



# Certifying Smaw Competency Among Senior High

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## ABSTRACT

This research assessed the factors affecting Shielded Metal Arc Welding instruction among grade 12 students of Luray II National High School of Toledo City Division. This research employed a descriptive research design. A modified survey questionnaire was utilized to gather data. Three types of factors such as tools and equipment interpreted as often extensive, parental involvement interpreted as moderate extent, and appropriate activities interpreted as often extensive were observed to have an impact on the academic performance. The results were significant because these will be used by school administrators as bases in designing and implementing a teaching-learning guide geared towards the improvement of the academic performance of the students. It was recommended that the spouse and other members of the family with employable age must engage in cottage industries to earn an additional living. Through the help of the city government of Toledo city, the school should purchase a transformer welding shop should conform to the standard dimension of the building. the School should buy standard tools and materials to be used during their workshop, “fabrication” activities in school assigned to them should be minimal, other subjects should have a separate time in their culminating activities and not during a regular class session.

**Keywords:** SMAW instruction Academic performance Descriptive research Shielded Metal Arc Welding instruction

## 1. INTRODUCTION

K to 12-curriculum for kindergarten to 12<sup>th</sup> grade is now globally implemented. It is also an American articulation that demonstrates the number of long stretches of essential and optional training found in the USA, with a wide acceptance in other countries like Afghanistan, Australia, Canada, Ecuador, Egypt, India, Iran, South

Korea, Turkey, and much more globally for publicly assisted grade schools before going to college. There are still countries like in Africa that are following the K to 10-curriculum such as Angola and Djibouti. However, the Philippines recently changed from K to 10 to K to 12 curricula with their pioneering graduates last year. This K to 12 curriculum program implementation is conformed with Enhanced Basic Education Act of 2013 marked by former President Benigno Aquino III last May 15, 2013, and the Department of Education (Dep Ed) is almost six years on its execution. Since the educational programs were changed, diverse systems, techniques were additionally changed. Assortments of training, classes, and workshops were given to all teachers from the best up to the last level. K to 12 educational programs are intended to outfit students with important training, hands-on to create and enhance persons' aptitudes for them to wind up all-around aggressive subjects. Such training will be of assistance for them in looking for a better occupation in our nation and abroad. Following two long stretches of Senior High, TVL students have earned employable aptitudes and will therefore be qualified to work. K to 12 graduates are work prepared particularly to those students who will simply move on from secondary school and couldn't stand to enlist in school because of neediness.

Presently, in K to 12, Technical – Vocational courses are offered as per Training Regulations (TR ) conceded by TESDA, as an essential accomplice of Dep Ed. A Certificate of Competency (COC) or a National Certificate Level I (NC I) will be given to a learner after completing a Grade 10 course and a National Certificate Level II (NC II) in the wake of completing a Technical - Vocational Livelihood Track in Grade 12 when he/she passes the Technical Education and Skills Development Authority (TESDA) based on the competency he/she practiced. Indeed, NC I and NC II attract employability of graduates in the fields of Agriculture, Electronics, Trade, and Construction and give students a choice to business, work, or additional training.

In spite that the point of K to 12 has offered long haul benefits among the students, there were problems experienced. In this way, the school must direct a review on the issues experienced by Grade 12 students in TVL (SMAW) class and perform needs investigation so that the school itself would have the capacity to part their assets in light of needs, accessibility to the students.

This investigation is supported on the theory of Skill Acquisition where it Depends on the adaptive Control of Thought model (ACT) which says that grown-ups initiate getting learned of something through essentially explicit processes, and through consequent adequate practice and presentation, continue to implicit processes (Vanpatten and Benati, 2010). The fundamental of Skill Acquisition Theory, as by Dekeyser (2007), shows that the learning of a wide assortment of abilities demonstrates an exceptional likeness being developed from an initial representation of the information through initial changes in conduct to inevitable familiar, unconstrained, to easy and exceptionally gifted conduct, and that this arrangement of phenomena can be accounted for by a lot of essential basic standards

to obtain the skills. As a whole, as referred by Speelman (2005), obtaining a skill can be considered as a particular type of learning, where learning has been characterized as the representation of data in memory concerning some ecological or intellectual occasion. In this manner, as indicated by him, acquisition of skill is a structure of realizing where talented practices can move toward becoming routinized and even programmed under certain conditions.

Also, as a general theory of learning, it claims that grown-ups start picking up something through to a great explicit forms, and with ensuing adequate practice and presentation, move into implicit procedures. Advancement of this theory involves the use of definitive information pursued by procedural learning, with the latter's mentioned automatization (Vanpatten and Benati, 2010).

As indicated by Richards and Schmidt (2010), declarative information is conscious learning of actualities, thoughts that can be stored as recommendations. And procedural information refers to unconscious learning of how an act is accomplished. As expounded by Vanpatten & Benati (2010), the automatization of procedural information involves certain learning or processes; learners start to procedural the express learning they possess, and through situational appropriate practice and use, the conduct turns out to be second nature.

According to the Human Intelligence Triarchic Theory by Sternberg, 1986 where the study is also anchored said that the human Intelligence can be associated with the external (contextual), internal (componential), and both the external and internal (two-facet) world of the person. The external sub-theory characterizes clever conduct in terms of purposive adjustment to, shaping of, and determination of true to life condition which is important to one's life. The two-facet sub-theory further obliges that effective automation of processing allows allocation of additional resources to the processing of novelty allow to happen earlier as far as one can tell the task and circumstances. The componential sub-theory determines the psychological systems in charge of the learning, arranging, execution, and assessment.

Furthermore, research by Sternberg emphasizes that learners' learning, different styles in thinking (which is ignored usually), together with their levels of ability, play a vital part in the performance of the students. The Mental Self-Government Theory refers to a survey of distinct styles in thinking that gives the clue of human choice of judgment patterns. The ability itself is the focus of the Human Intelligence Triarchic Theory while the Mental Self Government Theory stressed the different thinking styles which preferred in the use of abilities (Sternberg, 1990). In light of the above theories, this study will adopt all of those since it is the most appropriate in enhancing students' academic performance at Luray II Barangay High School. The reason is the learning and thinking styles of students at the campus can either be reinforced leading to excellent academic performance or hindered leading to poor academic performance. This is severely affected upon the provision, and availability of essential things such as sufficient power supply, better study materials,

enough tools and equipment, conducive learning environment (spacious workshop) among others. If these provisions are available, learners' abilities being rational, imaginative, and useful as described in Triarchic theory become also reinforced.

Moreover, this study is also anchored on the three legal bases. First on the list is the Republic Act 9155 which is also known as a law creating a basic education structure for culture and sports as the department of education and for other purposes. Second, is the Republic Act 10533 or a law enhancing the Philippine basic education framework fortifying its educational programs and expanding the numbers of years for essential training, appropriating budget in this manner and for different purposes and lastly, the Republic Act 7796 also called the TESDA Act which was marked into law on August 25, 1994. These three legislations shed light on the researcher's quest for pertinent data regarding the study thus strengthening the researcher's claims.

The Republic Act 9155 is referred to likewise as the "Governance of Basic Education Act of 2001." wherein it is hereby proclaimed the strategy of the State to secure and advance the privilege of all citizens of essential training and to make such instruction available to all by giving every single Filipino learner a free and necessary instruction in the elementary level and secondary school level. Such instruction will likewise incorporate elective learning frameworks for out-of-school youth and grown-up students. It will be the objective of fundamental training to give them the abilities, learning, and qualities they have to wind up minding, confident, profitable, and patriotic residents.

The schools will have a single point of giving the most essential instruction for students. the Administration of fundamental instruction will start at the national dimension. It is at the regions, divisions, schools, and learning focus where the approach and standard for the administration of fundamental instruction will be converted into projects, the undertaking, and administrations created, adjusted, and offered to fit nearby needs.

The State will empower nearby activities for improving the nature of essential instruction. The State will guarantee that the qualities, needs, and desires of a school are reflected in the program of instruction for the kids, out-of-school youth, and the grown-up students.

The Republic Act 10533 is otherwise called the "Enhanced Basic Education Act of 2013". The State will set up, keep up and support a complete, satisfactory, and arrangement of training important to the necessities of the general population, the nation, and society in general. In like manner, it is thus proclaimed the approach of the State that each alumna of fundamental training will be an engaged person who has scholarly, through a program that is established on sound instructive standards and equipped towards brilliance, the establishments for learning all through life, the skill to take part in work and be profitable, the capacity to exist together in

productive amicability with the neighborhood, worldwide networks, the ability to take part in independent, creative and basic reasoning, the limit and eagerness to change others and one's self.

For this reason, the State will make a utilitarian fundamental instruction framework that will create profitable and capable residents outfitted with the fundamental capabilities, aptitudes, and qualities for both long-lasting learning and business. To accomplish this, the State will: Give each learner a chance to get quality instruction that is all inclusive-aggressive based on an instructively stable educational program that is at part with global benchmarks; widen the objectives of secondary school instruction for school arrangement, professional and specialized vocation open doors just as imaginative expressions, sports and innovative work in a quickly changing and progressively globalized condition; and make instruction student arranged and receptive to the requirements, psychological and social limit, conditions, assorted variety of students, schools and networks through the suitable dialects of educating and picking up, including mother tongue as a learning asset.

Fundamental instruction is proposed to meet essential adapting needs which give the establishment on which resulting learning can be based. It envelops kindergarten, basic and auxiliary instruction too as elective learning frameworks for out-of-school students, and with extraordinary needs. The Dep ED will figure the plan and subtleties of the upgraded essential training educational modules. It will work with the Commission on Higher Instruction (CHED) to art orchestrated fundamental and tertiary educational modules for the worldwide aggressiveness of Filipino alumni. In like manner, to guarantee college readiness and to avoid duplication of fundamental instruction of the subjects, the Dep ED will negotiate with the CHED and the Technical Education and Skills Development Authority (TESDA). Besides, accomplishing a viable upgraded fundamental training educational modules, the Dep ED will conduct meetings with other national government organizations and different partners including, however not constrained to, the Department of Labor and Employment (DOLE), the Professional Regulation Commission (PRC), the private and state-funded school associations, the national student associations, the national instructor associations, the parent-teacher affiliations, and so forth.

Significantly, the Republic Act 7796 gives arrangements on preparing chances to plan learners and different clients for work. It moreover addresses the aptitudes preparing prerequisites of the individuals who are now in the field of work and would need to update or grow new skills to upgrade employability and improve profitability. TESDA is commanded to give important, available, high caliber, and effective specialized instruction and skills improvement in help of the advancement of Filipino middle-level labor receptive to and in accordance to Philippine advancement objectives and needs. Given its command, TESDA had envisioned as the main accomplice in the improvement of the Filipino workforce with a world-class ability and positive work esteems. On the other side, its mission is to give guidance,

strategies, projects, and standards towards quality technical instruction and skills advancement. Additionally, TESDA has a policy quality that expresses, “We measure our worth by the satisfaction of the customers we serve.”

## 2. METHODS

### Research Design

This research utilized the descriptive normative survey using the standardized questionnaires as the main instrument to determine the responses of the 41 Grade 12 Technical-Vocational and Livelihood - Shielded Metal Arc Welding students' academic performance at Luray II National High School on the factors affecting SMAW instruction.

### Research Respondents

The respondents of the study were the 41 students of Luray II National High School who are taking TVL Track and SMAW as the major subject during the school year 2018 -2019.

### Data Collection Tools

Standardized questionnaires as the main instrument to determine the responses of the 41 Grade 12 Technical-Vocational and Livelihood - Shielded Metal Arc Welding students. These were administered in a test paper form with a set of choices.

## 3. RESULTS

**Table 1 Student's Profile**

Profile	Percentage		Frequency	
Age	16-17		8	19.5
	18-19		28	68.3
	20-21		5	12.2
Sex	Male		41	100
	Female		0	0
Combined Family's	More than 20,000		3	7.3

Monthly Income	15,000 – 20,000	2	4.9
	10,000 – 15,000	5	12.2
	Less than 10,000	31	75.6

The table above shows the related information of the respondents in terms of age, sex, and combined family monthly income. All of the respondents were males, with a mean age of 18 (68.3%). As written by Piaget Cornwell, in the site Seattle Times, elaborated that vocational training benefits men more than women. After finishing high school, the ladies were less likely to get employed, and those females who found occupations earned less than males especially in the field of construction. The majority of the respondents had a family monthly income of less than Php 10,000 (75.6%) which is a clear sign of poverty here in our country which may lead to poor performance of the students since they have difficulty buying those welding materials like steel plates, pipes, electrodes, Personal Protective equipment which are needed in the transfer of learning.

**Table 2 Performance Of The Grade 12 SMAW Students**

Profile	Rating Percentage	Frequency	
SMAW Students Third Grading Period Rating	90 and above	18	43.9
	85-89	11	26.8
	80-84	7	17.1
	75-79	3	7.3
	74 and below	2	4.9
<b>Arithmetic mean</b>		<b>87</b>	

The table above presents the performance of the Grade 12 SMAW students during their third grading period. Only two students (4.9%) got a rate of 74 and below, three (7.3%) had a grade from 75 to79, seven (17.1%) had a rating from 80 to 84, 11 (26.8%) had a grade from 85-89 and 18 (43.9%) got 90 and above rating. The majority of the respondents had an arithmetic mean of 87 on their third grading period.

Informatively, the course is intended to upgrade knowledge, good characteristics and enhance to perform shielded metal arc welding jobs to the standard expected in the work environment.

The course covers, competencies, for example, using specific communication, creating the group and individual needs, applying critical thinking procedures in the work environment, performing work environment security and housekeeping,

translating the plan, setting up work area equipment and accessories, preparing weld joints, deposit weld beads, prepare materials and devices and weld carbon steel pipes and plates in different positions for fillet and groove weld.

**Table 3 The Extent Of Tools And Equipment Factor Affecting SMAW Students' Performance**

	<b>Statements</b>	<b>Weighted Mean</b>	<b>Descriptive Remarks</b>
Tools and Equipment			
1	Poor power supply	3.41	Extensive
2	Inadequate facilities in the shop	2.88	Extensive
3	Old/ damage facilities	2.66	Extensive
4	The inappropriate ratio of tools to the number of students	2.80	Extensive
5	No proper place for the workshop activities	2.76	Extensive
6	Difficulties in accessing the internet in the library	2.71	Extensive
7	Using improvised tools like chipping hammer in removing slag	3.05	Extensive
8	Improper use of tools and equipment	2.76	Extensive
9	Not using other instructional materials like learner's manual and welding videos	2.59	Extensive
10	No money in buying welding consumables like the electrode, grinding, and cutting disc	2.95	Extensive
<b>Grand Mean</b>		<b>2.86</b>	<b>Often Extensive</b>

**Legend: 3.51-4.00 Very Extensive; 2.51-3.50 Often Extensive; 1.51-2.5 Moderate Extent; 1.00 - 1.50 Low Extent**

The table above reveals that item no.1 (Poor power supply) and item no.7 (Using improvised tools like chipping hammer in removing slag) had the highest mean result which is 3.41 and 3.05 respectively while item no. 3 (Old or damaged facilities) and item no. 9 (Not using other instructional materials like learner's manual and welding videos) had a mean of 2.66 and 2.59 respectively, the lowest mean scores in this factor. Having the right and adequate tools and equipment in doing welding jobs is as important as having a car in teaching a driving lesson to students. The bottom line here is that in offering a specific course, the system must



provide first the necessary facilities to make the teaching and learning process more effective and efficient.

**Table 4 The Extent Of Parental Involvement Factor Affecting Smaw Students' Performance**

Parental Involvement	Remarks	Weighted Mean	Descriptive
1	My parents do not give me too many household chores for me to concentrate on my project making.	2.34	With Slight Parental Involvement
2	I am motivated by my parents to improve my studies.		
3	I have a welding tutorial session at home.	4.00	Very High Parental Involvement
4	Parents told NOT to be absent from the classes.	1.02	No Parental Involvement
5	My parents provide me with a welding book	4.00	Very High Parental Involvement
6	My parents notify the teacher if I have concerns in the SMAW subject.	1.00	No Parental Involvement
7	My parents guide me in my project making		
8	My parents talk to me about my welding performance.	3.02	High Parental Involvement
9	My parents help me in doing my homework.	1.34	No Parental Involvement
10	My parents provide me with financial supports for my projects	2.34	With Slight Parental Involvement
		1.59	With Slight Parental Involvement
		3.93	Very High Parental Involvement

<b>Grand Mean</b>	<b>2.46</b>	<b>With Slight Parental Involvement</b>
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**Legend: 3.51-4.00 Very High Parental Involvement; 2.51-3.50 High Parental Involvement;**

**1.51-2.50 Slight Parental Involvement; 1.00-1.50 No Parental Involvement**

The table above shows that even if the respondents had received full motivation support from their parents as presented by the mean value of 4.00 in item no. 2 and no. 4, the academic help received from them are quite limited as indicated by the mean value of 1.02 for item no. 3 (I have a welding tutorial session at home.), 1.00 for item no. 5 (My parents provide me with welding books.), and 1.34 for item no. 7 (My parents guide me in my project making). It is very clear that the parents of these SMAW students have limited or even no knowledge of doing welding jobs and they could not afford in giving a welding tutorial to their sons or buy books for additional references.

**Table 5 The Extent of Appropriate Welding Activities Factor Affecting SMAW Students’ Performance**

<b>Appropriate Welding Activities</b>		<b>Weighted Mean</b>	
<b>Descriptive Remarks</b>			
1	Welding activities are accurate if standard materials are provided.	3.59	Very Extensive
2	Competencies could easily be covered on time if little “fabrication” welding activities in school are assigned to us.	3.61	Very Extensive
3	The workshop is affected if students are called to attend for some concerns in other subjects like Practical Research.	2.93	Extensive
4	A Concrete application of skills learned in school will be achieved if work immersion is done in a pipeline and shipping industry and not in a repair and fabrication shop.	3.34	Extensive
5	Work immersion exposure should be longer than the current time which is only 80 hours.	3.61	Very Extensive
6	Students pay more attention if they are not playing mobile gadgets while having a workshop.	2.90	Extensive

7	Students perform well if they are not distracted by their friends/classmates.	2.85	Extensive
8	There will be good welding output if students are using Personal Protective Equipment (PPE).	3.83	Very Extensive
9	Pipe welding will be easier if welding simulation is given to students before to 6G welding	3.88	Very Extensive
<b>Grand Mean</b>		<b>3.05</b>	<b>Extensive</b>

**Legend: 3.51-4.00 Very Extensive; 2.51-3.50 Often Extensive; 1.51-2.5 Moderate Extent; 1.00 – 1.50 Low Extent**

The above factor has the highest grand mean value of 3.05 compared to the previous factors, namely: (Tools and Equipment), with 2.86 grand mean value, and (Parental Involvement) having a lowest grand mean value of 2.46.

Results showed that the students had regards to the cooperation between the school administrator, teachers, and industry partners in giving them the appropriate welding activities for their career. As the Nigerian saying speaks that, "it takes an entire village to educate a child. The essential meaning of which is that 'childhood care is an aggregate effort.' While it is the fundamental obligation of the parent to send his kids to class and get them taught, he isn't the only one, and should not be alone in doing this noble duty.

In addition, the respondents had an emphasis on welding simulation activity before 6G pipe welding as indicated by the mean value of 3.88 in item no. 9. According to [resources.depaul.edu](https://resources.depaul.edu), integrating simulations into courses can give numerous advantages, such as letting students learn by doing, keeping students involved, and expanding learning outside the four walls of the classroom.

They have also high adherence to safety precautions as part of every welding activity like wearing the prescribed Personal Protective Equipment as shown in the mean value of 3.83 in item no. 8. As indicated by [Bakersgas.com](https://www.bakersgas.com) that welding is not the kidding business and can be a perilous trade. Eventually, a fruitful profession in welding comes down to a certain thing: SAFETY the secret of an outstanding welder is consistent adherence to Safety First! This further implies that security starts the minute your students land at the place of work. Knowing the condition all around is basic to protect them and have a fruitful welding practice.

Moreover, distractions from their classmates in any form like playing Mobile games affect the quality of their welding output as observed in the mean value of 2.9 (item 6) and 2.85 (item 7).

## **4. DISCUSSION AND CONCLUSION**

### **4.1 DISCUSSION**

The succeeding is the important findings of this study to wit: most of the respondents (68.3%) have an age that range from 18 to 19 years old, all of them are males and the majority of them (75.6%) had an income of less than PHP 10,000 monthly. To the extent of factors affecting SMAW students' performance; For tools and equipment, the respondents' academic performance was affected extensively by all of the items such as poor power supply and by using improvised tools.

However, in the parental Involvement factor, their academic performance was extensively by the item "I am motivated by my parents to improve my studies" and affected them low extent by the item "My parents provide me with welding books".

At the same time, for appropriate activities, very extensively, the student's academic performance was affected by the following situations namely: welding simulation is given to students before 6G pipe welding and there will be good welding output if students are using Personal Protective Equipment (PPE) during their workshop while their academic performance was extensively affected through giving them work immersion in pipeline and shipping industry and not in a repair and fabrication shop;

On the other hand, there are still skills to be enhanced so that students have a bigger chance to pass the NC II assessment namely: the welding carbon steel plates in the overhead position (4F), identifying welding codes, performing basic math computations and mensuration, and interpret drawing. Finally, we have also best practices in Shielded Metal Arc Welding class and some of those are producing SMAW NC II students with a 93 percent passing rate, the school scheduled the work immersion of the students every summer to make them more focused and to avoid them in making absences in their regular classes.

### **4.2 CONCLUSION**

Based on the findings of the study, the academic performance of the Grade 12 SMAW students was affected extensively by the two factors to wit, availability, and quality of tools, and equipment and moderate extent on parental involvement. Therefore, it is important to draw a teaching-learning guide to improve the students' academic performance.

## **REFERENCES**

Barnwell. Do Smartphones Have a Place in the Classroom? Web 25 Jan 2019  
<https://www.theatlantic.com/education/archive/2016/04/do-smartphones-have-a-place-in-the-classroom/480231/>

Desforges and Abouchaar. The Impact Of Parental Involvement, Parental Support and Family Education on Pupil Achievement and Adjustment: A Literature Review. Queen's

Printer 2003. Web. 02

Nov.2018.[https://www.nationalnumeracy.org.uk/sites/default/files/the\\_impact\\_of\\_parental\\_involvement.pdf](https://www.nationalnumeracy.org.uk/sites/default/files/the_impact_of_parental_involvement.pdf)

Cornwell, Vocational Training Benefits Men More Than Women, Study Suggests.

Web. January 5, 2019. <https://www.seattletimes.com/education-lab/vocational-training-benefits-men-more-than-women-study-suggests/>

Cruz, Efren S. "Phl needs K to 12"

<https://www.philstar.com/opinion/2015/03/15/1433801/phl-needs-k-12-now#PiV72ciUzyk3L6PO.99>

15 March 2015.

Culatta, Richard. "Triarchic Theory (Robert Sternberg)".

<https://www.instructionaldesign.org/theories/triarchic-theory/>  
30 Nov 2018

Dekeyser R. Practice in a Second Language Perspective from Applied

Linguistics and Cognitive Psychology. Cambridge University Press, 2007.

Google books. Web. 02 Oct. 2018. <https://books.google.com>.

Dela Cruz M. Effects of Lack of Instructional Materials. Web. 01 Jan.

2019.<https://www.academia.edu>

Epstein J. School Family and Community Partnership. Routledge, 2018.

Google books. Web. 28 Feb. 2019. <https://books.google.com>.

Flessa, J and Hamlin, D. Parental Involvement Initiatives:

An Analysis. Web. 08 Feb 2019. <https://journals.sagepub.com>

Globalization 101. "Curricula Going Global within K-12."

<http://www.globalization101.org/curriculums-going-global-within-k-12/>.  
20 January 2017

Junco. Too much face and not enough books: The Relationship Between Multiple

Indices of Facebook Use and Academic Performance. Web 08 Mar 2019.

<https://reyjunco.com/wordpress/pdf/JuncoCHBFacebookGrades.pdf>

Latunde, Y. Research in Parental Involvement: Methods and Strategies for Education and Psychology. Web. 23 Jan. 2019.  
<https://www.researchgate.net>

Macahilo, Mae Margaret. "Are there any countries which do not follow the usual 12 grades curriculum for schools?"<https://www.quora.com/Are-there-any-countries-which-do-not-follow-the-usual-12-grades-curriculum-for-schools>18 March 2015

Nchungo, J. Factors Affecting Students' Performance. A Case Study of the University of Zambia. Web. 23 Jan. 2019. <https://www.academia.edu>

Official Gazette. "Republic Act No.10533"  
<https://www.officialgazette.gov.ph/2013/05/15/republic-act-no-10533/>  
15 May 2013

Official Gazette. "Republic Act No. 7796".  
<https://www.officialgazette.gov.ph/1994/08/25/republic-act-no-7796/>  
25 August 1994

Official Gazette. "Republic act No.9155"  
<https://www.officialgazette.gov.ph/2001/08/11/republic-act-no-9155/>  
11 Aug 2001

Ogunbote and Adeyose. Use of Multimedia for Teaching in Nigerian University System: A Case Study of University of Ibadan. Web. 23 January 2019.  
<https://www.researchgate.net>

Okedije. The Family Effect on Academic Performance in School. A Case Study of selected Schools in Kabale District. Web. 27 January 20 19.  
<https://www.grin.com/document/384998>

Oluremi, D. Impact of Facilities on Academic Performance of students with Special Needs in Mainstreamed Public Schools in Southern Nigeria. Web. 24 January 2019. <https://onlinelibrary.wiley.com>

Quismundo, Tarra. "K+12 program 'absolutely essential says expert'.  
<https://www.newsinfo.inquirer.net/132195/k12-program-%e2%80%98absolutely-essential%e2%80%99-says-expert#ixzz5dbBFaIse>  
22 Jan. 2012

Richards and Schmidt. Longman Dictionary of Language Teaching and Applied Linguistics. Routledge, 2010. Google books. Web. 16 Oct. 2018.  
<https://books.google.com>.

Khajehpoura and Ghazvini. The role of parental involvement affects academic performance. Web. 14 Feb. 2019.  
<https://core.ac.uk/download/pdf/82162665.pdf>

Speelman. Beyond the Learning Curve: The Construction of Mind. Oxford University Press, 2005. Google books. Web. 15 Feb. 2019.  
<https://books.google.com>.

Sternberg. Beyond IQ: A Triarchic Theory of Human Intelligence. Cambridge University Press, 1986. Google books. Web. 14 Feb. 2019.  
<https://books.google.com.ph>

Sternberg. Metaphors of Mind: Conceptions of the Nature of Intelligence. Cambridge University Press, 1990. Google books. Web. 12 Feb. 2019.  
<https://books.google.com.ph>

Strange and Banning. Educating by Design. Jossey-Bass. 2001. Google books. Web. 25 Feb. 2019. <https://books.google.com.ph>

Mwilima. The Effects of Cellphone Use on Academic Performance of Students. <https://www.researchgate.net/directory/publications>  
26 Jan. 2019

Vanpattten and Benati. Key Terms in Second Language Acquisition. Bloomsbury Publishing. Web. 18 Feb. 2015. <https://books.google.com.ph>

Wanjiku. School-Based Factors Influencing Pupils' Academic Performance In Kenya Certificate of Primary Education in Tetu District, Nyeri Country, Kenya. 25 Feb 2019.  
<https://pdfs.semanticscholar.org/bab4/de8add1bab3d25508ab9230bb4561fd39048.pdf>

Wilder, S. Effects on Parental Involvement on Academic Achievement: A Meta-synthesis. Web. 28 Jan. 2019. <https://www.researchgate.net>

