

The psychometric approach to child development psychology essay



The psychometric approach is defined as the tradition research to standardized the development test of intelligent. Some of the experts agreed and defines that psychometric approach, triachic theory, multiple intelligence view and processing approach. In the recent advance defines intelligence, is the componential analyses is the test for the children's test that's in between aspects of intelligence test and the information processing. The IQ test is the main component of the approach from the element on attention, memory and the reasoning strategies.

Charles Spearman (1927) had a theory of intelligence which two factors, general intelligence called 'g', that is the ability in mostly of the intellectual task. The specific intelligence is the second factor which to difference abilities to people have in different activities. For example, some children are good in reading (verbal) and some of them might be good in mathematical reasoning and other like logical thinking and others.

Raymond B. Cattell (1971, 1987) and John Horn have proposed two factors, fluid ability is the use of brain actively to solve problem. For example, the child will learn to use the ability to solve verbal analogies and the skills for relationship of the stimuli. The crystallized ability is the knowledge through schooling and experiences from social custom. For example, the children will gain their knowledge from going to school such as the general test information 'What is the temperature for boil water', then numerical abilities 'What is $20 \times 6 = ?$ ' is measured by crystallized intelligence.

John Carroll (1993), by using the three-stratum theory of intelligence, such as 'g', is based on the cognitive abilities. For example, likes spelling ability,

spatial scanning, and simple reaction time of the child. The second is broad stratum is the basic of biological components in fluid and crystallized intelligence, learning and memory. The third is narrow stratum which is specific behavior of the people based on the second broad stratum. For example, the child reaction time to the decision for process or speed.

Louis Thurstone (1938) had analyzed of the college student test scores, that the important of 'g' (Spearman's Theory). Thurstone had broken Spearman's theory and called primary mental abilities, perceptual speed, numerical reasoning, spatial ability, verbal meaning, memory, and inductive reasoning. For example, when the rain have stop there will be rainbow and lastly the sun will shine again. (From the observation)

Robert Sternberg (1985), have developed the information processing theory that is in contrast of the cognitive approach of psychometric approach.

Sternberg's Triarchic Theory

According to Sternberg's, he believe that the complete theory of intelligence combines of dealing the 'adapt and changes' in nature and nurture the main factors of intelligence from the triarchical theory of intelligence such as:

i) 'analytics intelligence or componential subtheory', the skills of focus on analyze problem, information-processing and create more solution. Is the component for intelligence acts of applying the strategies, knowledge acquisition, metacognitive and performance. This method is only useful on mental tests which only useful in some potential ways that will different result in the narrow view from the intellectual behavior of the children.

In the research the components is showing that human intelligence in children is faster in the information processing by the age. Is the encoding component of the children will decrease in time with age and later increased. For example, a doctor is to (a) patients (b) medicine (c) nurse. From this the children will visualize the step or process of the doctor and to the patients.

Knowledge acquisition component is from the process to store and gain used information and for the metacognitive is to control the performance to structure and set up the problem together. For the performance component is the process of the stimuli the perceiving of holding the information such as comparing values, short-term memory, to recall material from long-term memory, total calculating and to differences as well. For the metacognitive is to solving and values for the cause of use in the performance component, needs of the result to known and to evaluate the solution too. For example, when the children (4 years old) at pre-school, the teacher will teach them to plan and they start to write on the piece of paper. ('Metacomponents'), writing on the paper ('performance components') and new things is learned when writing. ('knowledge-acquisition components').

ii) 'creative intelligence or experiential subtheory', the ability of action in solving problem. In this theory the success is not depends on the familiar information but from the new problems is by useful solution. This experience role had split in to two categories which is automation and the novelty. The automation which is the process of task that can be completed in several or many times before and is easy to complete by the individual. On the other side of the novel, the task is more difficult and had never encounter before by the people that will find hard to manage the test. The novelty is from the <https://assignbuster.com/the-psychometric-approach-to-child-development-psychology-essay/>

child or people that think creatively with more skillfully than others. When the new task given, they will act actively and the information processing is conscious to respond to it by automatic way or to increase the information-processing in efficiency practice.

From this aspect they will quickly moving to high-level performance and for all of us. We will able to think creatively and only few of us able to excel by having the novel solution. According to Sternberg, the familiar of the task, it is crucial for a person to understand before the assessing the behavior of that person's.

For example, a test for two group of different culture group of intelligence test. In the testing process the items that are familiar to one of the group and the novel to introduces the culture and is bias to the testing process and is unfair for the other groups' assessment that regards of abilities.

iii) 'practical intelligence or contextual subtheory', the application of the understanding skills in what will actually work or is a goal-oriented of the purpose in adapting to, shaping or selecting environments'. For intelligence people is adapt with their thinking to adapt the skills to fit in the desire and demands to the better environments. If they can't adapt to the environments they will try to change or shape according to their needs. They will go to a new environment to adapt the success of behavior in new context.

This practical intelligence is not a culture free that remind to us in this intelligence behaviors. For some children, because of the background they needed success in the intelligence tests and that will easy for them to adapt to the tasks and testing condition. In the daily life the child often show

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sophisticated abilities. For example, the children will be interested in stories telling, or some artistic activities such as dancing, drawing or art and to interact with skillfully people like playing golf, riding horse and others.

According to Sternberg, the underlying of the traditional IQ test is ignoring the produce of intelligence of how people answer to the theories of intelligence - the number of answer for the full picture of intelligence is not only includes the right answer from the people but the efficiency of the process in use. In the information-process, the reflection of the behavior will effect on the respond to novelty or automation process in the people or child. From the triarchic model able to carry out the efficiently and effectively to solve the novel and adapt to their environment such as from different context like 'age, culture, historical background'. (Carol K. Sigelman, Elizabeth A. Rider: Pg250)

It is also called as theory of 'successful intelligence' to the abilities of people to be need to success in life which based on their own sociocultural context include of analytical, creative and practical intelligence. The ability of the intelligence is not only for do well in school, is measure by the traditional intelligence test for the ability in throughout the life. The success of the smart people is to maximize their strength and to reduce the weakness in them. The environment is selected by their abilities to modify or to extend it, the environment to suit their own profile. The intelligence is still tested widely until now and does not affect the intelligence from the sophisticated view. (Carol K. Sigelman, Elizabeth A. Rider: 241)

Sternberg had tested on the validity of the triarchic theory with his collaborators that had gave children from 'Finland, Spain, Russia, and United Stated' for a thousand of test item tap of analytics, creative and practical skills. It was repeated indicated in analyzes is clearly indicated the three factor of the intelligence.

It was complexity of the triarchic theory in the intelligence test of the 'intelligence behavior and limitation of the test. According to Sternberg (ET al. 2000), the vital to success in life, is through the form of intelligence by the help of cultural that's comes from the behavior as intelligence. From the researcher, the parent cognitive trait is the first grade as describe by the Caucasian Americans. The noncognitive capacities is the minorities such as 'motivation, self-management and social-skills' is by the 'Cambodian, Filipino, Vietnamese and Mexican immigrant'. According by Sternberg, some of the children intelligence strength and can overlook easily test by mentally through the estimation especially in the minorities. (Luara E. Berk: Pg323)

The triarchic theory of intelligence from Sternberg's, is clearly show that a useful way to understand human intelligence and is included the important aspect that's different from the other psychometric approach. The process is focus on human experience which is important and interaction between the surrounding and environment of the human.

2) Language is consists of sound, meaning, and the structure that we'll be using in our daily. The flexible communication system is the combining that's known as language details.

Language is having four parts of component which is:-

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Phonology

, are the system of the sound from language and the combining of rules to produce a meaningful speech sound.

Semantics

is the meaning from the sentence and words that expressed

Grammars

in to two parts :-

Syntax is the combines of words in arranging the sentence to meaningful sentences.

Morphology, different grammatical expression of the children to forming words in to meaning. (e. g number, case, person, active, or passive voice)

Pragmatics

The principles for engage the effective and appropriate social contexts or communication.

The theory of the language development is the have three basic explanation as following,

Behaviourist perspective, is through observing from the nurture or environment.

Nativist perspective, is from the nature or inherited from the genes

Interactionist perspective, between the nature and the nurture is the focus interaction.

Phonological Development

Is the process that depends on the produce sound, sound sequences and the ability of the child to combine and understand the phrases and words. The child will try to talk to people around them to be produce speech like adult. For example, 'Coco' for 'Coconut' or ' (Menn and Stoel-Gammon 2009)

'The early phase'

The child will start by easies sound of consonant-vowel and repeated syllables words such as 'Mama', 'Dada' and etc. There is a phonological limitation in the child as they refer to the parent in the first word. As the child looked on the object for longer, they would pronounce the words correctly, if they not focus to the object will lead to mispronounce it. They will increase vocabularies of making new words by using they'll perceptual abilities.

'Appearance of phonological strategies'

As the children at age 2 1/2 , from the frequently practice and development on the phoneme in their language that are more accurate and rapidly. Child will use their systemic strategies to challenge difficult words. For some children they will use different way to pronounce the words on the complexity of the words.

The range of languages is the children errors such as English, Cantonese, French and others. The conveying meaning is the complexity of language and the certain is important rate of phonological progress. For example, the child might say 'I turn' instead of 'My turn'.

The children will greatly improve they pronunciation in the preschool years. The child will actively large responsible in problem-solving efforts and maturation in them in resistant to the phonological errors to adult.

'Later Phonological Development'

The phonological is complete by the age of 5 year old, the child will correct themselves of a new words that are hard to understand and difficult to pronounce.

Semantic Development

Child can produce about 50 words at the age of 18 months. The children comprehension is from the understanding of language and to pronounce from the language they used. From the communication the child can recall memory and recognize new words by picking up more new words. For example, child can follow simple instruction such as 'Throw this into the dustbin' or 'Go to sleep now'.

'The Early Phase'

Children are learning based on the labeling and modeling by their parent from the object and events. The early word learning is by emotion influences. By the age of 1 1/2 , to divert the attention of the child to learn they will

listen carefully and with strong emotion in better learning of words. For example, the child able to express themselves when there are 'happy', 'sad' and 'mad'. For toddlers, they will wider their experiences in the object and events to remember such as their will know to mention places like ' house' or 'store' and to mention themselves as 'mine', 'me' and their own names well.

The fast mapping will cause in the process as the children connected to a new words in a real world. For example, when they see a fish, they'll say 'See is a fish. Fish lives in water'.

Most children will have their own referential style to refer to the objects in their vocabularies. There also some children who use an expressive style which using more on the social formulas and pronouns. For example, the child will use of words like 'You wanna play?' or 'bye-bye'.

Children will often underextension of using too many words or errors. For example, a 2 years old child, use of words of 'doggie' as the furry animal with four legs. On the other errors is overextension that the child used it to refer to more object. For example, will use of words 'bus', when they saw a lorry, truck and fire engines.

'Later Semantic Development'

The children will expand their vocabulary about 400000 words in the primary school from the start to end. Their will start to use more complex words like 'weapon' or 'equipment'. The children will become reflective and analytical knowledge in understanding more definitions or meaning of words includes riddles and humour. Their will improve more on the language as become

adolescence by using the words e. g. The children will use complex words like sophisticated or enthusiasms.

'How semantic development takes place'

The toddlers best learning is that, they receive feedback from the adult but the adult can't always be there to correct each word picked from the child as according the researcher. For example, the parent will point to the bird and teach the child to say 'bird', when they saw a furry, with two wings animal. The child will need their cognitive process to support them.

The influence of memory

By using the phonological store, the children fast mapping is supported by the special part of working memory so they can hold the speed-based information. The child using more often nonsense words, there is higher phonological memory skills increase in the present vocabulary and the growth over year. In this concept is able for the child (2 years old) to have good phonological memory transfer new words to the long-term memory to connect with the new concept such as when giving one or two words they can recognize by the initial sounds. From this early development will link to the advance of the phonological memory of the advance vocabulary development for other tasks such as language task include comprehension longer and complex words. The child will keep learning new words and they will rely on the difficult words to detect the new words meaning. For instance, 'tig' or 'tiger' and 'but' or 'butterfly'.

Strategies for word learning

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Children will figure out the meaning by themselves using contrasting word they know and assign it in their new vocabulary gap. For example, when the child got to learn a new object such as 'square', then master the object by more names like 'cube' or 'box'.

Beside children will assign the preliminary meaning and to match the words to conventional use in their language. For instance, when the children know the basic word (bird), they will add names like 'parrot', 'crow' at the hierarchical level.

In this process is not fully understand, the vocabulary growth of the child is by the mutual exclusivity bias which is the referring that the words are by categories and separate (nonoverlapping) entirely. For example, child can refer to the object to categories it belongs, such as a dog is a pet, a mammal and animal).

Child mostly refer to the object in well-organize shape. The shape bias is clearly shows they learn the noun based on shape and the attention of the additional shape in the object. The toddlers readily to master more object's name by shape and vocabulary accelerates when they go to preschool to learn more new words and language skills. For example, a shape 'heart', can be label as 'love' and 'red' color.

The child will discover a lot new word from the preschool by observing the used in words or restructure of sentence through syntax which knows as syntactic bootstrapping. For example, 'This is chilli' will used the new word to adjective the for a familiar object (chili) refers to the object and they will

used syntactic information generalized and refine the words to other categories like 'Is red as a chilli'.

Through the frequent information from the adult is providing advantages of social information to the children. The children will be informed by the adult about meaning of words directly. Is the parent to highlight the meaning adjective and label information to the children of object property saying of words. The adult will use one or two words to explain to the child, e. g. 'You can call this flower but is better if you say 'tulip''. The children will growth more if the parent clarify and provide information of vocabularies.

Explaining vocabulary development

Children will have they own ability to induce words meaning by using 'mutual exclusivity and syntactic bootstrapping', by some theories. This is not sufficient to account to the flexibility to the child. Too many differents word-learning strategies can't learn by child due to used in different language. For example, English-speaking child telling different between object, 'This is marble', by multiple objects which same 'Those are marbles' and the proper name is 'This is marble'.

The alternative of vocabulary growth is another perspective cognitive strategies in children by apply nonlinguistic stimuli. The propose children had the word-learning strategies emerge out of the effort decipher language is called emergentist coalition model. The coalition of the children is through 'perceptual, social and linguistic' important in the swift of the age. For example, the infant will respond to the parent when the parent using a toy to play with them. They will have sensitivity and perceptual towards the toy
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and in social cues, they will have attention to the gaze and gesture in them. The major role plays in language will develop in linguistic cues like syntax and intonation.

Grammatical development

Children (18 to 24 months) will use two to three words sentence. They will use telegraphic speech to express themselves that is high-content words, less important ones. In the earlier combination they did follow of the consistence grammar. Refining and generalizing structure is rules using by the children to process two to three words. For example, 2years old child, will say 'I do it' instead of 'I can do it by myself'.

To express variety meaning children will use utterances two-three words like adultlike by the children over the world. Children will use the same construction words to express different composition. E. g. children will say 'Mommy milk', when he is hungry and the mother will give them milk. Due to the limitation of the memory they can't produce a long sentence.

'From simple sentence to complex grammar'

Children can produce complex sentence by the age of 3. They start to create sentence by using adjectives, nouns, verbs, article and prepositional phrases. For example, the child will say, 'He is the boy, who chasing by the dog'.

At the preschool the children will refine and generalize the grammatical forms.

Development of Grammatical Morphemes

Grammatical morphemes are structural and semantic complexity is consisting reflects to the English-speaking child. Children will add morphemes like '-s, -ing, or -ed to form plurals, present and past tenses'. There are two important roles in morphemes, structural complexity that using by the child. E. g. By adding the ending -s or -ing. The child will express correct tense such as 'I am a student' versus 'They are student' the second semantic complexity.

Overregularization is regular morphemes rule for the child extent the words that is exceptions the type in errors. For instance, 'My bag is heavy' and 'We each have two eyes' when the child is 2 to 3 years old. Children will have inconsistent patented when hear irregular forms from the adults and they will have irregular morphemes fails on the -ed rule that lead to overregulariazation result.

'Development of complex Grammatical Forms'

As the child have master the auxiliary verb, that will lead them to new expressions.

Negatives, the learning of negation there are three types :

Non-existence, is something that absence remarks for the child. E. g. 'No sound' 'Is spoiled'.

Rejection, the child will expresses opposite. E. g. 'Don't play'

Denial, denies truthfulness in something by the child. E. g. 'That not my blanket'

This is the parental speech causes the early construction in imitation. When the parent tried to express the rejection or non-existence, they will start by 'no' at the sentence: E. g. 'No, you didn't turn it on the sound'. The child will add more auxiliary verb by the age of 3.

Question, is the first appear at the preschool years and it an order sequence. Child start their sentence -wh question such as begin with where, which, what, who, why, when and how. For example, 'What is that?', 'Where is that'.

The caregiver will correct the child expression when the sometimes the child have error in auxiliary verbs.

'Other complex constructions'

Children will produce a complex construction by using more grammatical structure sentence to increase conforms of rules. First the children will whole sentences, e. g. 'Dad let's to the shop and we buy some snack to home'.

The embedded sentence will be produce by the child later on such as ('I think he will join us'), tag question ('Ann won't be coming, isnt' she?') and passive sentences ('The cat was chasing by the dog').

'Later Grammatical Development'

When the children go to school they will improve the master of complex construction such as to produce more passive statements. Child will use full

passive voice and statement during the middle childhood and adolescence.

For example, ('Is no sold out' or 'Is not available') full passive ('The cracker is finish by Daddy').

Infinitive phrases, is another advance understanding of grammatical achievement of the child to different in the sentence. Eg. 'Andy is happy to go to school' or 'Andy is eager to go to school'

'Ideas about How Grammatical Development Takes Place'

'Strategies for Acquiring Grammar'

The basic grammatical regularities are the properties that the children rely on the language. Semantic bootstrapping is the word that the children use to figure out structure sentence. Children will group the words, 'agent qualities' as subject and words 'action qualities' as verbs. Children master grammar by the observation structures that believe by the others. Eg. Understand, think and believe and the basic activity and input.

The Chomsky's theory is the essence that believes by others theorists the idea of one that accepts is semantic bootstrapping but grammatical categories are innate. Child has special language-making capacity such as the discovery of the grammatical regularities by analyzing in the language they hear.

'Environmental support for Grammatical Development'

Adult will feedback to the children by two techniques and maybe used together, recasts, to correct by restructuring inaccurate speech and

expansions, to increase complexity children speech by elaborating more. For instance, 'I gotted a book', the parent will respond, 'Yes, you got a new stories book'.

To clarify more questions to the children may encourage them to understand the correction of the grammar.

Pragmatic Development

Is the used in language to communicate interactive in social such as taking turns, stating of messages, staying in same topic, and to cultural rules.

'Acquiring conversational skills'

Children will make eye contact and take turn to interact in a conversation. Additional strategies such as turnabout, which is not only comment by the speaker but also required to request and respond to the partner again. Shading is the changing of topics and motif the discussion focus as a speaker. Illocutionary intent, the acts of speaking of the speaker when is form utterance not perfectly consistence. For example, when the child saying to his mother 'I am getting bored here', means 'I want to go home'.

This is to give the child how to communicate clearly, to express of narrative style which with skills and literacy development. The child will be able to communicate with their siblings such as twins, older siblings and parents that enable participated in exchange longer conversation. The young child will picking up more skills in listening to their sibling interaction such as using of 'I' or 'you'. E. g. 'I like blue color' 'What is your favorite color?'

'Communicating Clearly'

Children are using referential communication skills, that is effective in communicate effectively such as deliver clear conversation and clarify the message if is unclear to ask for more information. Child will depend on the situation and demand to interact in the situation such as when they are giving guideline to follow the instruction. For example, when they on the phone conversation they will listen carefully from the caller like 'Can I speak to your mother please?' and therefore the child will ask the mother to answer the calls.

'Narratives'

The child will produce brief renditions to jump to another event when the child reaches at 4 years old, called leapfrog narrative. The child will produce chronological narrative such as the temporal sequence. For instance, 'We went stadium. Then we go to swimming. Later we when to cycling'

For the preschooler will to narratives evaluations like how and why of the comment events or their feeling and others people thoughts and intentions. Child will connect themselves the powerful actions and pretend props in this event. From this event, the child will master more in reading and comprehension and written development.

'Sociolinguistic understanding'

Children will be sensitive to the language adaption of social expectations that called as speech registers. Child will understand the different of the

social position in stereotypic features such as dominant male roles, play-
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roles like teacher, doctor and etc. Meanwhile, for feminine roles likes mother, student with a soft spoken voice. Parents which teach them the voice tone. E. g. to say 'bye-bye', 'Hi', parents will teach the child to say ' please' and 'thank you' if the child fail to do appropriate.

The parents will teach the child to adapt language style in social context when they turn to teenager. They will learn to be persuasive, well-organize and greater skills in effective communication skills and cognitive self-regulation. For instance, when the child grown up to start working, they use they communicate skills to interact with different level of people. (Luara E. Berk: Pg391)