Learners' Development among Public Elementary Schools in Southern Philippines

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ABSTRACT

Nothing can be more challenging on the part of educators than that of developing the learners; and no one can become more successful than that of a learner who has grown holistically through the painstaking effort of the school, home and the community. This paper aimed to determine the extent of learners' development among Public Elementary Schools in the five city divisions in South Central Mindanao, Philippines utilizing the descriptive quantitative research design wherein the self-made survey questionnaire was administered to the 200 teachers who were randomly selected as respondents of the study. Findings revealed that the overall extent of learners' advancement in terms of emotional, intellectual, moral, psychological and socio-cultural was very well developed as proven by its general average weighted mean of 3.57 emphasizing that the learners have experienced a holistic development through the different strategies employed by the teachers under the supervision of the school heads and in collaboration with the stakeholders. It is therefore inevitable that the continuous innovation and support from educational leaders, parents and the community as a whole be sustained in order to efficiently and effectively achieve quality education despite the multifarious challenges brought about by the rapid changes in the society.

KEYWORDS: Learners' Development, Public Elementary Schools, Southern Philippines

I.   INTRODUCTION

Globally, one of the main issues and concerns in education has been on the learners' development. Many studies unveil that teachers as facilitators of knowledge, skills, values and experiences need to design and implement relevant and challenging learning activities that would continuously address the varied demands of the industry specifically on the individual needs and interests of the learners who are the center in the educational process and the reason why teachers, schools and curricula exist. Unfortunately, like other Asian neighboring countries that have been profoundly influenced by colonial history as well as devastated by different calamities, the Philippine Educational system has been struggling to sustain quality education by all legal means particularly in enhancing the performance of the learners to become globally competitive and productive citizens. Reports reveal that thousands of teachers have been sent for trainings, seminars and conferences in order to be updated with the new trends in education that would address voluminous problems in relation to learners' academic advancement. In the Southern part of the Philippines wherein family feud known as 'rido' including the war between the Armed Forces of the Philippines and the combatants from the Moro Islamic Liberation Front as well as other man-made problems, education has been affected dramatically.

The aforementioned framework has motivated the researchers to investigate on the learner's development particularly among public elementary schools in South Central Mindanao. Hence, this study has attempted to determine the extent of the learners' development among public elementary schools in the identified region in terms of emotional, intellectual, moral, psychological and socio-cultural strands.

II.   LITERATURE REVIEW

Learners' development refers to how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences (Wiltgen, 2015).

On the other hand, emotional development refers to the experience, expression and management of emotion and the ability to establish positive and rewarding relationship with others (Cohen, et al., 2005). Operationally, this refers to the learners' ability to recognize, express and manage feelings at the different stage of life. Among these include their appreciations on values and respects rules and authority; feelings and perceptions of others; developing directions for greater self-awareness; developing positive self-esteem and resilience building; strengthening and accepting limitations as well as expressing opinion and personal views.

Whereas, intellectual development is all about learning and how individuals organize their minds, ideas and thoughts to make sense of the world they live in (Bartolome, 2019). Operationally, this refers to the changes that occur, as a result of growth and experience, in a learner 's capacities for thinking, reasoning, relating, judging, conceptualizing among others. This includes the learners' eagerness to take more responsibilities; enjoyment in reading a book on theirown; improvement of their memory skills; visualization of things even when out of the classroom; and showing the ability to solve simple and difficult problems. Moral development is the process through which children develop proper attitudes and behaviors toward other people in society, based on social and cultural norms, rules, and laws (Encyclopedia of Children 's Health, 2020). Operationally, this refers to the ways that distinguish right from wrong as the school learners' grow and mature. Moral development comes in the form of conformity to the community customs or laws; distinguishing right from wrong; following socially accepted ways of makingdecisions; respecting fairness, impartiality, equality, and individuals 'independence; and showing consideration for individual moralneeds.

Psychological development is conceptually and operationally referring to the development of human beings' cognitive, emotional, intellectual, and social capabilities and functioning over the course of the life span, from the infancy to the old age (Augustyn et al., 2020). Psychological development may be manifested in appreciating separation and other hierarchical relationships; beginning to think critically and reflectively of the different situations; exhibiting experimental or goal-directed behavior; interacting with teachers educationally; and speaking in adult like sentences.

Socio-cultural development is conceptually and operationally referring to a causal relationship between social interaction and individual cognitive development of a child (Leonard, 2002). Appreciating social gatherings; behaving appropriately in a variety of social situations; bending to a larger social world with greater expectations and demands; accepting sociocultural responsibilities; and working out the values and beliefs and often passionately adopting an ethical stance are among the indicators of socio-cultural development.

III.   METHODOLOGY

This study has employed the descriptive survey research design. Descriptive research is a quantitative research method that attempts to collect quantifiable information for statistical analysis of the population sample. It is a popular market research tool that allows researchers to collect and describe the demographic segment's nature (questionpro.com, 2020). The data were obtained from among the public elementary school teachers of the five city divisions in Southern Mindanao. Despite the pandemic outbreak of Corona Virus Infectious Diseases (COVID-19), there was an assurance of passive and diplomatic community members in the area where the study was conducted in order to avoid misinformation and further contamination of the virus. The peace and order situation was constantly monitored as well as the police visibility in the community was evidently stationed which has contributed for the successful administration and retrieval of the survey questionnaire.The population of the study was computed using the simple random sampling. Based on the computed sample size, out of the two hundred fifty (250) public elementary school teachers, only two hundred (200) were randomly selected and were utilized as respondents of this study regardless of gender and position. The survey questionnaire used in gathering data was a self-constructed instrument utilizing the four-point Likert Scale with range of means from 1.00-4.00. For validity and reliability, the survey questionnaire was validated by experts and it was pilot tested using the teacher-respondents from Esperanza District II, Division of Sultan Kudarat that were excluded as part of the study. Results showed that the research instrument was valid and reliable.

IV.   RESULTS AND DISCUSSIONS

The extent of learners' development among Public Elementary Schools in South Central Mindanao has been presented in tabular forms and inductively discussed in textual forms.

**Table 1. Extent of learners' development among Public Elementary Schools
in South Central Mindanao in terms of emotional**

n=200

	Item	Mean	Interpretation
1.	Appreciates value and respects rules andauthority	3.73	Very well developed
2.	Appreciates the feelings and perceptions ofothers	3.70	Very well developed
3.	Develops direction of greater self- awareness	3.59	Very well developed
4.	Develops positive self-esteem and resilience by building strengths and acceptinglimitations	3.67	Very well developed
5.	Expresses opinion and personalviews	3.64	Very well developed
	OVERALL MEAN	3.67	Very well developed

Legend:

3.50 – 4.00 Very well developed	1.50 – 2.49 Less developed
2.50 – 3.49 Welldeveloped	1.00 – 1.49 Least developed

Emotional development. Table 1 presents the extent of learners' development in terms of emotional advancement using the five different indicators. The statistical formula for mean and the Likert's scale of four were utilized to efficiently interpret the data. The following were the assessments of the respondents: indicator one was rated with 3.73 mean value and ranked first implying that appreciating value and respecting rules andauthority have been fully integrated in the lives of the learners who are the hope of the fatherland; followed by indicator two with 3.70 mean value; indicator four earned 3.67mean value placed third; indicator five rated with 3.64 mean value fourth in ranked; while indicator three scored 3.59 mean value placed last among the scores which implies that the improvement of memory skills of the learners needs to be taken into account by means of teachers' interventions and support of the home and community. The average mean of 3.67 is shown on the table. All of the scores were interpreted as very well developed including the overall mean. The revealed scores were amazingly high and belonging to the highest range level. The positive reactions of the respondents signify that the statements used in the indicators reflect their actual observations, opinions and experiences with the school children. This implies the optimistic responses of the respondents are a reflection of the general ideas. The online article from Griffith University (2020) disclosed the same concept with the indicators used stating that the way individuals think and feel about themselves and others, their inward thoughts serve as key to their emotional development. Developing and demonstrating individual emotional assets such as resilience, self-esteem and coping skills are heightened during adolescence because of the rapid changes being experienced.

Findings are in consonance with the concepts of Weissberg (2016) highlighting that, one of the indicators of emotional development is self-awareness that involves understanding one's own emotions, personal goals, and values. This includes accurately assessing one's strengths and limitations, having positive mindsets, and possessing a well-grounded sense of self-efficacy and optimism. High levels of self- awareness require the ability to recognize how thoughts, feelings, and actions areinterconnected.

In relation to the research findings, Sylwester (1994) says, "Emotions simply exist; we don't learn them in the same way we learn telephone numbers, and we can't easily change them. But we should not ignore them. Students can learn how and when to use rational processes to override their emotions, or to hold them in check. We should seek to develop forms of self-control among students and staff that encourage nonjudgmental, non-disruptive (and perhaps even inefficient) venting of emotion that generally must occur before reason can takeover." Most students have already known quite a bit about the complexity of emotions and the ways they and others experience them (Saarni, 2011), although they may not be able to articulate whatthey know. Schools should focus more on metacognitive activities that encourage students to talk about their emotions, listen to their classmates' feelings, and think about the motivations of people who enter their curricular world. For example, the simple use of why in a question turns the discussion away from bare facts and toward motivations andemotions (Sylwester, 1994).

Table 2. Extent of learners' development among Public Elementary Schools

in South Central Mindanao in terms of intellectual
n=200

Item	Mean	Interpretation
1. Eagers to take more responsibilities	3.69	Very well developed
2. Enjoys reading a book on theirown	3.50	Very well developed
3. Improves learner's memoryskills	3.49	Well developed
4. Pictures out things when they are not in front ofteacher	3.51	Very well developed
5. Shows ability to solve simple and difficult problems	3.58	Very well developed
OVERALL MEAN	3.55	Very well developed

Intellectual Development. Table 2 shows the extent of learners' development in terms of intellectual using the five confirmatory statements as indicators. With the help of statistical formula for mean and of Likert's scale of four, the data were interpreted asfollow:Indicator one garnered a mean value of 3.69 ranked first indicating that the learners have developed enthusiasm in taking more responsibilities; followed by indicator five which was rated with 3.58 mean value; indicator four was rated with 3.51mean value ranked third; indicator two was rated with 3.50 mean value; while indicator three was rated with 3.49 mean value and placed last implying that there is a need to improve the memory skills of the learners' through teachers' interventions and support from the home and community. The overall mean of 3.55 with corresponding interpretation of very well developed was shown in the table. All of the results were interpreted as very well developed except for the indicator three with a description of welldeveloped.

The inspiring mean value reflects that the respondents are agreeable with the statements used in the indicators. The indicators were describing the real impact of intellectual development of the learners in school. Respondents rated the indicators based from their opinions, experiences, and observations from the schoolchildren. Further, these indicators were interconnected with the articles posted by Griffith University (2020) that cognition is the process involving thought, rationale and perception. The physical changes of the brain that occur during adolescence follow typical patterns of cognitive development. Theyarecharacterizedbythedevelopmentofhigher-levelcognitivefunctioning that aligns with the changes in brain structure and function, particularly in the prefrontal cortex region. Inrecent years, data from developmental neuroimaging has enabled greater understanding of the changes that occur in the human brain during adolescence. This data point towards a second window of opportunity in brain development. Adolescence is a sensitive brain period that is a time when brain plasticity is heightened. During this time, there is an opportunity for learning and cognitive growth as the brain adapts in structure and function in response toexperiences.

Table 3. Extent of learners' development among Public Elementary Schools
in South Central Mindanao in terms of moral
n=200

Item	Mean	Interpretation
1. Conforms to the community customs orlaws	3.58	Very well developed
2. Distinguishes right from wrong	3.75	Very well developed
3. Follows socially accepted ways of makingdecisions	3.48	Well developed
4. Respects fairness, impartiality, equality, and individuals' independence	3.53	Very well developed
5. Shows consideration for individual moralneeds	3.60	Very well developed
OVERALL MEAN	3.59	Very well developed

Moral Development. Table 3 presents the extent of learners' development in terms of moral using the five identified indicators. The statistical formula for mean and Likert 's scale of four were used to easily interpret the gathered data. The respondents rated the statements as follow: indicator two states that ―distinguishes right from wrong garnered 3.75 mean value, ranked first; followed by indicator five states that ―shows consideration for individual moral needs was rated with 3.60 mean value; indicator one states that ―conforms to the community customs or laws had 3.58 mean value; indicator four states that the ―respects fairness, impartiality, equality, and individuals' independence was rated with 3.53; while indicator three states that ―follows socially accepted ways of making decisions obtained 3.48 mean value considered as lowest among the scores. The overall mean of 3.59

was reflected in the table. Based on the given interpretation, only indicator three was interpreted as well developed, the rest was rated with very welldeveloped. Noticeably, the mean value was strikingly high with adverbial interpretation of very well developed. This implies that the moral development of the school children was evidently observed by the respondents. Bronfenbrenner (2020) shared similar findings in his study disclosing that children and schools in different cultures of many ethnics, religious, and social groups often have their own rules for moral behavior. His research found five moral orientations, regardless of culture, social group, or developmental stage. Movement from the first stage to any of the others was dependent on participation in the family and other social institutions within each culture. Movement to the last stage involves exposure to a different moral system that might be in conflict with one's own. This moral pluralism forces individuals to examine their own moral reasoning and beliefs. This often occurs when people work in other countries or cultures and come face to face with different sets of moral conventions.

Bronfenbrenner (2020) also noted that individuals could slide back into a previous moral orientation when they experienced the breakdown of their familiar social order as in war, regime changes, genocide, famine, or large scale natural disasters that destroy social infrastructures. People narrow their attention to their own pressing needs and ignore the welfare of the largersociety.

Similar online article also stated that the social learning theory approach claims that humans develop morality by learning the rules of acceptable behavior from their external environment, an essentially behaviorist approach. Psychoanalytic theory proposes instead that morality develops through humans' conflict between their instinctual drives and the demands of society. Cognitive development theories view morality as an outgrowth of cognition, or reasoning, whereas personality theories are holistic in their approach, taking into account all the factors that contribute to human development (Encyclopedia of Children 's Health, 2020). The positive feedback from the respondents agreed with the ideas of Kohlberg's (1981) that the individual becomes aware that while rules/laws might exist for the good of the greatest number, there are times when they will work against the interest of particular individuals. Intellectual development is all about learning. It is about how individuals organize their minds, ideas and thoughts to make sense of the world they live in. To conclude, the respondents are sharing mutual ideas with some of the authors especially withKohlberg's.

**Table 4. Extent of learners' development among PublicElementary Schools
in South Central Mindanao in terms of psychological**

n=200

	Item	Mean	Interpretation
1.	Appreciates separation and other hierarchical relationships	3.50	Very well developed
2.	Begins to think critically and reflectively of the different situations	3.48	Well developed
3.	Exhibits experimental or goal-directed behavior	3.49	Well developed
4.	Interacts with teacherseducationally	3.49	Well developed
5.	Speaks in adult likesentences	3.42	Well developed
	OVERALL MEAN	3.48	Well developed

Psychological Development. Table 4 shows the extent of learners' development in terms of psychological using the five identified indicators. The mathematical formula for mean was utilized to easily interpret the data. Likewise, the Likert 's scale of four was used for simple interpretation andanalysis.

Based on the assessment of the teacher respondents, indicator one gained a mean value of 3.50 placed first; followed by indicator three which was rated with 3.49 mean value tied with indicator four obtaining also 3.49 mean value; indicator two scored with 3.48 mean level; while indicator five had only 3.42 mean value considered as the lowest score. The overall mean of 3.48 is shown in the table. Most of the results were at the average level including the overall mean value. Only in the first indicator, respondents rated it with high score having an adverbial interpretation of very well developed. The indicators used are of the same tone with the idea of Wallon (2001) stating that, it is the world of adults that the environment imposes on the child, so that at each stage the structures and contents of the mind display certain uniformity. But it does not follow that the adult needs to take into account only those aspects of a child's thought that the adult imposes. Even the manner in which a child assimilates material may bear absolutely no resemblance to the way an adult utilizes it. If the adult surpasses the child, the child in his way surpasses the adult. In relation to this finding, Wallon (2001) added, the child's frequent

inability to use a previously acquired skill has been pointe dout by several authors. The explanations given by W. Stern and, later, by Piaget are more or less similar. A particular mental operation extends over different levels, and during the course of mental development, the passage from one level to the next always occurs in the same sequence. The circumstances under which an operation must be carried out present obstacles of widely varying difficulty. If the difficulty increases, the operation may then be performed at a lower level. Thus, the same person, at the same age, can perform the same operation at a variety of levels. Piaget, by way of explanation, uses concepts such as causality, which the child seems to know how to apply objectively to everyday activity, though in his explanations at the "verbal level,"he regresses to much more subjective forms of causality, such as voluntarism or affectiveones.

Further, Atherton (2011) cited developmental theory of learning by Jean Piaget whose study focused on the development of children understanding. He did this through observing them while talking and performing different activities. His view was on how children`s minds work and develop has contributed a lot in education. His particular insight was on the role of maturation in increasing capacity of children to understand their world. It was recognized that, children cannot undertake certain tasks until they are psychologically mature enough to doso. Hence, the respondents' scores are strikingly high with positive adverbial interpretation. This has something to do with the idea of behaviorist. The behaviorist models of learning may be helpful in understanding and influencing what students do, but teachers usually also want to know what students are thinking, and how to enrich what students are thinking. For this goal of teaching, some of the best help comes from constructivism, which is a perspective on learning focused on how students actively create (or ―construct‖) knowledge out ofexperiences.

Table 5. Extent of learners' development among Public Elementary Schools
in South Central Mindanao in terms of socio-cultural
n=200

Item	Mean	Interpretation
1. Appreciates social gatherings	3.69	Very well developed
2. Behaves appropriately in a variety of social situations	3.53	Very well developed
3. Bends to a larger social world with greater expectations anddemands	3.48	Well developed
4. Accepts socioculturalresponsibilities	3.57	Very well developed
5. Works out the values and beliefs and often passionately adopt an ethical stance	3.53	Very well developed
OVERALL MEAN	3.56	Very well developed

Socio-cultural Development. Table 5 presents the extent of learners' development in terms of socio-cultural aspect using the confirmatory statements as indicators. Based on the table, the highest weighted mean of 3.69 described as very well developed was obtained by the indicator on the appreciation of social gatherings which implies that the learners have been accustomed with activities on socialization in school as well as in the community. Several monthly activities have been implemented in school sanctioned by the Department of Education (DepEd) and other organizations which have contributed to the development of the learners. The Southern part of the Philippines has been rich with cultural dances, songs and many other traditional practices that call for the massive and maximum participation of the learners including the teachers.

The second highest mean was garnered by the acceptance of socio-cultural activities with a mean score of 3.57 interpreted as very well developed. This indicates that the learners have understood their role in participating any socio-cultural activity like during the celebration of the BuwanngWika (Language Month), community festival, sports fest and the like as well as they have been accustomed to the annual rites employed by their family, school and community. Both the indicators on behaving appropriately in a variety of social situations and working out the values and beliefs and often passionately adopt an ethical stance were rated very well developed, as proven by the weighted mean of 3.53. This means that the learners have manifested their affective domain in attending socio-cultural gatherings which may be attributed to the collaborative efforts among the school, family and the community in inculcating good attitudes to the learners apart from developing their cultural orientations. Bending to a larger social world with greater expectations anddemands gained the lowest weighted mean of 3.48 described as well developed. This finding implies that the learners' participation to social and cultural gatherings has been concentrated in the locality. Based on the result of conversations with some of the teachers, they have admitted that their activities have been confined on the school and local settings. Very seldom have they been joining in the national and international competitions due to lack of funds, difficulty of convincing parents to permit their

children to attend in far distant activities and low external linkages. Overall, the extent of learners' development in terms of socio-cultural aspect was very well developed as shown from its general weighted mean of 3.56. The result signifies that through the commitment of the teachers in coordination with parents as well as in collaboration with the community and other entities, there has been a very favorable development on social and cultural dimensions on the part of the learners. Findings support the ideas of one of the leading psychologists of the past, Lev Vygotsky. On his socio-cultural theory like that of Piaget, it was emphasized that children learn actively through hands-on experiences. His socio-cultural theory also suggested that parents, caregivers, peers and the culture at large were responsible for developing higher-orderfunctions. Likewise, Vygotsky's (1987) viewed learning as an inherently social process. Through interacting with others, learning becomes integrated into an individual's understanding of the world. This child development theory also introduced the concept of the zone of proximal development, which is the gap between what a person can do with help and what they can do on their own.

In addition, research has shown that children 's socio-cultural context can have a large influence on their development. Evidently, culture influences how children develop; across different cultures, children can develop in quite different ways. Children who are deprived of care from a primary caregiver can often experience difficulties in later childhood because their early attachment experiences were affected by this (Bowlby, 1980). Development of course involves a process of learning and improvement, and children can only learn when others are there to support them, like parents, teachers and siblings. This does not conflict with Piaget 's stage theory but does extend it to explain how some of the environmental experiences that children receive can allow them to move from one stage to another, in line with Vygotsky 's socio-cultural approach (Montgomery,2008). According to Vygotsky, children are born with basic biological constraints on their minds. Each culture, however, provides what he referred to as 'tools of intellectual adaptation.' These tools allow children to use their basic mental abilities in a way that is adaptive to the culture in which they live. For example, while one culture might emphasize memory strategies such as note-taking, other cultures might utilize tools like reminders or rote memorization. The respondents shared the same constructive ideas with some of the famous authors especially with the concept of socio-cultural theory by Lev Vygotsky as generally stated that sociocultural theory suggests that human learning is largely a social process.

V.   CONCLUSION

The overall extent of learners'development in terms of emotional (3.67), intellectual (3.55), moral 3.60), psychological (3.48) and socio-cultural (3.56) was very well developed as manifested by its general average weighted mean of 3.57 signifying that the learners have experienced a holistic development through the application of various interventions employed by the teachers guided by educational policies and appropriate supervision of the school heads and in collaboration with the stakeholders. It is therefore inevitable that the sustainability of innovation and support from educational leaders, parents and the community should be taken into consideration in order to efficiently and effectively achieve quality education despite the multifarious challenges brought about by the rapid changes in the society specifically in dealing with Education 4.0 and the crisis brought about by the Corona Virus Disease causing a rapid shift from traditional school of thought to technologically driven education in the fourth industrial revolution.

REFERENCES

[1]   Wiltgen, B. The Neurobiology of Learning and Memory.Associate Professor, Psychology, University of California, Davis, Los Angeles. (2015).

[2]   Cohen, S., Knickmeyer, R., & Belmonte, M. K. Sex differences in the brain: implications for explaining autism. Academic Research Library. (2005).

[3]   Bartolome, P. Learning Theory; learning BP. Puerto Rican Educational Entity, Puerto Rico. (2019).

[4]   Encyclopedia of Children's Health. Moral development.Atlantic International University. (2020).

[5]   Augustyn, A. Psychological development.Encyclopedia Britannica, Inc. (2020).

[6]   Leonard, C.A.R. Quality of life and attendance in primary schools. Unpublished PhD thesis. Newcastle: University of Newcastle. (2002).

[7]   Questionpro.com. Descriptive Research: Definition, Characteristics, Methods, Examples and Advantages. (2020).

[8]   Griffith University (2020). www.griffith.edu.au

[9]   Weissberg, R. Why Social and Emotional Learning is Essential for Students. (2016) https://www.edutopia.org/

[10]   Sylwester, R. How Emotions Affect Learning. University of Oregon, Eugene, USA. (1994).

[11]   Saarni, C. (2011). Emotional Development in Childhod. Sonoma State University, USA

[12] Bronfenbrenner, U. The Bioecological Theory of Human Development. Bioecologicalperspectives on human development. Sage Publications Ltd. North America. (2020).

[13] Kohlberg, Lawrence. The Philosophy of Moral Development. Essays on Moral Development, Vol. I: San Francisco, CA: Harper & Row. (1981).

[14] Wallon, H.The Origins of Thought in the Child.(2001). Retrieved from https://www.marxists.org/archive/wallon/works/1947/ch6.htm

[15] Atherton, J. S. Learning and Teaching: Experiential learning [online] retrieved 5 August 2011 from learning and teaching.

[16] Vygotsky, L. S. Thinking and speech. In R. W.Rieber& A. S. Carton (eds.). The collected works of L. S. Vygotsky. Vol. 1. Problems of general psychology. New York: Plenum. (1987). 39-28.

[17] Bowlby, J. (1980). By ethology out of psycho-analysis: An experiment in interbreeding. Animal Behaviour, 28(3), 649–656. https://doi.org/10.1016/S0003-3472(80)80125-4

[18] Montgomery,M.R. The Urban transformation of the developing world. (2008). Sciencemag.org.