are presented in the following section. The findings on the methods and materials used are also summarised in table 1.

Example 1
This example shows older siblings teaching a toddler how to count. The toddler’s name is Lucy (T) and she is being taught how to count by her siblings Wanjiku (W) 6 years old and Njeri (N) who is 9 years old. The teaching episode begins with the children standing near a granary.

N: ((To Toddler and Wanjiku))
We are going to count! Come here!

((Njeri is collecting pebbles from the ground))

W: ((To Njeri))
I don’t want (to play)

N: ((To Toddler))
Why did you come to class without books?

N: ((To Toddler))
Come here Lucy!

((The Toddler has been watching the older girls and is still watching them. Njeri spreads the pebbles on the ground and starts counting them))

N: ((To Wanjiku and the toddler))
One, two, three, four, five, six. I have counted up to six. Now it is your turn

((The Toddler is still watching the older girls))

N: ((To Toddler))
Lucy! Come here! Come and count!

((The Toddler walks towards Njeri and Njeri takes her hand))

N: ((To Wanjiku))
Lucy is not like you! She wants to count.

((Njeri is now holding the Toddler’s hand but the Toddler has held her hand in a fist))

N: ((To Toddler))
Don’t fold your fingers!

((The Toddler stretches out her fingers so that her palm is facing upwards))

N: ((To Toddler))
Take the stones and start counting them!.....One!

((The Toddler picks one pebble))

N: ((To Toddler))
That is one!

T: ((To Njeri))
One

W: ((To Toddler))
Pick another one and say two!

T: ((To Wanjiku))
Two

N: ((To Toddler))
Take another one and say three!

((The toddler looks up into the distance and starts walking away))

N: ((To Toddler))
Sit down! Sit down! You are in class!

((The toddler has been distracted by something in the distance and is walking away. Njeri goes and stands next to Wanjiku who is seated on the granary ledge. The older girls start chatting. The Toddler is no longer paying attention to the older girls))

Example 2
The second example shows a Toddler called Klini (T) being shown by her brother Kamau (K) how to feed cows. Kamau is 9 years old.

K: ((To Toddler))
Go and get leaves for the cow

((Kamau and the Toddler walk towards the cow sheds. The Toddler picks a handful of grass from a sack nearby and takes it to the cows then she starts walking back towards Kamau))

T: ((To Kamau))
They have finished

((Kamau gives her some maize stalks to take to the cows. The Toddler walks back to the cows and starts feeding them. One of the stalks has fallen to the ground))

K: ((To Toddler))
And also those ones (referring to the stalks that have fallen on the ground)

((The Toddler picks the stalks on the ground)
and feeds them to the cows then she runs back to Kamau))

K: ((To Toddler))
Pick some more

((The Toddler picks some more grass from the sack))

NB: ((To Njoki and Rosemary))
Where should I drum? (referring to which part of the metallic container the boy should drum/hit)

T: ((To Kamau))
They have finished

K: ((To Toddler))
Take more

((Kamau holds the mouth of the sack so that the Toddler can take more grass out of the sack. The Toddler walks to the cows holding grass in both hands. She starts singing as she feeds the cows))

T: ((To the cows))
And you! And you! And you!

K: ((To Toddler))
Come

((The Toddler runs back to Kamau. The Toddler wants to take more grass out of the sack but Kamau has already tied the mouth of the sack))

K: ((To Toddler))
We won’t feed them anymore

((The Toddler walks away from Kamau. She starts staring into the camera then turns and looks at Kamau who is still standing next to the sack of grass))

Example 3
In this example older siblings are teaching a toddler how to dance. The toddler’s name is Cynthia (T) and she is being taught how to dance by her cousins Njoki (JN) and Rosemary (R) both aged 9 years old.

((The Toddler is standing in the foreground singing to herself. Njoki and Rosemary are standing near the house. They are talking to a neighbours’ boy (13 years) who is in the background. The boy is hitting a metallic container with a stick to produce a drumming sound to which the girls want to dance to))

JN: ((To neighbours’ boy))
Let us dance. Let us dance. Let us dance.

NJ: ((To Toddler))
Let us dance. Let us dance.

((The three girls continue dancing. The three girls continue dancing. The Toddler finishes tying the leso. She holds the Toddlers’ hands and starts dancing with her. The three girls continue dancing))

NB: ((To Njoki and Rosemary))
Which one should I now play?

((The three girls continue dancing and at one point the Toddler sings to herself. The girls continue dancing. The Toddler has turned away from Njoki while dancing. Njoki moves and stands in front of the Toddler and holds the ‘Toddlers’ hands’))

NJ: ((To Toddler))
Not that one!

R: ((To neighbours’ boy))
This one

((Rosemary starts humming the sound of the tune they want the boy to play. The Toddler is still in the foreground singing to herself as she watches the other children))

((Rosemary and the Toddler continue dancing as Njoki ties her leso. Njoki finishes tying the leso. She holds the Toddlers’ hands and starts dancing with her. The three girls continue dancing)))
Aunt:  ((To Njoki))
Give her (Toddler) some space

((Njoki moves away from the Toddler and the Toddler continues dancing. An object the Toddler is holding in her hands flies out of her hand and lands in the foreground. The Toddler stops dancing and goes to pick the object. She returns to where the older girls are dancing))

NJ:  ((To Toddler))
Let us dance. Cynthia, like this. Like this.

((Njoki is now dancing in front of the Toddler. The Toddler also dances. The girls continue dancing))

Aunt:  ((To Njoki, Rosemary and the Toddler))
You are too far away

((The song comes to the end and the neighbours’ boy stops drumming. Njoki and Rosemary move towards the house. The Toddler remains in the foreground))

Table 1. Methods and Materials Used During Sibling Teaching

<table>
<thead>
<tr>
<th>School Related Activities</th>
<th>Methods and Materials Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to count</td>
<td>Pebbles; songs; traditional games</td>
</tr>
<tr>
<td>How to say the alphabet</td>
<td>Songs; verbal instructions</td>
</tr>
<tr>
<td>Names of objects</td>
<td>Verbal instructions; songs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Daily Chores</th>
<th>Methods and Materials Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to cook</td>
<td>Leaves referred to as vegetables; sticks referred to as cooking sticks; water; old cups, spoons; mud paste; soil referred to as rice; calabash; tin referred to as a stove; plastic bottles</td>
</tr>
<tr>
<td>How to carry a baby on the back and how to tie a baby to the caregivers back</td>
<td>A doll; sweater used as a shawl</td>
</tr>
<tr>
<td>How to take care of a baby</td>
<td>Bunch of clothes tied together to represent a baby</td>
</tr>
<tr>
<td>How to talk into a mobile phone</td>
<td>Small black plastic box representing a mobile phone</td>
</tr>
<tr>
<td>How to carry water in a container tied to ones back</td>
<td>Plastic bottle; rope</td>
</tr>
<tr>
<td>How to plough/till the ground</td>
<td>Sticks referred to as digging tools</td>
</tr>
<tr>
<td>How to weed</td>
<td>Sticks referred to as knives/machetes</td>
</tr>
<tr>
<td>How to feed farm animals (chicks and cows)</td>
<td>Seeds; grass; maize stalks; water</td>
</tr>
<tr>
<td>How to cut firewood</td>
<td>Sticks</td>
</tr>
<tr>
<td>How to sweep</td>
<td>Broom made from twigs</td>
</tr>
<tr>
<td>How to wash dishes</td>
<td>Old metal plate; water</td>
</tr>
<tr>
<td>How to build a house</td>
<td>Old planks of wood</td>
</tr>
</tbody>
</table>
Norms and Values
How to shake hands/greet visitors
Good manners
How to sing traditional songs
Traditional dances
How to drum
Activities before attending a church service (bathing and washing ones hair)
Proceedings during Christian church services
How to share items/avoiding selfishness
How to pray (closing eyes and maintaining a serene atmosphere)

Methods and Materials Used
Verbal instructions; directing toddlers hand
Story telling
Verbal instructions; singing
Older sibling dances/models
Empty plastic container; metal tin; sticks
Older sibling as model; water
Acting out a church service; preaching, singing, drumming (hitting an old plastic bottle with a stick)
Verbal instructions
Older sibling as model; verbal instructions

Personal Hygiene/Taking care of oneself
Not to eat a banana without peeling it
How to wash ones legs
How to bathe; apply petroleum jelly
Keeping safe/keeping away from a goat
Keeping hens away from one’s plate of food
Covering oneself so underclothes are not visible

Methods and Materials Used
Verbal instructions
Older sibling as model; water; pail
Older sibling as model
Verbal instructions
Verbal instructions

Games
Ball games
Local chess game
Local pool game
How to swing a rubber strip around the waist
How to play a singing game
How to swing a rope during a rope skipping game
How to sing into a microphone
Hide and seek
How to make a toy car

Balls made from old polythene papers and sisal string
Old cardboard box; bottle tops; stones
Long sticks and marbles
Old rubber strip
Verbal instructions; singing
Sisal rope; verbal instructions
Empty rolls of toilet paper; torch referred to as microphone
Verbal instructions; modelling
Old cardboard boxes; sticks; string

DISCUSSION
This study found that older children used locally available materials to teach their younger siblings various concepts and skills. In many countries where financial resources to purchase learning materials such as books and pencils are scarce, teachers can
borrow a leaf from children’s use of objects in their environment. For example, pupils learning to count would be encouraged to count stones, sticks or seeds. Practical lessons involving the use of objects found in the environment therefore should take the place of cramming and rote learning.

The findings of this study also show that older siblings have the ability to teach not only appropriate norms and values, but also various concepts taught by teachers in Kenyan schools. Teachers can take advantage of this by encouraging children to assist their younger siblings with school tasks and homework. In many African countries, not all preschool age going children attend preschool due to several reasons such as poverty which means that parents cannot afford to send their children to preschool. In such instances children who are attending school would play a useful role as tutors to those children who cannot attend school. Just like older children use songs, stories and games to teach certain values or concepts to their younger siblings, so should teachers use indigenous or traditional songs and stories when instructing children. There are many benefits that inclusion of songs, dance and games can have in the teaching-learning process for example, through traditional games children can obtain fundamental skills for effective living in their social context (Kenyatta, 1965).

**CONCLUSION**

Many schools in developing countries are facing various challenges including the lack of resources needed during classroom instruction. This lack of resources has at times been viewed as contributing to the dismal performance witnessed in national exams and pupils’ failure to understand various concepts taught in school. Therefore, based on the findings of this study, this paper recommends that teachers just like older siblings should use locally available materials and culturally appropriate teaching methods. Such strategies may generally improve the education system.

**REFERENCES**


