

Human Development in Context.

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Emotional Development

Historically, emotions have not held much importance in the research on human development. The aim of this integrative literature review is to investigate the most recent ideas on how emotions influence human development. This review will summarise and synthesise the arguments and ideas of Marc D. Lewis (2005), Linda A. Camras and David C. Witherington (2005), Fogel (2008), as well as Ross Thompson (2011). It will be based on the framework of the Dynamic Systems Theory and how it differs from traditional approaches. This review will include research on neural processes, individual differences and self-organisation in real and developmental time, concluding with ideas for a different approach to education.

The DST (Dynamic Systems Theory) provides an investigative framework which studies change and stabilities and will be used to explore emotional development from two perspectives. First is from a neural processing perspective, the second a psychological perspective. An insight into both of these areas gives a deeper understanding of emotional development and an opportunity to actually create a change in patterns of behaviour for children with emotional problems in the classroom.

Three outcomes have been extracted from the DST described by Fogel (2008) to reflect the importance and possible influence on educational change and from a bigger picture, societal change. The first two are from a neurological perspective and aim to 'uncover the possible pathways that lead to changes in certain undesirable patterns' and 'discover processes required to sustain and foster the development and maintenance of healthy developmental trajectories'. The third comes from a psychological position, with the aim to come to an understanding on how to create 'a network of relationships needed for effective decision making and positive change'. This review will explore the possibilities of these ideas taking into consideration the research and theories into emotional development.

The overall trends in research and theories related to emotional development at the moment have moved away from the traditional methods and understandings of how emotions develop. The focus now is on how emotional development is individual, self-organising and

emerging from a history of experiences which influence neural development. The idea that development is linear and based on an 'idealised average individual who has no history' (Fogel 2008) and the belief that control comes from a central executive is no longer considered valid.

I have come to understand that the depth of research on neurological functions of the brain opens many doors in understanding the development of the mind, thus understanding the role of emotions and how children learn. To have a deeper view of how individual each child is, confirms the importance of individualised planning and programming in the classroom. To consider emotions as a continuum of development and worth considering as an important component of human development is an interesting or could even be considered a radical concept, as it is not evident in any curriculum documents.

An overview of each of the three theorists, including an outline of their research and the main perspective will be covered, with their deviations from traditional approaches to emotional development. Each also includes an example of how these theories could translate to real experiences. Each perspective will be related to one of the three outcomes from Fogel described in the introduction. There will be a description of commonalities and difference and how each influence has an important contribution to understanding emotional development. Before the conclusion, which explains some possible educational approaches, Camras and Witherington (2005) will give a more professional comparison and contrast of the work of Fogel and Lewis and Thompson.

Lewis has a particular interest in the neurological discoveries and how these developments related to his theory of emotional development. He stresses the importance of individual differences and explains the effects of early experiences in real time, which lead to the creating of emotional trajectories in developmental time. Lewis describes the role of the corticolimbic areas of the brain, which through experiences in real time, lay down synaptic structures that are unique to each individual. These structures become entrenched with age and emotions have a strong influence on these processes. These neural processes mediate emotion through enhancing inter-regional co-ordination thus contribute to synaptic shaping and consolidating patterns of development. The developing of these patterns and the synaptic shaping, display all the criteria required to be considered self organising, which is an important part of DST. To understand these critical processes in emotional development, Lewis explains that the cerebral cortex has an extraordinary ability to change, while the lower area of the neuroaxis shows very little

change from very early age. The cerebral cortex continuously re-organises through daily experiences and is highly individualistic, with these changes re-organising the whole structure of the brain. This can be visualised as a flood of water creating pathways in your garden in a heavy rain. The brain stem is the most primitive part of the brain and is the centre for the more basic of emotions. The brain stem can be seen as a mediator of the flood from the cerebral cortex. Lewis describes phase synchrony as undulating waveforms and the fluctuations of these waveforms in one part of the brain are synchronised with the waveforms in another part, particularly the brain stem, hypothalamus and limbic systems. This process is referred to as self organisation and is a crucial part of the DST.

Lewis places a lot of importance on self organisation and goes to some length to explain developmental self organisation that applies to the brain. He describes four components that confirm and explain this understanding. Firstly he states that the re-organisation is progressive and secondly there is self specification and predictability. As a pattern is created, it will be repeated in the future. This is elaborated in the third definition with the explanation of cascading restraints, going back to the water analogy. Even though the water is cascading down the garden there are still constraints. For example, the water must run down the slope, so these constraints obtained in early development limit the possibility of later structures. He completes this explanation with how this effects developmental transitions. The constant co-ordinating of these two regions, both instigating and mediating, create the trajectories of behaviour which form in development time. These coordinating components of the brain gives teachers of young children who suffer from anxiety the opportunity to change certain undesirable patterns as described in Fogel's ideas on the implementation of the practical aspects of the DST which 'uncover the possible pathways that lead to changes in certain undesirable patterns'. From this understanding of emotional development comes the understanding of how much the emotions dictate this development and prolonged emotional experiences will create a change in the cerebral cortex which has a ricocheting effect through the Limbic system and possibly become a permanent belief. If a child is told by an angry adult over a long period of time that they are stupid, this can have a long term effect on how that child sees their ability to learn. The anterior cingulate cortex which integrates cognitive and emotional aspects of attention and is critical for learning new concepts, positive or negative. This implies that if the learner does not maintain significant emotional arousal, learning does not take place. This leads to the essential connection to cognition. Lewis summarises by stating 'the

cognitive–emotional states we inhabit the most, in childhood and adolescence, sculpt the neural parameters that determine who we are as persons for the rest of our lives.' This deviates from traditional beliefs, that control comes from a central executive and considers development to be linear.

Thompson (2011) gives a more recent perspective on emotion development and also disputes the concept that development is linear. He draws on Lewis's research on the neurological development of emotions, though his emphasis is on emotional regulation and explains the process through the Development Systems view (this view has similarities to DST, as their principles were based on this theory.) Thompson also has a strong interest in the context of these developments. His ideas could contribute to the second function of the DST theory explained by Fogel (2008) and 'discover processes required to sustain and foster the development and maintenance of healthy developmental trajectories'. Thompson states that unregulated emotion does not exist. There are multiple components of emotions: sensory, neurological and social to name a few. These are all mutually influential in the course of emotional responding and are contextually embedded (Thompson, 2011). Thompson emphasises that depending on the context, emotions assume a regulatory role. He reconfirms Lewis's belief that the higher and lower regions of the brain on the neuroaxis 'exert mutually regulatory influences'. The shaping that happens in the early experiences of a child has a strong influence on who the adult becomes. Children who struggle in the classroom often have self regulation and emotional regulation issues. By concentrating on the importance of emotional development, Thompson has expanded on the traditional understanding and debate about

the importance of nature versus nurture. The importance of genetics and personal experiences are not mutually exclusive of each other and are intricately entwined in the developmental trajectories. Thompson also includes behavioural systems as a contributing component to emotional development and regulation which is not included in the earlier research by Lewis and Fogel. As behaviour is a product of emotions this seems a logical step to completing the whole picture of the individual child. This compliments Fogels research which has more of a social cultural perspective. Fogel (2008) though similar to Lewis, as they were developing their theories at the same time, comes from different places. Fogel believes that the DST framework has an important role in uncovering the many and varied components that lead to any one situation. This is where he differs from traditional methods in coming up with ideas to improve conditions for people living in

poverty. Traditionally researchers 'seek universal statements' (Fogel, 2008) and programmes were introduced to an area originating from very limited research and usually are dependent on one component, for example education. These programmes would be set up with great expense and still continue to fail, as the research base was too narrow and again on the average individual model. Fogel also explains systems causality as non-linear. The systems causality synchronises and resonates in mutual and simultaneous ways and the DST understands these laws of transformation. To really observe and explore these systems, thus creating an understanding of how individuals make decisions which effect the collective whole, should influence how preventative programmes are set up. The intra personal systems are the body, mind, emotion and behaviours. The inter personal systems are social relationships, focusing on individual differences and variations. The socio cultural systems are the relationships between and within groups, collective histories, politics and religion. Integrated, these relationships create a clear picture of the whole system. He talks about the plight of single parents and the poor conditions they live in and by observing and understanding the individual motivations, histories and experiences and finding a common pattern could lead to social change, as programmes will be more specific and effective. This has wonderful potential to establish the third use of the DST to establish 'a network of relationships needed for effective decision making and positive change'.

In consolidating these collective ideas a more professional viewpoint has been included by Camras and Witherington (2005) who also reviewed, compared and contrasted the work of Fogel and Lewis with some citations from Thompson. Their review emphasises these theorists similarities and differences, though more importantly pointed out how their work complimented the DST. Camras and Witherington cited Fogel's social processes theory and Lewis's model of cognition emotion relations from a neural perspective as examples of the DST at work. They point out that Fogel does not identify specific emotions while Lewis does. Fogel believes that emotions are constantly present and stable. This only changes when the stable pattern breaks down, as a critical component changes, leading to a new emotional state and depending on the time scale, a developmental change. Lewis devised a set of emotions to match his study of neural processes. Camras and Witherington also explain how psychologists moved from the Piagetian theories to the DST approach. Piaget proposed that maturation of a dedicated motor program was the explanation for infants motor action, where as DST believes that the development of a new skill comes from changes in their synergistically related component processes.

This review has highlighted a number of similarities and differences in the research on emotional development. Lewis, who was a drug addict himself, has a very different motivation to understand the development of emotions. He comes from a more individualistic place, so his research is dedicated to more neurological processes. Fogel has a more socialistic view point and seems to be looking from a bigger picture, as he writes about the DST as a possible framework to understand poverty and human behaviour. This potential ties into Thompson's theory that one of the bidirectional influences is 'the contextual construction of emotion from family and cultural influences', though Thompson's main focus is emotional regulation, which is an extra component beyond what Lewis and Fogel wrote. He also placed an emphasis on the contextual importance of emotional development and emotional regulation. Though there are some fundamental differences in their approach to emotional development, there are many aspects that they agree on.

Each of these articles contained citations from each other. Fogel and Thompson referred to Lewis and value his work on neurological development. The importance of early experiences and histories in the forging of developmental trajectories was discussed at length by each author. Each see the potential for future research in this area. Thompson stated that the development of plasticity research will lead to further understandings. The movement from traditional research methods were discussed by each author, though from different perspectives. Fogel questioned the research methods used to develop programmes to change the eroding effects of poverty on individuals. Thompson expanded on the nature versus nurture theory emphasising how both were influential in emotional development, while Lewis discarded the belief that emotional development and the workings of the mind come from a central executive. The understanding that each human develops in a completely unique way seems to be an important discovery and has influenced many advancements in understanding human development thus emotional development. Each article confirms this importance. Lewis from a neurological perspective by explaining the uniqueness of the developmental trajectories and the influence of early experiences. Thompson places importance on the individual with his emphasis on context and its contribution to emotional regulation. Both of these perspectives contribute to Fogel's socialistic view point. The focus on understanding individual differences and variations, leads to a deeper understanding of societal issues, as intra personal systems only work when combined with interpersonal systems. Fogel's article is not dedicated to emotional development but his contribution of ideas moves the DST on from

understanding the concepts of self organisation and emergence in real time and developmental time,

to practical application on a societal level. Each author could cite examples of children and adults that would benefit from their research and that are applicable in the classroom.

The DST is a new concept in the world of psychology and education. The new understandings of neurology and the functions of the brain during emotional development has shone

a light on possibilities that we could not have imagined. There is still huge potential for future research in the field of brain plasticity and individual differences. Even though there is an understanding of individual development and why this individuality occurs, there is still very little understanding of the actual individuals, only theoretical assumptions. Lewis's findings that a prolonged emotional state will influence the emotional development of a child long term, has a profound influence on how teachers and other adults develop relationships with children and emphasises the importance of a calm and well managed classroom.

The three outcomes of the DST as indicated by Fogel are 'uncover the possible pathways that lead to changes in certain undesirable patterns', to 'discover processes required to sustain and foster the development and maintenance of healthy developmental trajectories' and third 'a network

of relationships needed for effective decision making and positive change'. It seems possible to be able to have some control over the development of undesirable patterns in young children, especially children who have the potential to be anxious. These children can be put on a pathway of healthy emotional trajectories. This could be more difficult for adults, as their neural pathways are more entrenched. With the right motivation, emotional state and support from well researched programmes, as described to be needed for the single mothers, the plasticity of the brain is still there, even in adults, so change is possible. The last outcome seemed broad and far reaching, though not impossible. To analyse and understand individual experiences and histories which influence decision making, particularly in poor areas, could lead to a common bond to create enough unity to work towards common goals and community services. It seems a simple objective to support those in need to help themselves. By changing the negative and defeatist culture and their

expectation, the experiences of their children are then more likely to develop healthy emotional developmental trajectories. These discoveries emphasise the importance of early childhood

education, as these are essential times in each child's development. To have well thought through curriculum documents for adolescence would assist in their pathway to develop into healthy functioning individuals who can contribute to a better world for their children.

References:

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