

Polya's problem-solving:

S1:

Understand:

- The children understood the problem that was set.
- One girl preferred to build her own construction.
- Another boy rather wanted to build a car and not a house as discussed by the rest of the group.

Plan:

- The children found it hard to concentrate, they continued to be distracted.
- Their building varied from group play to individual play.

Carry out:

- The boys lost interest in the task at hand and started pretending the boxes are cars.
- The children rather wanted to play with the boxes than focus on building constructions to solve the problem.

Check:

- In the end there was no construction build to help solve the problem.

S2:

Understand:

- The children understood the problem that was set.
- They came up with the solution of building a doghouse.

Plan:

- Most of the children forget about the problem that was set.
- They found the wooden blocks and toy animals more interesting and wanted to continue building their own constructions.

Carry out:

- Only one girl out of the group started building a construction to help solve the problem.
- She soon lost interest and found the other children's constructions more fascinating.

Check:

- The problem at hand was not solved so none of the children checked their constructions.

S3:

Understand:

- There was one strong girl in the group. She understood the problem that was set and decided to build the dog a new house.
- Most of the other children wanted to play with the toy animals.

Plan:

- Some of the children came together and roughly started to plan a construction.
- The majority shortly lost interest and started building their own constructions.

Carry out:

- One of the girls started carrying out her plan and she put the dog in some of the boxes and said, "this is his new home".
- The girl did not actually build her own construction. She just took a box and imagined it was a house.

Check:

- The same girl roughly checked by putting the dog into the box and seeing if it would fit.

S4:

Understand:

- Only one boy understood the problem that was given.
- He suggested that they construct a car to help the dog escape the rain.

Plan:

- The one boy started to plan how to build a car out of boxes and open-ended material.

Carry out:

- The same boy started to build the car out of open-ended material, like boxes, bottles, and bottle caps.

- He never completed his construction.
- He lost interest and started playing with the wooden blocks.

Check:

- The boy did not complete his car so he never had the opportunity to check his construction.

S5:

Understand:

- Only one girl understood the problem that was given.
- There are two boys that do not want to engage with the other children, they do not feel like taking part.

Plan:

- Three children are using the wooden blocks to build a house for the dog.
- The dog did not fit in the house the first time, so they had to rebuild the construction.

Carry out:

- Three children are working together to build a house out of wooden blocks.
- The building stage of the children does not cohere with their age. There is more piling than building happening.

Check:

- The children check the construction by putting the dog in the house and piling the rest of the wooden blocks on top of the dog.

S6:

Understand:

- The children understood the problem stated and decided to build a house.
- Some of the children decided to continue building their own constructions.

Plan:

- Five children planned and started building a house together out of the boxes.
- Another two children rather wanted to construct by using the blocks.

Carry out

- Five of the children constructed together and build a big house out of boxes.

Check:

- The five children checked their constructions by putting the dog in the house.
- They further took other toys and also placed them in the house along with the dog.