

## Children in the junkyard.

### Abstract:

Junkyards are useful places to make kindergarten children learn, while playing, as is evident from such a program at the Kibbutz Sdeh Eliyahu in Israel. Children play at the junkyards, where an assortment of machine parts and instruments are kept. The teachers tell stories and encourage the children to build images from the stories, using the discarded materials. Through such activity, children learn safety precautions and the significance of self-care. As rules for junkyard activities differ from rules for class room activities, they also contribute to the children's development.

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Children build a potato harvester out of big oil drums and cast-off parts of machinery, using stones, for "potatoes."

Children pound makeshift hammers on an old clay jar, until it turns into clay powder again.

Children make elaborate mud pies for their "wedding buffet."

These are some of the activities in our junkyard. The children playing in the junkyard are actively exploring their world, which Piaget suggests is fundamental to the development of thought.

The concept of making a junkyard an integral part of each gan (kindergarten) was first developed in our kibbutz, Sdeh Eliyahu. Located halfway between Tiberias and Jericho, Sdeh Eliyahu lies in the Jordan Valley, 200 meters below sea level, where it is very hot. I started collecting junk items for children's outdoor play when I first began working with the first-born children of the kibbutz. We had no funds then--or now--for elaborate play structures and I thought the items I collected could help play and learning coexist.

In Sdeh Eliyahu, every gan has its own junkyard shaded by trees. Each gan has 22 to 24 children, ages 3 to 6, overseen by a head teacher, a caregiver and some younger aides. Children play from 7:30 in the morning to 4:00 in the afternoon. Activities emphasize unstructured, creative exploration with diverse materials.

The yard, an integral part of every preschool group's realm, is used throughout the year and throughout each day. Typically, this play space is full of "junk" items. These do not represent the broken, rusty, dirty remnants of human activity, but rather all the multifaceted richness that life has to offer. Although the junkyard space is unstructured, the teacher constantly monitors and cares for its contents to prevent it from becoming a rubbish heap.

The junkyard helps us teach children important lessons about handling themselves in "real" environments and becoming aware of safety concerns. (Of course, all of the children have received their tetanus shots.) Rules for safety are established for the junkyard and for the lawn just outside its boundaries. The lawn offers a place for the children to rough and tumble.

The children's house at the kibbutz is not a neutral or sterile place, and it is unlike most that exist elsewhere. This preschool is embedded in the everyday life of the community, and is grounded in the children's familiar environment and in the religious kibbutz's particular way of life. The junkyard is the children's place where they can express their "spontaneous curiosity and capacity for transformative and inventive play, for play is an existential mode of being in the life of the young child, not merely one among several components of a curriculum" (Suransky, 1982).

The children take walks around the kibbutz nearly every day and hear stories of their culture, motivating them to recreate some of their experiences in the junkyard. For example, after hearing the Biblical story of Ruth, who gathered sheaves of wheat in the fields of Bethlehem, the children went out to the nearest field to reap the wheat themselves with a real sickle. There they saw a big harvesting machine. They brought the sheaves to the gan and put them in front of a harvester that they built in the yard. Afterwards, as they sat inside around the big table, they threshed the sheaves until they got wheat kernels. The teacher set up a special table with some mortars and pestles and the children took turns making flour with which to bake pita.

Yigal, aged 6, duplicated the experience the following day in the junkyard. He put some hard clods of earth into a metal bowl and tried to crush them with a piece of machinery that, to him, resembled a large pestle. Yigal discovered that the higher he lifted his pestle, the quicker the hard earth crumbled. Thus, children working in the junkyard learn not only about the properties of different materials, they also learn about the relationship between changes in their actions and visible changes in the materials with which they are playing.

Another time, the children heard the story of how the children of Israel made bricks out of mud and straw for the pharaoh in ancient Egypt. Wanting to try this for themselves, they took straw from the horse corral and brought it to the yard. Five-year-old Ayala set out to make bricks. She crushed the hard earth, mixed it with water and kneaded the stuff with both hands. She experimented to find the right ratio of dirt and water to make bricks. As she tested the consistency, Ayala developed an understanding of how her actions affected the materials' reactions. Finally satisfied, she poured the mixture into molds and laid them out to dry in the sun. One of those bricks was displayed inside the gan throughout the year.

After watching a large machine harvesting potatoes, the children helped pick up potatoes that the harvester had missed. They brought them to the gan where they prepared French fries for lunch. Later, when the children were outside in the yard on their own, they dipped the smallest potatoes in mud to make "chocolate" covered "petits fours."

We believe that sensual gratification is an important motivational factor for preschool children's concentration in their activities. Work, play and learning in the yard allow for more sensual gratification than most activities inside the gan.

## The Teacher's Role in Junkyard Development

For the children, the junkyard is an extension of the adult world. All of its contents are carefully selected, however, by the teacher to facilitate the children's self-expression and learning. The yard contains four different kinds of objects, which the teacher selects for variety in material, scale, form and color, and what might be called "history."

\* Large-scale construction elements (e.g., big barrels, crates, machine parts and planks). These materials are used to encourage large-scale building and learning about construction principles. Inside the gan every object fits the children's physical scale, presenting few motor challenges. In the junkyard, by contrast, building with large-scale elements helps the children learn to estimate size and further develop their motor abilities. No artifact in the junkyard occupies a stable position, leaving the children free to create their own landscape. Handling large building elements while working out shared experiences encourages children's interaction and cooperation. They also learn to help and to ask for help.

\* Common utensils. Familiar leftovers from everyday life (e.g., used tools, paraphernalia, accessories and gadgets) provide children with a sense of real life and of inheriting the tools, images and mores of their community.

All of the things that once belonged to the grownups of the kibbutz are now at the children's command. Children identify with adults by working with their implements. They may even vent their ambivalent feelings toward adults by expressing aggression through destructive behavior. The adults are not afraid that the children will vandalize their environment. The children know that what is permitted in the junkyard is not allowed in the world of grownups; the freedom of expressive behavior they enjoy in the junkyard is limited by its clearly demarcated boundaries.

\* Parts for assembling and operating. These are parts of machinery and appliances whose original use is unclear. The teacher chooses them for their complexity and aesthetic form to become components in children's constructions and explorative activities. These parts promote experiments in design and assemblage and even in creating "machines" with moving parts. In a way, the children are like Tinguely, a midcentury master at making sculpture out of junk. The children are attracted by artifacts whose designs echo the abstract visual images of their own drawings. The multiple functions of these objects contribute to the transforming nature of play in this environment.

\* Materials for experimentation. Many found materials can be brought into the junkyard to generate experimental, sensual and aesthetic activities. These materials provide a direct connection to the natural world. They comprise not only landscape materials, but all kinds of surplus from agricultural harvests, and various packaging and building materials as well. Children can change, mix and transform the materials for their own imaginative uses.

Children work in the junkyard throughout the day (even on the hottest days). They usually go outside during all transition times: in the mornings upon arriving from home, between breakfast and the daily expedition, after lunch until rest period, and in the afternoon before going home. Big windows allow the grownups working inside to keep an eye on what is going on outside.

One day a week, usually Friday, is "junkyard day." Upon arriving at the gan, some children dismantle their structures. After breakfast and the weekly Bible story hour, the whole group goes out for up to two hours of free play in the junkyard. The teacher and aide rake and sweep the area and collect litter and debris. They return unused stray items and organize them into uncategorized heaps. The children are motivated to search for and select items from the heaps to use in new structures and activities.

Throughout the morning, the teacher is involved in the children's work. The children busily construct new and somewhat different buildings, initiate new dramatic play and explore new materials. Younger children work together with the older ones; some of the smallest often play in the big sandbox on the porch. This concentrated activity lays the groundwork for the children's junkyard play throughout the week.

### Dealing with Rules

Many contrasts exist between children's modes of activity inside the gan and those outside in the junkyard--contrasts that pertain to spatial placement, categorizing, building and dramatic play. Life in the gan is directed by rules. Rules for safety and cooperation are identical both inside and outside, but the rules for playing are different inside and outside. We believe that the contrasts between activities inside the gan and outside in the junkyard present challenges to the children that advance their development.

\* The first contrast: spatial placement. Inside the gan is an environment planned by the teacher according to her education philosophy and the children's needs. The inside space has an area for building and free play, an area for working at tables and an area for meeting. Inside, all artifacts and materials belong in particular places and at the end of the day everything is put neatly away.

There is no daily clean-up time outside in the yard. Children must organize their spatial surroundings themselves. Each child or group of children can claim a place and pieces of equipment as their own and keep them as long as they use the area. Even if the children stay in the yard for a short transition time, their "building," as they call it, is ready for meaningful play.

The yard's spatial arrangement shifts constantly. In the junkyard, objects do not have set positions and activities may take place anywhere. Two 5-year-old boys found some empty paint jars, for example, and dissolved the dry paint with water and tried to paint with sticks on a piece of cloth spread out on their "car." In another situation, a 6-year-old girl named Hamutal built a huge enclosure out of furniture pieces, machinery parts and appliances of all sorts, stuffed it with gadgets and toys, and then invited groups of children to play in her "house."

Children in the junkyard have what Suransky (1982) calls "history-making power." They have the power to imprint themselves upon the landscape, endow their landscape with significance and experience their own activity as capable of transforming the environment.

\* The second contrast: categorization. Inside the gan the children can find anything they need in its assigned place; during clean-up time, everything is put away neatly according to the teacher's categorization. Outside, the teacher places most of the objects in deliberately non-sorted heaps. The child must scan the yard and the heaps in order to find what is needed, which helps develop perception flexibility. Alisa, for example, gathered pieces of wood and metal that resembled tools from all over the yard and arranged them neatly on a tray near her building. This girl's strong attachment to her father prompted her "to make a toolboard like my father's in his workshop."

\* The third contrast: building. In *The Block Book*, Hirsch (1974) devotes much attention to unit blocks and demonstrates how much children enjoy learning by building with blocks. A set of unit blocks constitutes a harmonious mathematical model. Unit blocks have predictable similarities and relations, which can be absolutely relied upon by the child building with them inside the gan.

Outside, however, the child who wants to build a similar construction out of junk finds him- or herself in completely different circumstances. The child must transfer the building concepts acquired with unit blocks to items of different materials, shapes, volumes and weights. Now, the child must solve problems of balance and stability. For example, Reuben, 5, is an avid block-builder. Inside, he built various graceful towers and enclosures "for cows and chickens" out of unit blocks. Some of these represented his father's workplaces. Some 4-year-olds consistently built with him, according to his instructions. Outside, however, Reuben built his "building" with another 5-year-old. They tried out different tall structures, which sometimes toppled. Observing this outcome, they then discussed how to make the construction still higher, without it falling. Day after day they added various parts until the structure stood.

Piaget believed that feelings of discordance or conflict may grow out of situations in which basic premises are shaken, leading to disequilibrium. The self-initiated problems that the children confront in the unstructured environment outside create greater opportunities for disequilibrium than those offered by the well-organized circumstances inside.

\* The fourth contrast: dramatic play. All dramatic play is symbolic inside the gan. The "home" corner has a sink, a tap (without water) and make-believe food. Outside, these items may be real. Dramatic play in the junkyard may become very expressive, because it permits more motor freedom and more sensual gratification than inside play. Six-year-old Eres, for example, perched upon a huge oil drum and poured water into a plastic pipe that reached down into a small "building." The water flowed down into a cup held by Shai, also 6, who sat cooped up in his "lion cage."

Dramatic play in the junkyard may bring the children's concepts of reality together with the inner world of unconscious fantasies and feelings in a quite forceful way. The children playing "giving the lion a drink" were involved in learning the budding concept of gravity and in exploring the feelings of a very lively boy/lion, who built himself a cage. In their expressive dramatic play, these children made their own synthesis between the cognitive and the affective realms.

Expressive play in the junkyard may help a child to cope with feelings. Six-year-old Oren, a serious and self-controlled first-born with two younger siblings, became a "head of the family" after his father died in combat. He built a "war machine" with his friend. The junkyard was the only place where he allowed himself to give vent to aggressive feelings.

## Conclusion

The dialectic between structure and freedom comes into its full expression in the junkyard. The clearly demarcated boundary around the junkyard gives the children the security of knowing that this is their own microworld in which they may freely express their feelings. Play in the junkyard involves the whole person: muscles and senses, emotion and intellect, individual growth and social interaction. We believe the junkyard makes an important contribution to our children's readiness for 1st grade. Here, children gain experiential foundations on which they can build more abstract learning in the years to come.

## References and Resources

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