

Schema: Children as learners

As an early years professional volunteering in a small preschool setting, I have developed a strong interest in how children learn and underpinning theories. My interest has deepened since becoming a mother; by watching my child learn. I have observed my child's schematic play from an early age, noting how she uses repetition to explore the world around her (Athey, 2007).

In order to reflect on an aspect of practice, I engaged in a detailed analysis of my child participating in activities of her choice. I have undertaken three, five-minute video observations and have analysed her learning using the concept of schemas (Athey, 2007, Piaget, 1997). I highlighted key points which I believe show how she is exploring through two different schemas (Athey, 2007), including an example of accommodation and assimilation (Piaget, 1997). I have also discussed how schema theory supports practitioners in gaining a deeper insight into a child's learning and development.

According to Wood & Attfield (2005), play can have multiple meanings for children, and can be regarded as deeply serious and purposeful, or trivial and purposeless. During this study I was observing my daughter engaging in what I believe to be serious and purposeful play.

The idea of children learning through schemas began with the work of Piaget (1997). He believed that children learn through simple concepts. Athey (2007) has since built on Piaget's theory, she questioned the age element of Piaget's work and recognised that a schema is a pattern of repeatable behaviour into which experiences are assimilated and that are gradually coordinated. In summary, Athey (2007) developed the terms used today when grouping the actions, for example, rotation and containing.

Athey (2007) recognises that children may use repeated patterns within their play, in order to explore the world around them; known as schemas. Athey (2007) suggests this supports planning within the setting, as practitioners can utilise the observations to provide appropriate resources for the individuals and their schemas. As I embarked on the observations of my daughter, I was mindful of her play, her learning and the patterns that I may identify.

My daughter was 15 months old at the time of the study, she does not yet attend any day care settings, and is an only child. Most of her play experiences are at home. We attend some groups, however during this study my observations took place at home and at her Grandparents house.

Although I have selected to study my own child, I understand the importance of remaining ethical. I have selected to follow The British Educational Research Association (BERA) – ethical guidelines for educational research (2018). BERA (2018: p6) states that, ‘...educational researchers should operate within an ethic of respect for any persons – including themselves – involved in or touched by the research they are undertaking.’ Following this statement, I kept myself, my child and her father safe during this study by ensuring I remained anonymous. I have changed my child’s name to Ava and have not referred to her Father by name.

I gained informed consent to carry out the study from my child’s father. Arnold (2011) explains consent as ensuring the participant understands the content of the research, what their involvement will be, how the data will be used and how the findings will be presented. I achieved this by using forms EC3 and EC4 set out by the university of Hertfordshire which include all relevant information on the study. The EC forms include a space where my child’s father has given signed permission for the study to take

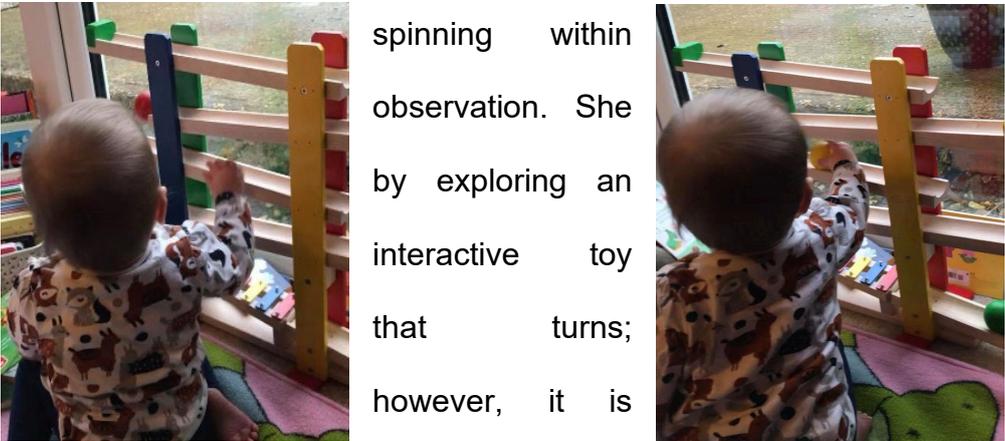
place. We discussed how the use of images may identify Ava and he has agreed to this. I also outlined he has the right to withdraw his consent at any time prior to submitting the assignment.

As Ava is unable to offer informed consent, I have used the method of assent. I achieved this by closely observing her body language, actions and emotions. Arnold (2011) talks about assent being where a baby or young child can only give permission in the moment and so I have watched for signs of distress or indications of unwillingness to be recorded.

After completing three video observations, I analysed them by drawing on schema theory (Athey, 2007).

Throughout my observations of Ava, I believe she is exploring with an interest in rotation (Athey, 2007). She seeks out resources that offer the aspect of rolling and

first starts a stick spinning within observation. She by exploring an interactive toy that turns; however, it is the with



clear this is not the aspect of rotation (Athey, 2007) she is interested in. Once Ava selects the ball run, there is a noticeable change in her behaviour, indicating a stronger interest in rolling. This demonstrates the subtle difference between content and form. The content being the ball run, meaning the resource that Ava is interested in (see figure 1) and the form being the rotation schema (Athey, 2007). Athey states 'The content of experience 'feeds' the forms of thought.' (2007, p55). I believe Athey is

talking about how children use the content within an experience to explore through the form. In Ava's case, it is clear that once the correct resource or content is selected, she becomes more engrossed in the form (see figure 2).

(Figure 1: content in Ava's play)

(Figure 2: Ava engrossed in the ball rolling)

Within the first observation, I noted a clear example of accommodation and assimilation (Athey, 2007). Athey (2007) talks about the process of taking in new information being referred to as accommodation. During the observation Ava is repeatedly exploring the ball run until one of the balls gets stuck. This makes Ava stop and she seems confused, as if she is questioning why the ball is not behaving as it should; (see figure 3). Lovatt & Hedges (2015, pg 911) discuss Piaget's ideas of equilibrium and disequilibrium and identified that "disequilibrium is a state of discomfort and confusion where an individual's thinking is conflicted" Ava's confusion seems to indicate a state of disequilibrium. Ava then accommodates what has happened, meaning she is adjusting her thought based on the experience. Ava extends her new idea by using her finger to stop the ball on the next go (see figure 4), testing her new learning. 'Improvements, or modifications in functioning, are brought about by psychological processes such as 'accommodation' and 'assimilation' (Athey, 2007).

Throughout this experience, I believe Ava is learning about the movement of the ball and how to gain control of the rotation.

(Figure 3: ball gets stuck)

(Figure 4: Ava stopping the ball)

During observation three and in aspects of the other two observations, I noticed Ava

top'
2007)
was
cups,



(see
one



exploring
through an 'on
schema (Athey,
figure 5). She
carefully
stacking the
by one and her

speech and body language would indicate pride when this was achieved; Ava also added the skittles (see figure 6). I am unsure whether the aspect of the skittles was to add height to her stacking, or an element of 'containing' (Athey, 2007). I believe Ava was developing hand-eye coordination throughout this activity. Ava has also just learnt to stand; I wonder if placing an object 'on top' is linked to having a new perspective on the world.

Ava concentrated on fitting the skittles into her cups, failing a couple of times; she then took a moment to study the skittles, rotating them in her hands. I believe this could be showing how Ava uses her rotation schema (Athey, 2007) to work out the shape, size and weight of an object as she was then able to successfully place the skittle into the cup. This is an example of how children return to a familiar schema to make sense of something new, meaning assimilation (Athey,2007).

Following on from this study, I have provided Ava with new resources to meet her interest in stacking and rotating. She now has a range of blocks and small objects, enabling her to freely stack and place the objects. I have also provided Ava with cars, as she seems interested in how the wheels rotate when pushed. I believe Ava's new toys are supporting her development of fine motor skills and encouraging language development.

In conclusion, I was able to identify potential schemas which Ava is learning through, observing how they are repeated actions in her play. I believe I have seen how Ava is developing her fine motor skills through the elements of her 'on top' schema (Athey, 2007) and how this could be linked to her development with gross motor.

I found it interesting to see accommodation and assimilation in action (Athey, 2007); particularly how Ava put the new learning into practice. I was also able to see the importance of form and content, exploring how she would seek the content to enable her to learn through her schemas (Athey, 2007). As I consider this in relation to my role as a student practitioner, I plan to share my observations, consider ways in which we may be able to use the observations of the children within the setting to plan next steps, and to consider if our resources are open ended enough to allow for individual schematic interests.

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