The Influence of Cognitive Skills on the Core Values of Science Class Students

GLENDA DEMATA – LIBED
http://orcid.org/0000-0001-6643-4467
glendalibed@ustp.edu.ph
Mindanao University of Science and Technology
Cagayan de Oro City, Philippines

ABSTRACT

The Philippines has felt the need of brilliant leaders that would impact growth and development of the country. Thus, this study determined the influence of cognitive skills on the core values of students. Specifically, it aimed to determine: 1) respondents' characteristics considering self-awareness, stress – coping skills, self – motivation, environmental influences such as family, peer and media; and academic performance; 2) students' cognitive skills; 3) level of students' core values; 4) difference in the students' cognitive skills and core values when grouped according to their characteristics; and 5) extent of contribution of the students' cognitive skills on their core values. This descriptive research used simple random sampling method, descriptive and inferential statistics. Results showed that students have *good* stress coping skills, self-motivation, family and peer relationships. Their overall cognitive skills and core values are *fair* and *good*, respectively. Students with *good* family and peer influence, high academic performance have significantly *higher* cognitive skills and core values. Their cognitive skills also *positively affect* core values. There is hope for a much better performance as they are rated good in core values given that the respondents are still grade 9. With proper intervention, they could assume leadership roles and be highly competitive leaders.

INTRODUCTION

Philippine history is replete with brilliant leaders who have contributed to the growth and development of the country. They have proven themselves to have accomplished many things for the good of many people in the country. It would be ideal, therefore, to form young people and mold them to take over the helms of the elders.

To do this, one has to look up to education to produce the kind of leaders needed for the 21st century. According to Branson and Quigley (1998), education and development go hand in hand. A country is developed only when its citizens are also educated. It can be inferred that formators in schools are challenged to form adolescents to become competent leaders, balancing their cognitive abilities and good values. Thus, this study determined whether the students from the public schools, particularly, the Grade 9 Science class, have developed their leadership skills along with two other skills such as collaborative skills and social competence.

Cagayan de Oro secondary schools aspire to produce leaders who will someday become leaders of the society. Thus, some public schools come up with a Science Class which is composed of selected students who will have the promise of leadership, not only in academics, but also in other areas needed for them to have their skills in leadership. Being in the Science class means that there are high expectations and challenge for them to be able to retain their standing in academics, requiring high cognitive ability such as critical thinking, creative thinking and problem solving skills. But will these cognitive skills contribute to the leadership, collaborative and social competence of these students? Do they possess the core values expected of young people, the hope of the fatherland?

Supporting the revised curriculum program of Values Education now called *Edukasyon sa Pagpapakatao*, the core values are stated as follows: *pagninilay* (reflection), *pagsangguni* (consulting), *pagpapasya* (decision-making), *pagkilos* (action) and *pag-unawa* (understanding).

The identified values in this study: leadership, collaborative skills and social competence require the core values of Edukasyon sa Pagpapapakatao, i.e., reflection, consulting, understanding, decision-making and action.

In like manner, the said values align with the skills needed for students to master the multi-dimensional abilities required of them in the 21st century and beyond (Pacific Policy Research Center, 2010). The researcher has observed that students from the Science class belonged to a high academic performing class in school but seem not to have acquired the value of socialization needed for their total development. Thus, the Department of Education, through the teachers and other formators in school is now challenged to bring not only academics but also inculcate in them balance in their student life. Thus, this study is conceptualized to hopefully respond to the needs of the 21st century, particularly, leaders with balanced capacities and skills.

FRAMEWORK

The study is anchored on Kurt Lewin's (1951) Field Theory which refers to the "totality of psychological factors acting at any particular moment to determine a behavior". It examines patterns of interaction between the individual and the total field or environment. Lewin's field theory can be expressed by a formula: B = f (p,e). Behavior (B) being the function between the person (p) and their environment (e). Furthermore, the interaction of the person (P), and the environment (E) produces this life space. In symbolic expression, $B=f(LS)=F(P,E)$.

The environment as demonstrated in the life space, refers to the objective situation in which the person perceives and acts. The life space environment (E) is completely subjective within each context as it depends not only on the objective situation, but also on the characteristics of the person (P). It is necessary to consider all aspects of a person's conscious and unconscious environment to map out the person's life space. The combined state, influenced by the environment as well as the person's perspective, conscious, and unconscious, must be viewed as a whole. While each part can be viewed as a separate entity, to observe the totality of the situation one must take all inputs into consideration.

Lewin applied the term person in three different ways: 1) properties/ characteristics of the individual (needs, beliefs, values, abilities); 2) a way of representing essentially the same psychological facts of "life space" itself; and 3) "the behaving self". Moreover, any change within the life space is subject to psychological laws. Accordingly, an action of the person (P) nor a change in the environment (E) resulting from the said action, can be considered behavior (B). These behaviors can make large or small influences on the totality of the life space. Regardless, they must be taken into consideration.

Through Lewin's theory (Lohmann & Medina, n.d.), the study attempted to find out if it can explain the effect of cognitive skills on the core values of Grade 9 Science Class Students in selected schools of Cagayan de Oro City during the SY 2014 - 2015. The personal characteristics and environmental forces of the respondents in the study comprise the entire life space as described by Lewin in his theory.

The personal characteristics items looked at the following: self –awareness, stress coping skills, self-motivation, academic performance and the cognitive skills such as critical thinking, creative thinking and problem solving skills. It also includes the core value variables such as leadership, collaborative skills and social competence that can be considered the subjects' potential for the actual performance of the said core values.

The environmental forces, however, include the environmental influences such as family, peers and media. This is further supplemented by the ecological systems theory of Urie Bronfebrenner which states that persons encounter different environments throughout their life span that may influence their behaviors in varying degrees. These include microsystem, the mesosystem, the exosystem, macrosystem and the chronosystem.

In this study, the microsystem supports the main theory of Kurt Lewin's environmental forces such that according to Bronfebrenner (Lau & Ng, 2014), the microsystem is the direct environment the persons have in their lives such as family, friends, classmates, teachers, neighbors and other people who have direct contact with the person. It is the setting in which they have direct social interactions with these social agents. Moreover, the theory states that persons are not mere recipients of the experiences that they have when socializing with these people in the microsystem environment but they are contributing to the construction of such environment. Furthermore, exosystem also contributes in part such that this environment includes the influence of mass media on the person (Kail & Cavanaugh, 2015).

Researches state that cognitive skills continue to have strong association with various aspects of leadership and effectiveness (Pardey, 2007). Pagon, Banutai & Bizjak (2008) also states that competencies of a leader include cognitive, social abilities, some other personal characteristics that can be helpful in performing varied functions, gaining required knowledge and achieving good results. Every competency is based on a combination of mutually linked cognitive and practical skills, knowledge, motivation, orientation values, beliefs, emotions, and other social and behavioral components, applicable as a whole in an efficient activity.

Moreover, Goleman (2005) in his article entitled, "what makes a Leader". His study revealed that most effective leaders are alike in one crucial way: They all have a high degree of what has come to be known as emotional intelligence. IQ being part of the rational skill is considered a "the entry-level requirements". Moreover, his research along with other studies he consulted clearly shows that emotional intelligence is absolutely necessary for leadership. Without it, a person can have the best training in the world, an incisive, analytical mind, and an endless supply of smart ideas, but he still will not make a great leader (Ovans, 2015.)

OBJECTIVES OF THE STUDY

The study attempted to determine the influence of cognitive skills on the core values of Grade 9 Science Class students in the selected Schools of Cagayan de Oro City during SY 2014 – 2015.

Particularly, this study aimed to determine: 1) the respondents' characteristics considering the following : self-awareness, stress –coping skills, self – motivation, environmental influence (family, peer, media), academic performance; 2) students' cognitive skills in terms of the following: critical thinking skills, creative thinking skills, problem solving skills; 3) the students' level of core values on the bases of the following: leadership, collaborative skills, social competence; 4) significant differences in the students' cognitive skills and core values when grouped according to: self-awareness, stress – coping skills, self-motivation, environmental influence (family, peers, media) and academic performance; and 5) the extent of contribution / effect of the cognitive skills on the students' core values.

METHODOLOGY

Research Design

This study employed the descriptive method. Moreover, it involved hypothesis formulation and testing, uses logical method of inductive – deductive reasoning to arrive at generalization, employed method of sampling, and described the variables and procedures so that the study can be replicated.

This method is considered to be fitting for this research as it will include description and analysis of the effect of cognitive skills on the core values of Grade 9 science class students from the selected schools in Cagayan de Oro City during the SY 2014 – 2015.

Research Site

The study was conducted to the students belonging to the Grade 9 Science Class of in Cagayan de Oro City for SY 2014 – 2015. The total number samples were taken through simple random sampling of 305 (N = 581) two of which were discarded due to incomplete details in the forms making a total of 303 from Cagayan de Oro National High School, Regional Science High School and the Misamis Oriental General Comprehensive High School.

The researcher herself sees the value of balance between the adolescents' intelligence such as having high academic performance with the values of leadership, social competence and collaborative skills. This will greatly prepare this type of students with the future challenge since this may imply high potential for them to assume leadership roles.

Moreover, the three secondary schools are in the process of strongly anchoring its services in the Guidance and Counseling Department to be able to cater to these type of students. Currently, there are approximately 8 - 10 Guidance counselors in the three schools who handle these services.

Research Participants

The participants of this study are the 303 Grade 9 students from the Science Class chosen from among 3 public schools in the city.

Table 1. Table Showing the Distribution of Respondents

Name of School	N	n
Regional Science High School	201	105
Cagayan de Oro National High School	188	98
Misamis Oriental General Comprehensive High School	192	100
Total Estimated Subjects	581	303

Instrumentation

This study used an instrument called Self-survey Questionnaire comprising of three forms for the students. **Survey Form 1** will yield responses on: Name, Name of School, Date of Survey; and Average Grade during the first quarter of SY 2014 – 2015. Secondly, it will require the subject's responses on series of statements that best describe their beliefs, attitude and practices as a student of Regional Science High School, Cagayan de Oro National High School and Misamis Oriental General Comprehensive High School.

They are then asked to mark check (/) their best answer on the space under the column of their choice marked and coded with letters A, B, C, D after each statement. Their answers will be treated with utmost confidentiality

This part of the form will yield responses for the variables (A-1) Self-awareness,(A-2) Stress Coping skills, A-3) Self-Motivation, (A-4) Environmental Influences such as (A-4.1) Family, (A-4.2) Peers and (A-4.3) Media, (A-5) Cognitive Skills such as (A-5.1) Creative thinking and (A-5.2) Problem Solving Skills and the Core Values such as (A-6) Leadership, (A-7) Collaborative Skills and (A-8) Social Competence.

Survey Form 2 is a Critical Thinking Skill Test. The test is divided into four parts called Tests 1 to 4. **Test 1** measures **Inference.** This part has ten (10) items. This requires the ability of the students to discriminate among degrees of truth or falsity of inferences drawn from given data. The exercise begins with a statement of facts which you are to regard as true. After each statement of facts they will have several possible inferences – that is, conclusions which some persons might make from the stated facts. They will then examine each inference separately, and make a decision as to its degree of truth or falsity and write the following:

T	If you think the inferences is true
PT	If its probably true
ID	If you think there are insufficient data
PF	If you think the inferences is probably false; and
F	If you think the inference is definitely false

Test 2 measures **Deduction**. There are ten (10) items in this part. These are items requiring the ability to reason deductively from given statement or premises: to recognize the relations of implication between propositions; to determine whether what may seem to be an implication or a necessary inference from given premises is indeed such. In this test, each item consists of two statement (premises) followed by several suggested conclusions. For this test, the subject is asked to consider the two statements in each exercise as true without exception. They are then asked to read the first conclusion beneath the statements. If they think it's necessary they follow from the statements given, and write letter **A**. If they think it is not a necessary conclusion from the given statements, they are asked to write letter **B**, in the corresponding blank in each item.

Test 3 measures **Interpretation.** There are ten (10) items in this part. These are items requiring the ability to weigh evidence and to distinguish between (a)

generalization from given data that are warranted beyond a reasonable doubt, and (b) generalizations which, although not certain or necessary, do seem to be warranted beyond a reasonable doubt. For the purpose of this test, they are asked to assume that everything in the short paragraph is true. The problem is to judge whether or not each of the proposed conclusion logically follows beyond a reasonable doubt from the information given in the paragraph. If they think that the proposed conclusion follows beyond a reasonable doubt (even though it may not follow absolutely and necessarily), then they are asked to **WRITE A**. If they think that the conclusion does not follow beyond reasonable doubt from the facts given, then they are asked to **WRITE B** in the corresponding blank in each item.

Test 4 is on Synthesis. This contains ten (10) items. These are items requiring the ability to apply concepts in a new setting, or the combination of ideas to form a new whole.

There are two directions for this part of the test. First, they are asked to choose the trait most appropriate in the given situations described and write their answers on the space provided before each of them. The second part asks them to make sensible comparisons. There are four sentences are stated in the left column. In the right are phrases to complete the sentences. They are asked to choose the phrase that best completes each comparison. Moreover, they are asked to write only the letter on the blank.

The **Survey Form 3** is a supplementary questionnaire stated in a table form given to the top 5 and lowest 5 Grade 9 students from a Science class in a particular school. The respondents are asked to state what they understood from the terms mentioned in the column specifying all the variables considered in this study. They are asked to provide brief and concise answers.

Lastly, **Survey Form 4** for Teachers and Counselors. The survey supplements the data / information gathered among Grade 9 Science Class students. There are four (4) major columns. The header in Column 1 states the key words to guide them in answering. Header 2 states the teacher / counselor's response – Answer – either by Checking (/) if the grade 9 Science Class students were able to acquire them and putting an (X) if they did not. Header 3 states the Instance or example for which they are required to state to supplement their answer under Colum / header 2. At the last Column they are asked to suggest what might be the best intervention to further enhance or develop them in the skills they stated the respondents have or have not.

Statistical Technique

Descriptive statistical tools consisting of the mean and percentage were utilized. Means and percentages were also used to check the respondents' core values on the bases of leadership, collaborative and social competence.

T-test and F-test were used to compare and test the significant differences of the dependent variables such as cognitive skills when grouped according to self-awareness, stress coping skills, self-motivation, environmental influences and academic performance; and linear regression was used to measure the extent of contribution or the direct effect of cognitive skills on the respondents' core values.

RESULTS AND DISCUSSION

The overall rating of the Grade 9 Science Class students characteristics is *good* in the following: Stress Coping Skills (mean= 2.97); Self-Motivation (mean=3.13); Family Influence (mean=3.40); Peer Influence (mean= 3.14); *fair* in Self-awareness (2.78) and Media Influence (2.41) ; and *advanced* in Academic Performance (90.43).

The Cognitive skills level of the respondents, specifically, in critical thinking is *poor* (mean=1.58); creative thinking skills is *good* (mean=2.92); and problem solving skills is *fair* (2.79) with an overall cognitive level of *fair* (mean=2.44).

The *fair* perception level means the respondents have below satisfactory level in acquiring the overall cognitive skills. This may imply that they need to work harder in acquiring these skills as they are highly needed to remain in the Science class.

Moreover, Reis and Renzulli (2014) cited that gifted behavior consists of behaviors that reflect an interaction among the three basic clusters of human traits--above average ability, high levels of task commitment, and high levels of creativity.

Lastly, a lot of teens really do not know yet how to solve their problems properly (Kadir, Abdullah, Anthony, Salleh & Kamarulzaman, 2016). Successful problem solving requires intellectual skills, verbal knowledge, and cognitive strategies. The research further suggests that these capabilities are learned and, thus, will vary among adolescents, but these can be improved with proper training and instruction.

The overall *good* rating means that the respondents have satisfactorily acquired leadership, collaborative skills and social competence. However, being adolescents themselves who belonged to the science class of Grade 9, there are

more opportunities in school and even outside of school from where they could improve more the core values. The study of Martinek Schilling and Hellison (2006) states that the nurturing begins early in life and becomes especially vital during the adolescent years. Findings show both academic competence and other constructs predict leadership as stated by the teachers (Schneider, Paul, White & Holcombe, 2000). Stichter, Christ, Herzog, ODonnell and OConnor (2016) states on the enhancement of social competence which reflected positive effects on social relations with peers among adolescents.

Table 2 state distribution of test statistics on the significant differences in the students' cognitive Skills and core values when grouped according to self-awareness. It is revealed that those students with good or higher self-awareness have significantly higher or better cognitive skills, creative thinking, problem solving and core values such as leadership, collaborative skill and social competence than their Fair group counterpart.

These findings may imply that the respondents significantly differ in both cognitive skills and core values given their level of awareness with themselves. The better they rate themselves in self-awareness, the higher are the levels of their overall cognitive skills and core values.

The study of M. Rutter and M. Rutter (1993) states that this transition from childhood to adulthood is also characterized by dramatic changes in identity, self-consciousness and cognitive flexibility. Furthermore, there seems to be a qualitative shift in the nature of thinking such that adolescents are more self-aware and self-reflective than prepubescent children.

Table 2 . Distribution of Test Statistics on the Significant Difference in the Students' Cognitive Skills and Core Values When Grouped According to Self-Awareness

Dependent Variables	Self-Awareness				T Value
	Good [n=169]		Fair [n=134]		
	X	Desc	X	Desc	
Cognitive Skills					
Creative Thinking Skills	2.97	G	2.87	G	2.31*
Problem Solving Skills	2.93	G	2.68	F	4.14**
Critical Thinking Skills	1.61	P	1.53	P	1.53ns
Overall	**2.50**	**F**	**2.36**	**F**	**4.04****
Core Values					
Leadership Skills	3.17	G	2.99	G	4.51**
Collaborative Skills	3.33	G	3.16	G	3.67**
Social Competence	3.09	G	2.94	G	4.00**
Overall	**3.20**	**G**	**3.03**	**G**	**4.75****

G = Good   F= Fair   P= Poor

*=Significant   **=Highly significant   ns= not significant

Table 3 states the distribution of test statistics on the significant difference in the students' cognitive skills and core values when grouped according to family influences. Students with very good or higher evaluation in terms of family influence have the tendency to have a higher or better overall cognitive skills – critical thinking, creative thinking, problem solving skills and core values such as leadership, collaborative skill and social competence than their good, fair and poor counterpart. The leadership group tends to be higher in internal locus of control, to live in a more stable family structure and to have more prestigious career goals.

Table 3. Distribution of Test Statistics on the Significant Difference in the Students' Cognitive Skills and Core Values When Grouped According to Family Influence

Dependent Variables	Family Influence				T Value
	Very Good [n=106]		Good, Fair, Poor [n=197]		
	X	Desc	X	Desc	
Cognitive Skills					
Creative Thinking Skills	3.04	G	2.86	G	4.21*
Problem Solving Skills	2.96	G	2.74	F	3.38**
Critical Thinking Skills	1.66	P	1.53	P	2.31*
Overall	2.55	F	2.38	F	4.76**
Core Values	3.22	G	3.02	G	4.69**
Leadership Skills	3.44	G	3.15	G	6.23**
Collaborative Skills	3.20	G	2.93	G	6.93**
Social Competence					
Overall	3.28	G	3.04	G	7.05**

G = Good   F= Fair P= Poor
*=Significant   **=Highly significant

Table 4 states the distribution statistics on the significant difference on the students' cognitive skills and core values when grouped according to peer influence. Those students with very good/good or higher evaluation in peer influence have the tendency to have significantly higher or better in the overall cognitive skills, creative thinking, problem solving and core values such as leadership, collaborative skill and social competence than their fair group counterpart. Moreover, even if the critical thinking skills show no significant difference yet, the *good, very good* group has a tendency to be higher than their *fair* counterpart.

Table 4. Distribution of Test Statistics on the Significant Difference in the Students' Cognitive Skills and Core Values When Grouped According to Peer Influence

Dependent Variables	Peer Influence				T Value
	Good - Very Good [n=238]		Fair [n=65]		
	X	Desc	X	Desc	
Cognitive Skills					
Creative Thinking Skills	2.96	G	2.80	G	2.31**
Problem Solving Skills	2.86	G	2.69	F	4.14*
Critical Thinking Skills	1.59	P	1.55	P	1.53ns
Overall	2.47	F	2.35	F	4.04**
Core Values					
Leadership Skills					
Collaborative Skills	3.13	G	2.93	G	3.99**
Social Competence	3.32	G	3.03	G	5.29**
	3.08	G	2.84	G	5.14**
Overall	3.17	G	2.93	G	5.69**

G = Good   F= Fair   P= Poor
*=Significant   **=Highly significant   ns = not significant

Table 5 states the distribution of test statistics on the significant difference in the students' cognitive skills and core values when grouped according to media influence, those students with higher (good) evaluation in media influence have the tendency to be higher in cognitive skills such as creative and problem solving skills and the core values such as leadership, collaborative skills and social competence than their *fair* group counterpart. Moreover, the better the media influence the respondents, the higher are their overall cognitive skills than their *fair* group counterpart. For the core values, the better (good group) their media influence is, the higher is their tendency to have better leadership, collaborative and social competence than their *fair* counterpart.

Table 5. Distribution of Test Statistics on the Significant Difference in the Students' Cognitive Skills and Core Values When Grouped According to Media Influence

| Dependent Variables | Media Influence | | | | T Value |
| | Good [n=123] | | Fair [n=180] | | |
	X	Desc	X	Desc	
Cognitive Skills	3.01	G	2.87	G	3.32**
Creative Thinking Skills	2.91	G	2.76	F	2.34*
Problem Solving Skills	1.60	P	1.56	P	0.67ns
Critical Thinking Skills					
Overall	2.51	F	2.40	F	2.95**
Core Values	3.13	G	3.06	G	1.61ns
Leadership Skills	3.28	G	3.24	G	0.89ns
Collaborative Skills	3.06	G	3.00	G	1.60ns
Social Competence					
Overall	3.16	G	3.10	G	1.57ns

G = Good   F= Fair   P= Poor

*=Significant   **=Highly significant   ns = not significant

Table 6 states the distribution of test statistics on the significant difference in the students' cognitive skills and core values when grouped according to academic performance. Those students with good or higher (advance level) academic performance have the tendency to be higher or better on the overall cognitive skills (creative thinking, problem solving) and core values such as leadership, collaborative skill and social competence than the *beginning* to *proficient* group counterpart.

Table 6. Distribution of Test Statistics on the Significant Difference in the Students' Cognitive Skills and Core Values When Grouped According to Academic Performance

Dependent Variables	Academic Performance				T Value
	Advanced (90-100) [n=228]		Beginning to Proficient (89 & below) [n=75]		
	X	Desc	X	Desc	
Cognitive Skills					
Creative Thinking Skills	2.94	G	2.92	G	0.37ns
Problem Solving Skills	2.88	G	2.80	F	1.16ns
Critical Thinking Skills	1.61	P	1.57	P	0.59ns
Overall	2.48	F	2.43	F	1.10ns
Core Values					
Leadership Skills	3.11	G	3.08	G	0.70ns
Collaborative Skills	3.31	G	3.23	G	0.57ns
Social Competence	3.06	G	3.01	G	1.13ns
Overall	3.16	G	3.11	G	1.32ns

G = Good   F= Fair   P= Poor   ns = not

Table 7 shows the test of the extent of contribution / effect of the students' cognitive skills on their core values through simple regression analysis. It shows that regression model: y = 1.797 + 0.53x1 is highly significant. The coefficient of a or y-intercept or core values of the respondents is 1.797. This indicates that when Cognitive skills is 0, core values is predicted to have 1.797.

Table 7. Test of the Extent of Contribution of the Students' Cognitive Skills on their Core Values through Simple Regression Analysis

Independent Variable	Dependent Variable	Regression Model	F	Significance
Cognitive Skills	Core Values	$\hat{Y}=1.797 + 0.53x_1$	125.17 **	Highly significant

Multiple r = 0.54   Constant = 1.797 F value = 125.17
Adjusted r^2 = 0.29   Beta Coefficient = 0.53
P value = 0.0000021   Level of Significance --> highly significant

The coefficient of b or Cognitive skills of the respondents is +.53. This means that for every unit increase or improvement in the cognitive skills of the respondents, their core values increases by .53. The value of r is equal to .54. This indicates that cognitive skills and core values of the Grade 9 students in the Science Class coming from the three schools – Cagayan de Oro National High School, Regional Science High School and Misamis Oriental General Comprehensive High School (MOGHS) are positively related in terms of linear relationship.

The adjusted r^2 on the other hand is equal to .29 which signifies that 29% of the total variation in the core values of the respondents can be explained by their cognitive skills and 71% is due to other factors. Other factors like self-awareness, stress-coping skills, self-motivation, environmental influences and academic performance which were mentioned in the problem may explain the variation in core values – leadership, collaborative skills and social competence.

The overall result in F-values states a highly significant difference. The cognitive skills have significant effect/contribution to the core values of the respondents. Furthermore, it can be inferred that the higher will be the cognitive skills of the respondents, the higher or better will their core values be.

Daniel Goleman in 1995 released the phenomenal study on emotional intelligence. It states that cognitive abilities include the complete package of rational and emotional mind. In this study, the rational mind has something to do with the capacity to think critically, creatively and capacity to solve problems from where they are rated at a *fair* level in the overall cognitive skills, yet their capacity to overcome or cope with stress and emotional experience can relate much to what Daniel Goleman stated since they are generally good at it. In fact, it compensates or may balance the fair rating in cognitive skills which may imply a positive effect or linear relationship to their capacity to lead requiring social competence and collaborative skills.

CONCLUSIONS

The Grade 9 Science class students in the selected schools of Cagayan de Oro City, Philippines during the SY 2014 – 2015 have generally acquired substantial grounding in the following: stress-coping skills, self-motivation, family influence, peer influence; creative thinking skills problems solving skills but poor in critical thinking and need to improve more in self – awareness and media influence.

However, what needs to be attended to and really focused on in the formation of this group of students is their critical thinking skills which rated them markedly at the poor level which implies inadequacy in the said aspect of the cognitive skills. This may imply a need for further activities and exposure that may challenge and awaken this higher order thinking skills of the respondents. Despite that, the overall cognitive skills have a significant influence on the students' core values. The other personal characteristics have indirect positive effect.

Moreover, the findings can be explained by the theory on Life Space by Lewin (Lohmann, A., & Medina, A., n.d.) such that accordingly, an action of the person (P) nor a change in the environment (E) resulting from said action, can be considered behavior (B). Given the result from the characteristics of the person combining the environmental influences and the cognitive aspects, these have an impact on the behaviors, particularly, stated in the core values which have an influence on the totality of their being as Grade 9 students from the Science class.

With all the variables taken in this study, it can also be inferred how cognitive abilities can be translated into a behavior which may build or berate oneself, a challenge that can also be dealt with particularly with the respondents in this study.

Lastly, there is hope for a much better performance as they are rated good in core values given that the respondents are still in grade 9. With proper intervention and preparation in the K-12 program of the Department of Education, they can assume leadership roles in the future and be highly competitive in such skill balancing them with intelligence and right attitude.

TRANSLATIONAL RESEARCH

This research could be presented into an instructional and training modules for teachers and students in critical thinking, creative, problem solving skills, leadership, collaborative and social competence. The modules will first be given to teachers who will initially prepare them to implement and translate those skills in the classroom.

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