

**Mrs Tracey Goode.**

**How successful have developmental psychologists been in their efforts to understand the development of thought in the first year of infancy?**

The scientific study of children's development in which it has been deemed worthy of intellectual interest, is relatively new in the history of childhood. Up to Piaget's time the only 'grand theory' of mental development of children was one derived from Darwin's evolutionary theory. 'The younger the child, the more primitive in an evolutionary sense are his/her mental abilities'. Recent research has provided new understanding of the developing child and of the nature of development itself.

This essay is going to discuss the complexity of researching the development of children's thoughts by using Piaget's theory and other research, which has extended and/or criticised his theory. In order to do this, two areas are going to be concentrated on, one the infants understanding of the nature of objects, which was considered by Piaget to be 'the 'linchpin', of the child's cognitive system', (Bancroft, D, 1994 pg 126) and two how infants engage in conversations via imitation.

Human thought is a wide - ranging topic and encompasses such areas as concept formations, the development of schemas and scripts, the use of cognitive maps, social and environmental influences and individual characteristics. When researching developmental issues such as thought during infancy longitudinal studies, observational studies and clinical interview techniques are usually used, which encompasses methodological issues, which will be evident throughout this essay.

'A central problem for developmental psychologists is that cognitive phenomena or thinking processes cannot be observed directly.' (Bancroft, D, 1994 pg 126) By observing what infants do in their normal relations with the world and using this as evidence of their understanding, supplemented by research of scenarios, which are carefully designed, can help us understand infant cognitive development. This is not an easy task due to how imaginative investigators can be and how rarely unambiguous evidence is obtained. This can cause bias on the part of the observer or because the categories in which behaviour are encoded are imprecise. For developmental psychology to achieve the status of a scientific discipline, there has to be broad agreement among researchers about its basic methods and observations, and about the nature of the central questions it is to address. Only then can knowledge be reliably accumulated.

Investigations, which are portrayed in this essay, show the understanding of particular infant abilities, the understanding of psychological techniques and the need to support or refute the various philosophical positions on child development.

The leading psychologist in the way that children think and to understand questions such as 'How does knowledge grow?', is Piaget (1896 – 1980, as cited by Bancroft, D 1994). His insights into children's thinking opened up a new window into the inner working mind and as a result have carried out some remarkable studies on children that had a powerful influence on our theories of child thought.

One central theme of Piaget's theory was egocentricity, which is now regarded as quite controversial, due to its lack of social influence. This means that the infant is unable to comprehend a world outside itself, seeing the whole universe, as simply an extension of its own being. Piaget illustrated egocentricity by performing investigations regarding object permanence.

Psychologists are interested in object permanence as it shows that an infant has the ability to understand that hidden objects do not cease to exist once hidden and it is a way of discovering how children developed mental schemas. Piaget researched this by

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using a small toy and a cloth. Piaget's explanation was that, for the infant, the hidden object had in effect ceased to exist, which has been confirmed by other researchers, but, Piaget didn't take into account that 'although infants could reach and grasp, these actions might be difficult or impossible for them to coordinate. This could be a result of inability rather than a lack of understanding about objects.' (Bancroft, D, 1994 pg 131)

Bower et al (1971, as cited by Bancroft, D, 1994) believed that infants had good control over their visual system and developed an observational experiment, which did not require coordination. This included showing infants a toy train moving along a track, which had a small screen mid way. The infants showed that they appreciated the train's reappearance and when adding two different trains one going down the track and one coming out the other side the infant registered the change. 'In other words they had retained a memory of the object even after it had disappeared and could tell that the new object did not confirm to that memory of the original one.' (Bancroft, D, 1994 pg 131)

These results therefore casted doubts on Piaget's explanation. Other research performed was constructed by Baillargeon 'the phantom object' which showed also that infants do have some knowledge of objects, but these investigations are more complex therefore harder to interpret.

Harris (1973, as cited by Bancroft, D, 1994) then modified Piaget's experiment by using two cloths, an object and adding an interference task of a time delay. This experiment challenges Piaget theory as Harris (1973) found that the child without the interference task searched straight away for the object. By adding the interference task it showed that the original information was lost and the child could not remember where the toy was so did not reach for it. The overall conclusion is that 'while infants may have some idea of the existence of objects, keeping track of objects which move from place to place is a harder problem since it makes demands on various parts of their still developing cognitive system.' (Bancroft, D, 1994 pg 139)

When discussing Piaget's experiments it has to be taken into consideration the ecological validity of the experiments. Piaget used his own children as participants, which can incorporate experimenter bias. Several aspects of Piaget's theory have been questioned but other aspects remain influential. Even though his stage concept has not been supported by more recent research, we find most educationalists and developmentalists operate within this four part division. Piaget's neglect of social context is considered an important reason why his research tends to underestimate children's ability.

The second area of thought in which psychologists are interested in is the way that children engage in conversation through imitation. Piaget believed that when infants began to imitate behaviours their memory was starting to develop. Research was done by performing actions such as poking out the tongue and recording children's reactions. Two aspects became evident which were confirmed by Uzgiris and Hunt which were that 'children can only imitate actions they are already able to perform. 2<sup>nd</sup> point of difficulty for infants at this age is that they are unable to imitate actions that require them to use parts of their bodies which they cannot see.'

Meltzoff and Moore (1977, as cited by Bancroft, D, 1994) also conducted investigations into infant imitation. They used a single blind method to try and counteract experimenter bias. One limitation with this procedure is that there was no item on the judge's list to indicate the possibility of no imitation. They concluded that

the infants were able to selectively imitate the adult behaviours shown to them in this experiment. Although individual variation needs to be taken into account.

Jacobson (1979, as cited by Bancroft, D, 1994) extended Meltzoff and Moore's experiment by using a pen and a ball. Jacobson found that infants responded to the items moving towards them which suggests that 'one could not claim that the infants of this age selectively imitated.' (page 148)

Vinter (1986, as cited by Bancroft, D, 1994 ) traced the changes in imitation as infants developed. Vinter believed that 'early infant behaviour (like tongue poking etc) was controlled by those parts of the brain seem to work without conscious control and the infant at this stage cannot choose whether to respond or not. As the outer layer of the brain develops, it becomes possible for the infant to over ride the part, which had, up to that time controlled behaviour. This is in direct contrast with Piaget's beliefs.

The problem with observing imitation is that it is easy for investigators to misinterpret evidence, that early imitation may not be under conscious control, which means that the behaviour portrayed is not imitation at all and infants are capable of imitating but it is obscured by other developments.

As it can be seen it is hard to understand and do any research, which is going to be 100% reliable and valid as, there are so many aspects involved in cognitive development. In regards to the first year of infancy an investigation of what infants can do at the age of some weeks is unable to answer the question of how much ability they were born with since it is possible that what they can demonstrate has been learned since birth. Accordingly, psychologists make considerable efforts to study very young children, which allow them to claim that what these infants can do must have been present from birth because they have not had time to learn.

There are many perspectives on developmental psychology and different psychologists view infant's cognitive development in different ways. Piaget is a constructivist who believes that knowledge is constructed. He does not believe that cognitive development is innate and is not discovered in the environment. He also believed that this perception is universal. Modifications in children's competence represent a transition from one state of knowledge to another. As well as methodological and philosophical problems, more recently different research has questioned the basic stance of domain general development. For the Piagetian framework development is characterised as unified abstract entities that function across cognitive domains, while for others development may progress in different domains independently (such as spatial, number and causality cognition). These approaches retain the idea that modules of cognitive processing are pre-wired and autonomous. Development involves the child's strong or weak working of theories.

Meltzoff and Moore take a radically different view concerning the nature of the newborn infants cognitive system. In their view infants do not need to embark on the developmental process described by Piaget since they are born with an ability to symbolise (or represent) their world, which is based on evidence that suggests that infants can imitate in the first hours of life. 'They belong to a group of theorists working from a 'nativist' philosophical starting point who believe that newborn humans possess an integrated sensory system in which physical behaviour and sensory behaviour both share a common form of representation.' (Bancroft, D, 1994, page 150)

Vinter's perception accommodates evidence from both Piaget and Meltzoff and Moore. The Neo - Piagetian stance is represented by the new theory. The generality and stages of development are de emphasised. Social interaction is more influential.

The child's information processing capacities as well as development in working memory are more relevant.

However, even though investigating thought during the first year of infancy is contentious and there are limitations in the investigations that we have looked at, they have provided the psychological and educational world an insight into relevant clues about the mental life of infants and how we progress as humans.

**References:**

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