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# BOOK OF ABSTRACTS

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## LAYOUT:

**Christylle Q. Romea**

### Utilization of Mathematical Model Approach in Solving Fundamental Operations on Signed Numbers and Polynomials

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*Evangeline M. Pailmao  
Bulua National High School*

The study was conducted to the Grade 11 students of Bulua National High School for the purpose of helping the students at risk in failing General Mathematics by employing the Mathematical Model Approach (MMA) in teaching the fundamental operations on signed numbers and polynomials. A pre-experimental one group pretest-posttest design was used in the study. A Focus Group Discussion (FGD) was likewise utilized to determine the experiences of students toward signed numbers and polynomials when taught MMA approach. The results were analyzed using the mean, standard deviation, t-test and Pearson Product-Moment Correlation Coefficient at 0.05 level of significance. The findings revealed a significant difference in the performance of the students before and after the conduct of the study in both topics. Their performance on the fundamental operations on signed numbers were *satisfactory* after the treatment; while their performance on the fundamental operations of polynomials were qualitatively described as *fairly satisfactory*. Moreover, there is a significant relationship between the performance of the students on the basic operations of integers and their performance on the basic operations of polynomials on their posttest scores. Furthermore, the students considered their experiences in learning signed numbers and polynomials with the use of Mathematical Modeling Approach as worthwhile and enjoyable because of the models and illustrations that helped them enhance their conceptual understanding on both topics.

*Keywords: (mathematical model approach, jar model, conceptual model-based, signed numbers, polynomials)*

### Improving Retention Level Using Drills Through ICT-Based Approach of Selected Grade 7 Students

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*Beverly Anne Nicolasora<sup>1</sup> ; Vanz Kristoffer Echem<sup>2</sup> ; Amiel Enterina<sup>3</sup> ; Janessa Ann Felicilda<sup>4</sup> ; Jonathan Luna Jr.<sup>5</sup>  
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<sup>2,3,4,5</sup>Xavier University – School of Education, Cagayan de Oro City*

This research attempted to examine the effect of ICT –Based Approach Drills in improving retention level among Grade 7 students of Mambuaya National High School. A stratified random selection was utilized involving pretest-posttest design. The selection of ten students per section was likewise considered. Results showed that there was a significant retention improvement of the learners using paired t-test (pretest mean = 27.83, posttest 1 mean = 45.47, posttest 2 mean = 46.40,  $\alpha = 0.05$ , p-value = 0.001) and no significant difference between posttest 1 and posttest 2, implying a strong evidence of skill retention. However, there was a weak positive correlation between number of daily drills answered and posttest of every learner ( $r_1 = 0.115$ ,  $r_2 = 0.146$ ) and a positive impression about online drills as manifested on their 75.42% participation rate. Results further revealed a 100% perception that drills can help learners improve their learning and an average enjoyment rate of 9.27 (highest = 10). This study points for the need to improve online drill's effectivity in improving retention level of learners.

*Keywords: ICT, retention, learning principles, and repetition*

**Special Program in the Arts (SPA) Implementation in Lapasan NHS**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*Nick C. Pañares, Ph.D.; Jorie J. Dela Torre; Ma. Dionesia D. Lao; June Suzeth Obsid; Julieta A. Hinampas  
Lapasan National High School*

The study was conducted to evaluate the implementation of Special Program in the Arts (SPA) in Lapasan National High School which serves as a baseline information in improving the delivery of the program. The study employed the descriptive statistics, interview and actual observation of the school's resources and analysis of variance. The findings of the study revealed that Creative Skills Development for students and teachers had higher mean value which could be attributed by the teachers' educational qualifications and years in teaching while Staff Development, Curriculum Development, and Status of Required Facilities have lower value as students and teachers found these criteria as the central focus to better serve the learners. Students and teachers' evaluation of the Special Program in the Arts implementation do not significantly differ as the two mean scores for students and teachers were found not significant at 0.05 level. Some problems identified were insufficient textbooks, rooms, musical instruments, costumes, and equipment. The initial actions taken include procurement of textbooks and learning materials. It is hereby recommended that school, division, and regional offices should provide more trainings for SPA teachers in their respective specialization.

*Keywords: SPA, Implementation, Specialization, Specialists, Coordinator, Governance*

**Embracing Students At Risk: A School Initiated Intervention to Address SARDO**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*Nick C. Pañares, PhD<sup>1</sup>, Brenda P. Galarpe<sup>2</sup>, Cielito G. Estoque<sup>3</sup>, Gina B. Labrador<sup>4</sup>, Geia D. Roxas<sup>5</sup>, Michael John Marte<sup>6</sup>*

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The study was conducted to find out the efficiency of embracing students at risk intervention in order to mitigate students' dropout incidences at Lapasan National High School. The study employed the Continuous Improvement (CI) research method, descriptive statistics, interview and Focus Group Discussions (FGD) among students, parents, and teachers. Paired t-test was utilized to determine the significant differences between mean scores on student dropout rate. The findings of the study revealed that: (1) There was a continued decrease in the dropout rate across all year levels. Three-point forty-one percent (3.41%) was the average percentage for the school year. There is a difference of 3.38% for the whole school year from the baseline of 6.79%, (2) there was a significant effect on the student dropout rate when Students at Risk intervention was implemented. Hence, school administrators should encourage their teachers to attend capacity building on Embracing the Students at Risk for further insights to improve students' participation and enrollment rate.

*Keywords: Embracing Students At Risk, Dropout, Intervention, SARDO, Governance*

### **Instructional Supervision and Professional Learning Communities: A School-Based Professional Growth Initiative**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*\*5<sup>th</sup> Place- Best Poster with Special Award- Best Paper during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO*

*\*1<sup>st</sup> Place Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017*

*\*1<sup>st</sup> Place Best Paper- 2017 Inter-district Research Congress*

*Minda S. Rebolledo, Ph.D.; Roy H. Lumban, Ph.D.; Nick C. Pañares, PhD  
Lapasan National High School*

The study, which involved the 54 teacher-participants of Lapasan National High School for SY 2017-2018 was conducted to examine the role of professional learning communities in enhancing instructional supervision as a school-based proficient development activity. The descriptive-survey method and Focus Group Discussion (FGD) was utilized in this study. Pearson product-moment coefficient of correlation was likewise used to determine the relationship of instructional supervision and professional learning communities. Findings revealed that there was a strong correlation between the teachers' level of agreement in terms of instructional supervision, professional learning communities and its relationships. Instructional supervision, feedback, and suggestions helped the teachers to reinforce and enhance teaching practices to improve better learning among students. Moreover, Learning Action Cell (LAC) was considered to be one of the best practices of the school in professional learning communities. Critical qualities allow the teachers to make the necessary changes to improve the teaching and learning of their students. Thus, in order to augment the pedagogical practices of teachers, there is a need to provide instructional supervision and LAC session among teachers to increase a wide repertoire of knowledge, skills and techniques in order to fulfill the various tasks.

*Keywords: Instructional Supervision, Professional Learning Communities, Learning Action Cell (LAC), Governance*

### **DULA MARANAO: A Game-Based Intervention for Healing and Recovery among Displaced Learners from Marawi City**

*\* 1<sup>st</sup> Place- Best Poster Award during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*\* 1<sup>st</sup> Place- Best Poster with Special Award- Best Paper during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO*

*\* 1<sup>st</sup> Place- Best Poster and Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017*

*\*1<sup>st</sup> Place- Best Poster and Best Paper- 2017 Inter-District Research Congress*

*Jemuel M. Galay, Hilda S. Almaquer, Rutchel C. Collado & Merlyn M, Gulayan  
West City Central School*

This study was conducted to help the Displaced Maranao Learners of West City Central School be healed and recover from psycho-emotional and psychosocial difficulties. A descriptive method was used; data were collected using pre and post intervention questionnaires about Impact of Events and Depression Self Rating Scale for Children with ordered response options adapted from Horowitz and Birlerson respectively. Data before and after the interview were also analyzed. The findings of the pre-survey reviewed by a Psychometrician revealed that the impact of war in Marawi had caused stress and depression. To help the displaced learners, a DULA MARANAO was introduced in the form of creative and non-intrusive play conducted individually and by group. The result of the study showed that there was a decrease of percentage scores after the intervention. Thus, it had proven to be appropriate because it met the criteria to alleviate stress and depression of participants who responded to play positively. The study concluded that exposure and engagement to play increased their psycho-emotional and psychosocial competence. It is recommended that this intervention will be conducted to learners affected by war and other forms of disasters for it helps learners recover, heal the pain and address psycho-emotional and psychosocial difficulties.

*Keywords: dula maranao, displaced learners, play, psycho-emotional, psychosocial,*

**Process Oriented Guided Inquiry Learning Environment: Making Scientific Thinking Visible Among Science Technology Engineering and Math (STEM) Students**

\* 1<sup>st</sup> Place- Best Paper during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO

\* 1<sup>st</sup> Place- Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017

\*1<sup>st</sup> Place- Best Paper- 2017 Inter-District Research Congress

Richard I. Licayan, PhD

Gusa Regional Science High School-X

The study aimed at developing, validating, and applying Process Oriented Guided Inquiry Learning (POGIL) on the selected least mastered competencies in General Chemistry 1 for 11th graders of the Science Technology Engineering and Math (STEM) of Gusa RSHS-X. The least mastered competencies were particulate nature of matter, methods or techniques in separating mixtures, and gas laws. The study also determined the types of conceptual change between students exposed to the POGIL and the control group. The respondents of the study were 60 students from two randomly selected grade 11 classes of GRSHS-X. The development and validation involved four stages: preparation, development, validation, and try-out. Selected chemistry experts from universities in the Philippines and North America, science teachers, and grade 12 students of GRSHS-X were the respondents used for the validation of the POGIL activities. Students' responses on a two-tier test were classified into five categories and then analyzed. The results of the study showed that the developed POGIL activities were acceptable for the 11th grade General Chemistry students in terms of content and content accuracy, clarity and appropriateness. These students also had a higher proficiency level and conceptual understanding on the basic concepts of particulate nature of matter, methods in separating mixtures, and gas laws. Students in the experimental group showed a significant improvement in the conceptual understanding of the particulate nature of matter, methods in separating mixtures, and gas laws when checked with conceptual trace analysis.

*Keywords: conceptual understanding, conceptual trace analysis, proficiency level*

**Flood Occurrence in a Changing Climate: Addressing Climate Risk Vulnerability and Institutional Barriers to Urban Flood-Prone Community in Protecting School Children in Cagayan de Oro City**

\* 1<sup>st</sup> Place- Best Paper during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO

\* 1<sup>st</sup> Place- Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017

\*1<sup>st</sup> Place- Best Paper- 2017 Inter-District Research Congress

Mark John T. Gabule

Gusa Regional Science High School-X

This paper examined the challenges that flood disasters in flood-prone urban community pose to disaster risk management particularly in protecting school children in the context of climate change. This study explored how to reduce vulnerability to floods and improve disaster risk management at the community level. Central to this investigation was to understand the level of vulnerability of school children in terms of its exposures to flood hazards, sensitivity to climate risk and adaptive capacity. To gather relevant data, the researchers made use of triangulation methods involving survey questionnaire, observation, face to face interview (KII), focus group discussion (FGD), and participatory assessment tools. The use of historical-flood database method was incorporated along with document review. As revealed, the main factors to influence low level of adaptive capacity among school children are the absence of practices and ways to cope or adapt to flood hazards due to complacency about floods because of the experience of events that did not turn into disasters. One barrier of mainstreaming disaster risk reduction in the community is the absence of integration of geohazard information in the planning and zoning decisions which many of the school children do not have knowledge. In this paper, more emphasis should be given to understand adaptive capacity and resilience of communities. Furthermore, the framework for disaster risk reduction management of the Department of Education must be cascaded down to every child in schools.

*Keywords: flood disasters, child protection, vulnerability, climate change, adaptive capacity*

### **High School Teachers' Assessment Practices with the Streamlined Policy Guidelines: Current Situation and Future Directions**

\* 1<sup>st</sup> Place- Best Paper with Special Award- Best Presenter during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO

\* 1<sup>st</sup> Place- Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017

\* 1<sup>st</sup> Place- Best Paper- 2017 Inter-District Research Congress

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Tablon NHS*

The Department of Education (DepEd) implemented the K to 12 basic education curriculum in school year 2012-2013. Imperative to this change of curricula are adjustments in assessment policies. This study investigated the current content knowledge and practices on classroom assessment of the junior and senior high school teachers in one secondary school in the Division of Cagayan de Oro City. Complete enumeration identified the teacher-respondents for this study. A validated researcher-made questionnaire based on (1) DepEd Order No. 8, series 2015; (2) DepEd Order No. 36, series 2016; and (3) DepEd Order No. 55, series 2016 was used in the survey. Descriptive analysis results show that teachers have proficiency level lower than the planning standard in the basic and technical concepts on assessment of student learning. However, it was revealed in non-directive interviews that these teachers practice the rudiments of both traditional and authentic assessments. Acknowledging some constraints, they suggested activities that can be integrated in learning action cells or in the biennial in-service trainings to help them improve their classroom assessment practices. This research is geared to strengthen the implementation of the agency's streamlined assessment policy guidelines and hopefully improve the quality of pedagogical practices among the teachers.

*Keywords: classroom assessment, assessment policies, assessment content knowledge*

### **Cooperative Game-Based Learning (GBL): A Road Map to Students' Better Retention in Grade 11 Pre-Calculus**

\* 1<sup>st</sup> Place- Best Poster during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO

\* 1<sup>st</sup> Place- Best Poster and Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017

\* 1<sup>st</sup> Place- Best Poster and Best Paper- 2017 Inter-District Research Congress

*Cecil A. Cespedes<sup>1</sup>, Mary Mae Anrade<sup>2</sup>, Novie May Butra<sup>3</sup>, Mariel Jabagat<sup>4</sup> and Shaira Langot<sup>5</sup>*

This research anchored on the experiential learning theories which defined as "learning by doing" and cooperative learning. This study was conducted to determine how Cooperative Game-Based Learning (GBL) strategy helped in increasing students' retention in Grade 11 Pre-Calculus. The study was employed on the grade 11 senior high school (STEM) students of Gusa-Regional Science High School (GRSHS) in two out of four intact classes handled by the Cooperating Teacher. It was specifically done within the period of two months. From the two randomly chosen sections, another random selection was done in order to determine the Section A (with intervention) and section B (without intervention) wherein each group contained 34 students. Both groups were given pretest, posttest and retention tests. To analyze the effects of GBL on students' performance and retention scores, the T-test for Correlated Samples and T-test for Uncorrelated Samples were used. Based on the findings, the researchers concluded that: 1) Section B had a higher performance than Section A before the intervention. However, Section A (with intervention) performed higher than Section B (without intervention) in the posttest; 2) both sections had significant differences between the means in their pretest and posttest scores; 3) there was an increase in the retention scores of the students with the intervention. Significant difference in the retention test score between the two sections existed. Students are likely to learn better if they receive GBL instruction; and students who were exposed to GBL performed better in the retention test. This proves that GBL enables learners to have better retention in Pre-Calculus. It is therefore recommended that teachers should use Cooperative Game-Based Learning to promote better performance and retention of the students, and a similar study could be conducted to students enrolled in other year level.

*Keywords: cooperative learning, retention, game-based learning*

**Itinerant Teaching: A Classroom Management Technique to Manage Pupils At-Risk and Children with Special Needs**

\* 1<sup>st</sup> Place- Best Poster with Special Award- Best Paper during the 2017 Regional Research Congress held on November 15-16, 2017 at Dynasty Court Hotel, CDO

\* 1<sup>st</sup> Place- Best Poster and Best Paper- 2017 Division Research Congress held at VIP Hotel, CDO on October 17-18, 2017

\*1<sup>st</sup> Place- Best Poster and Best Paper- 2017 Inter-District Research Congress

Jemuel M. Galay, Mitchel O. Deramas, Kristina Mari A. Broady, Federico S. Espina, Jr., Engelbert L. Dela Piña  
West City Central School

Effective classroom management is essential not only for a successful learning experience on the part of pupils but also for the teacher's mental, emotional, and psychological well-being. Thus, this action research sought to determine the effectiveness of employing Itinerant Teacher Classroom Management Technique to manage pupils at-risk and children with special needs. Baseline data using anecdotal records and incident reports showed that pupils of West City Central School exhibited behaviour problems. Six teachers reported experiences of frustration and difficulties in managing pupils at-risk and a child with special needs in their regular classroom. Focus Group Discussion (FGD), survey questionnaire, and classroom observation were employed to collect data. Data were treated using weighted mean and frequency distribution. To help the regular teachers deal with the problem, a handbook on employing the itinerant teacher as an intervention was developed to help manage children with behavioral problems. The result of the study revealed that the Itinerant Teacher as a technique was effective for the teachers since it helped develop a positive outlook towards their teaching. Teachers have observed and felt that it was less stressful managing the class of pupils with diverse behaviors. Likewise, pupils became more engaged and productive in class. It is recommended that other teachers, school administrators, personnel, and parents support this program to alleviate the stress and difficulties that teachers experience in relation to behavioral management in the classroom. *Keywords: Itinerant Teacher, Itinerant Teacher Handbook, Behavioural Problem Solution, Classroom Management,*

**Identifying the Readiness and Challenges met by the Grade 10 Students upon entering Senior High School: A Gateway towards Strengthened Classroom Instruction and Career Guidance**

\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City

Gladys P. Tabanao, Emalyn A. Peligrino, Avelgail A. Palacio  
PN Roa Senior High School

This paper revealed the challenges that Grade 10 students face upon entering the senior years. It also identified the lessons and skills in the subject areas; English, Science, and Mathematics in which the participants still have difficulty and lesser confidence. Challenges in choosing the career path or senior high school track was also determined to acquire knowledge on the students' concern for a strengthened guidance program. The study employed Interview, focus group discussion, questionnaire and is descriptive in nature. Results showed that Grade 10 students view Science as the most difficult subject. Students also have difficulty on understanding concepts in English on Grammar and Basic Mathematics. In terms of skills, participants have greater concern on communication, numeracy, and analytical skills. Moreover, majority of the participants prefer the General Academic Strand (GAS) as a Senior High School track and greatly worry on the new school environment. Results suggest strengthened classroom instruction in the core subjects; English, Mathematics and Science in the identified difficult lessons. The identified skills that the participants see as "weakness" needed to be addressed. This further suggests that this kind of assessment should be done in the Grade 9 level or first quarter of Grade 10 students to provide remediation. A strengthened school guidance program is further suggested to better assist students in choosing their career path based on their abilities and preference.

*Keywords: Senior High School, Readiness, Challenges, Classroom Instruction, Career Guidance*

**Teacher Dossier: An Enhancement of Teaching Skills and Strategies**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*\* 2<sup>nd</sup> Place non-CI Oral-HRD category, 2017 Division Research Congress*

*Bernardito D. Capangnan, MAED and Genevieve U. Garcia, MST  
Balulang NHS*

The study was conducted to strengthen instructional supervision, promote teacher's skills and strategies, enhance the DLL, and make IMs through a thorough mentoring and coaching of the school heads capsulated in a "Teacher Dossier". The descriptive design and purposive sampling were used in the study. Data analysis employed triangulation method. The study found out that there were six commonly used teaching strategies which includes collaborative learning, active learning, experiential learning, HOTS, and MIs or differentiated instruction. The use of collaborative learning increased to 93% and lecture method decreased to 17%. An increased of number of teaching strategies were also evident after mentoring using teacher dossier with a mean of 4.4. In terms of the extent of mentoring using the identified indicators, the over-all average mean of 3.49 and a standard deviation of 0.539 among teachers answered that there was A LARGE CHANGE. Thus, teacher dossier was indeed a helpful innovation to strengthen instructional supervision and to enhance teacher's skills and strategies.

*Keywords: teacher dossier, teaching strategy, teaching skills, mentoring and coaching, LAC session, professional development*

**Use of Representation Analogy in Teaching the Plant Structures Involved in Photosynthesis**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

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Teaching with representation analogy model in the plant structures involved in photosynthesis was assessed to find out whether it helps in the visualization and retention of concepts to students and whether representation analogy is effective towards the students' academic performance. Convenience sampling (Musa & Alkassim, 2016) was done. The respondents were 60 students from Grade 9: Gold and Diamond in Mambuaya National High School. The research instruments used were Pre-test/Post-test, Focused Group Discussion, Participant Observation and Rating Scale. Findings revealed that the student-respondents perceived effectiveness of using representation analogy in teaching plant structures involved in photosynthesis towards academic performance. Both sections have significant increase having a learning gain mean of 11.9 points for Gold and 9.65 points for Diamond. Result of the difference between pretest and posttest as evident by the high learning gain mean was due to the intervention of representation analogy as effective instructional tool. The rating scale results showed that the incorporation of analogy was effective in helping to recall, comprehend, visualize, analyze, and evaluate the concepts and structures in photosynthesis. There was a significant impact between teaching with representation analogy and the students' academic performance attested in FGD and the test scores. Thus, this study suggested that the representation analogy model could be used as an instructional tool in teaching concepts of plant structures involved in photosynthesis.

*Keywords: Representation analogy, visualization, teaching with analogy model*

**Facebook: It's Impact on the Students' Academic Performance in Dansolihon National High School**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*Gary Greg C. Tagra, Maridelyn D. Gumonan, Leonora L. Cabrera  
Dansolihon National High School*

This research study investigated the impact of Facebook usage on the academic performance of the students of Dansolihon National High School. Further this study explored the knowledge and awareness of the students on the privacy settings of their Facebook account. Pearson Moment Correlation was used to examine the relationship between the usage of Facebook and the academic performance of the students. The students' perceptions about the impact of Facebook on the academic performance were measured by a Likert scale with a reliability 0.80 Cronbach's alpha. The result revealed that the time spent on Facebook use is negatively correlated with Grade Point Average (GPA) but it is a weak correlation. The findings of this research also revealed that the students' perception towards Facebook usage is favorable since they use it for communication and did not consider it as having a negative impact in their academic performance. Further, the participants are aware that the data they shared on their Facebook account can be shared by anyone on Facebook, which means that there is a gap in the awareness of security and privacy of personal information. The result of this research will serve as a basis in developing modules and learning guides to educate the students about the privacy and security issues on Facebook.

*Keywords: Facebook, privacy settings, social media*

**Creating a Positive Learning Environment: Improving Students' Attitudes and Academic Performance in Mathematics through Math-games**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*Gary Greg C. Tagra, Maridelyn D. Gumonan, Rose Medyl I. Fraga  
Dansolihon National High School*

This action research investigated whether Math-games can create a positive learning environment, attitude and increased students' academic performance in the mathematics classroom. The participants of this study were the 32 10th Graders of Dansolihon National High School for the school year 2016-2017. The study used the questionnaires: What Is Happening In This Class? (WIHIC) and Student's Attitude Scale (SAS) to gauge the positive learning environment and attitudes towards mathematics. The quantitative data from this action research were analyzed using paired t-test for the pre-posttest of the Measures of Position, one-way multivariate analysis of variance (MANOVA) for the pre-post survey of WIHIC and SAS questionnaires. The results showed that there was an increase in the scores of the pre-test to posttest which implies that Math-games increased students' academic performance. Further, the difference of means of the pre-post survey of WIHIC and SAS showed that Math-games has a significant effect on the learning environment and students' attitude in the mathematics class with  $p=0.00$  and Wilk's  $\Lambda=0.84$  at 5% level of significance. Based on the responses of the students' during the focus group discussion, they had positive learning experiences that helped them better understand the lesson and made mathematics more fun to learn. The students' enjoyed and were more participative and at the same time they learned. Therefore, Math-games improved students' academic performance, made learning mathematics fun, enjoyable, engaging and made the mathematics class lively.

*Keywords: Math-games, learning environment, academic performance*

**Virtual Thinking Blocks: An Interactive Learning Tool Ameliorating the Academic Performance of Learners in Fraction**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*\* 3<sup>rd</sup> Place non-CI Poster TL category, 2017 Division Research Congress*

Jacqueline P. Labial  
Bonbon ES

This study aimed to improve the critical thinking and problem-solving skills of the learners using thinking blocks as an interactive learning tool. It made use of a pretest and posttest research design to find out how thinking blocks ameliorate the academic performance of the learners. The result revealed that the level of achievement of the participants had significantly increased during posttest. Thinking blocks ameliorate the academic performance and gave impact to the minds of the learners in answering some exercises in fraction. The results of the Focus Group Discussion (FGD) revealed that learner enjoyed solving word problems in fraction using thinking blocks. Thinking blocks helped learners concretize and conceptualize their answers in fraction. It also helped improve the computational skills of the learners in multiplication and division. It is recommended that teachers may employ the use of interactive learning tools like thinking blocks in teaching fraction and other topics in mathematics.

*Keywords: thinking blocks, ameliorate, interactive learning tool, critical thinking*

**Distribution Transfer Layout (DTL): A Synergistic Resolution of the 12-Year Electric Power Fluctuation**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

*\* 3<sup>rd</sup> Place non-CI Oral Gov. category, 2017 Division Research Congress*

Giljun T. Penuliar  
Bulua National High School

This study looked into the causes of electric power fluctuation in the school and sought to determine the level of partnership established between the school and its external stakeholders. The study is descriptive in nature. Findings revealed that from school year 2004-2016, the voltage supply of 185-200 could not sustain the power consumption of the school. The distance of 500 meters away from the transformer to the school resulted to voltage drop, considering that there were end users outside of the cable used. Per inspection, there were wrong sizes of cable. The distribution transformer installed is far from the vicinity with 500 meters distance from the main transformer to the school. Furthermore, there were damaged appliances and equipment in the school and in the end user due to voltage drop. Hence, due to overloading there was an existing power failure. It is recommended that the schools shall give lectures to faculty and staff on some precautions in the use of electric power. School administrators should make an immediate report to the Cagayan de Oro Electric Power & Light Company Incorporated (CEPALCO) for any electric power problems being noticed in the school.

*Keywords: distribution transfer layout, electric power fluctuation, partnership of stakeholders*

**Oplan Digung, Oplan Kalinisan**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

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This study was conducted to find out the efficiency of Oplan DIGUNG, Oplan Kalinisan through Most Clean and Green Classroom contest in all junior high school levels, School Year 2016-2017. The rubric was formulated and used to monitor and evaluate twice a month by the Solid Waste Management (SWM) team. The study employed the Continuous Improvement (CI) Research Method that includes three (3) main stages: Assess, Analyze and Act. Focus Group Discussion (FGD) among science student-officers was done before and after the intervention. A qualitative method was further employed in this study to interpret meaning from the data gathered. The findings of the study revealed that the root

cause of the attitude-based problem was related to lack of understanding, practices, and mechanisms on proper solid waste segregation and disposal system. There was a significant increase of the scores obtained after the intervention. When adopting the intervention, there was a positive effect on the school cleanliness and even the attitude of the students. It is then recommended that teachers and administrators should encourage students to do the proper waste segregation inside and outside the school premises. School administrators should encourage the teachers to intensify the implementation of R.A 9003 which is known as the Solid Waste Management Act.

*Keywords: oplan digung, oplan kalinisan, solid waste management*

### **Intermediate Pupils' Trend of Cell phone Use and Social Media Consumption**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

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This study examined intermediate pupils' trend of cell phone use and social media consumption to determine if their open accessibility to these technologies can be classified as cellphone addiction attributing to the factors that affect the learning behavior and health of the learners. Findings revealed that female pupils ages 11-12 were the leading users of mobile phone given by their parents for emergency purposes. The respondents preferred calling and texting their parents on their vacant time. Results also showed that most of them acquired mobile phone in their primary years which explained their great attraction, addiction and dependence on mobile phone use. Respondents' data also revealed high frequency of using cellphone for latest social media updates and online games since telecommunication companies have these affordable call, text and mobile data internet access in addition to the very friendly user mobile applications on their cellular phones. Large numbers of them do not turn off cellular phones at night and even inside the classroom which importantly may call for proper intervention and policy change for potential new approaches to better protect learners.

*Keywords: cellphone, social media, addiction, intervention, child protection*

### **Improving the Mathematical Skills through After-School Approach**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

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This study examined how after school Mathematics Enhancement improve the mathematics skills of the students. Descriptive method was employed. Findings show that the after school approach can improve the mathematical skills of the learners. Moreover, 87% of the participants said that the math enhancement can improve their mathematical skills and 85% of them articulates that this activity established new techniques in solving problems. Furthermore, the time scheduled for the learners has the second lowest percentage of 52%, unlike the first implementation of this program students which are more participative and eager to learn new knowledge rather than having the schedule in the afternoon. Thus, the key concepts in improving the mathematics skills lies in the teachers ability to change the classroom from dispensing information through lecture to a classroom of interactive exchanges between students and teachers. This would help the learners see the "big picture" by focusing and learning the necessary concepts to achieve mathematics skills rather than "rote memorization" of material.

*Keywords: after-school approach Math enhancement, mathematics skills, problem solving*

## **Virtual Learning through PhET Interactive Simulation: A Proactive Approach in Improving Students' Academic Achievement in Science**

*\*Presented during the 2016 Philippine Conference of Basic Education Researchers (PCBER) held on December 2016 @ Philippine International Convention Center (PICC), Pasay City*

*\*Presented in the 2017 Regional Research Caravan held at Grand Caprice, Cagayan de Oro City on September 13, 2017*

*\*2nd Place-ICT in Interactive Simulation during the 2017 Regional ICT Summit held at Grand Caprice, Cagayan de Oro City on November 19-21, 2017*

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This study aimed to explore a teaching approach that would enhance academic achievement of students in science. An offline mode virtual learning environment through PhET interactive simulations was employed in the randomly selected pilot DCP recipient rural & urban schools in the Division of Cagayan de Oro City for SY 2016-2017. It was descriptive in nature involving both qualitative and quantitative analyses. The instruments used in the study were the PhET software in coordination with the University of Colorado-Physics Department, strategic intervention materials, achievement test which was administered pretest-posttest and in-depth interview which was employed to determine the learning experience of the students. Findings revealed that the students achieved satisfactory academic achievement after exposure to virtual learning. There was statistically significant difference on the academic achievement level of students in the pretest-posttest both urban and rural schools. It was disclosed that there was no statistically significant difference when compared the posttest scores of both rural and urban schools. Virtual learning as a tool in improving knowledge and skills motivates students to learn. Students' have enjoyed the virtual world through PhET learning experience. The researchers recommend that science teachers use this teaching approach to enhance conceptual understanding, process and technology skills among students.

*Keywords: virtual learning environment, academic achievement, science learning*

## **Collaboration with Stakeholders: An Experience of Synergy to Improve School Performance of Agusan National High School**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

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This research aimed to provide solutions to the current and common problems of schools today, the low, if not lack of stakeholder's participation and collaboration to public secondary schools. The study is descriptive and made use of basic statistical tools. A self-made survey questionnaire was employed to the randomly selected respondents. FGD was also conducted to support the findings. The study found out that in the previous years, there was only 62 % stakeholders participation in the schools programs and projects. The problem was addressed through a simple program plan with different activities and found to have improved not only in the stakeholder's percentage of participation which is 78% but also in the school performance indicators. It was also found out that stakeholders got interested in involving themselves in the school projects if the school acknowledge their participation. It is recommended that the strategy be sustained in the next school year and be introduced to other teachers in the school so that the problems on stakeholders participation will be solved. With the positive result, it is clear that the varied activities are effective in addressing the problems of stakeholder's participation in school by collaboration.

*Keywords: stakeholders, collaboration, synergy*

### **Tracking the Leadership and Management Competence of School Heads: Implications to Development in East II District Schools**

*\*Presented during the 2017 International Conference of Basic Education Researchers (ICBER) held on December 4-6, 2017 @ Philippine International Convention Center (PICC), Pasay City*

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Leadership and management are interrelated words but these two cannot be separated. These are not the same thing, but they are necessarily linked and complementary. This study was aimed to determine the level of competence in leadership and management among public secondary school administrators in the East II District-Division of Cagayan de Oro City based on the evaluation of their teachers. The descriptive research design was used to depict the performance of the school administrators as enumerated in RA 9155 or the Basic Governance Act of 2001. Based on the findings, (1) most of the respondents had MA units or degree as their highest educational attainment; (2) had performance rating of Very Satisfactory; (3) were either Teacher I or Teacher II; (4) were in service above 5 years; and (5) the level of competency of the administrators were described as *competent*. These profiles do not make significant difference in the administrators' leadership and management competence in the operation of the schools assigned to them. Recommendations include the provision of technical assistance through Basic School Management Course and Instructional Leadership Course by the National Educators Academy of the Philippines. This is deemed to uplift the quality of education and the academic performance of the learners.

*Keywords: leadership, management skills, school management*

### **Integrating Music in Enhancing Learners Multiplication Skills**

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This study focused on integrating music in enhancing multiplication skills of Grade IV pupils that served as an intervention program in collaboration with Xavier University for school year 2017 - 2018 through descriptive and triangulation methods. Findings revealed that participants posttest scores has a greater value of mean with 28.14 compared to the pretest mean with 13.35. thus, the post-test standard deviation is widely spread rather than its pretest results. Taken consideration into the FGD, thematic results show that music is fun, easy to remember, boosts self-confidence and develops positive learning outcomes. It shows music integration positively increased pupils' performance by engaging learners that will guarantee better understanding towards multiplication skills. In addition with, music integration provides good intervention to enhance learner's difficulties and eliminated misconceptions in mathematics. Therefore, the conducted intervention found out as an effective intervention to positively improve learners' multiplication skills.

*Keywords: Music Integration, Fundamentals of Multiplication*