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## **A Comparative Study of the Use of Filipino and English Modules as Supplementary Materials in Fundamental Operations on Integers**

Princess S. Aggabao and Edwin D. Ibañez

### **ABSTRACT**

This study examined the impact of instructional modules written in English and Filipino on Grade 7 students' performance in Fundamental Operations on Integers across four learning levels: remembering, understanding, analyzing, and applying. The study involved 50 Grade 7 students from Talavera National High School who scored below 80 in Mathematics during the first grading period of SY 2016-2017. Data analysis employed descriptive statistics like mean, percentage, standard deviation, and the t-test for inferential statistics. Most respondents were male, 12 years old, with a first-grade math score of 79. They predominantly spoke Filipino at home, and their parents' highest educational attainment was high school. Both experimental and control groups failed the pretest across all learning levels. However, the experimental group improved all levels in the posttest, whereas the control group only improved in the applying level. Statistical analysis revealed that the experimental group significantly outperformed the control group in the understanding level posttest. This finding suggests that the language of the instructional module influenced students' comprehension of Fundamental Operations on Integers. Thus, the research hypothesis, which posited no significant difference between the groups' performance post-module, was rejected. Regarding perception, both groups believed that the module enhanced their mathematical abilities. However, the experimental group perceived the module more effective in understanding than the control group. Despite the significant difference observed only in the understanding level, it underscores the module's language as a crucial factor in learning mathematics. Understanding is pivotal for students' intellectual development, reinforcing the importance of language-appropriate instructional materials.

**Keywords:** fundamental operation on integers, Filipino and English modules, supplementary materials

## **Problem-Solving Abilities of Selected Grade 10 Students at San Jose Citos National High School in San Jose City**

Leny P. Cabrillas and Edwin D. Ibañez

### **ABSTRACT**

This study described the problem-solving abilities of selected Grade 10 students in San Jose City National High School regarding goal process and skill and the students' solution strategies in solving a problem. It also determined the degree of difficulty of student respondents on the different types of problems and the implication of the findings to Mathematical instruction. The study employed a qualitative method of research, the case study type. A total of ten Grade 10 students at San Jose City National High School during the second quarter of the school year 2016-2017 served as sample respondents for the study. They were chosen purposively based on their Mathematics grades during the first grading period of the said school year, where one student for every 100 students was chosen. They were asked to answer the twenty-word problems on the activity sheets developed by the researcher to gather data. An individual interview was done to verify the students' goals for each problem, problem-solving process, and strategy. Findings revealed that students' ability to determine the problems' goals did not meet the expectations. The ability of students to the process of problem-solving displayed satisfactory ability. Students' problem-solving skills displayed reasonably satisfactory ability. Respondents displayed satisfactory ability in solving problems regarding goal, process and skill. Further, results show that students did not understand the problem situation. They could identify essential elements of the problem and see the relationships between them. They created a plan and used a partially correct strategy. They were partially correct in performing the solution using logical reasoning for solving word problems with a combination of other strategies. Furthermore, the Geometry problem was found to be very difficult by the respondents.

**Keywords:** problem-solving in mathematics, mathematical ability, mathematics education

## Research Productivity of Faculty Members in Selected Teacher Education Institutions

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### ABSTRACT

This study examined faculty members' research productivity and attributes in teacher education institutions, focusing on their personal and professional characteristics, research self-efficacy, and motivation. The research involved 91 faculty members from four universities teaching BEEd and BSEd courses over five years (2008-2013). Data were collected using a questionnaire, with analyses conducted using Statistica 8.0. Most respondents were young, married, female instructors from public universities with master's degrees. They typically had an average workload of 21-25 units and were active members of multiple professional organizations. Respondents displayed high research self-efficacy across problem conceptualization, literature survey, research design, and reporting. However, their research motivation was moderate, particularly in areas like external and introjected regulation, integrated regulation, and interest/enjoyment, with higher motivation seen in identified regulation. Interestingly, most respondents reported no research publications or presentations during the study period. Age, highest degree obtained, and academic rank positively correlated with research self-efficacy and motivation. In contrast, factors like sex, civil status, school type, workload units, and membership in professional organizations had no significant correlations. Concerning research productivity, sex negatively impacted it, with women facing disadvantages. Conversely, the highest degree obtained and membership in professional organizations positively influenced productivity. Regression analysis highlighted sex and interest/enjoyment as predictors of research productivity. Challenges faced by faculty in research activities included time constraints, lack of funding, and difficulty in writing publishable articles. Factors deterring faculty from engaging in research encompassed lack of time, funding, research skills, interest, incentives, and administrative support. Respondents suggested various strategies to enhance research productivity, including reducing teaching loads, providing rewards and incentives, allocating funding, fostering internal motivation, building research capabilities, promoting research collaborations, making research mandatory for higher academic ranks, setting research agendas, and leading by example.

**Keywords:** research self-efficacy, research motivation, research productivity, teacher education, meta-research

## Performance of Alternative Learning System Learners in Accreditation and Equivalency Test: Its Implication to Educational Management

Michelle T. Jayme and Rolando D. Dollete

### ABSTRACT

The study aimed to determine the 2013 Accreditation and Equivalency Test Performance of Alternative and Equivalency (ALS) learners in the Division of Science City of Munoz. Data were gathered through purposive sampling. Seventy percent of the learners who took the 2013 Accreditation & Equivalency Test (A&E) and all mobile teachers were the study's respondents. Data were analyzed using descriptive statistics, Analysis of Variance, and Pearson-Product Correlation. Results show that all mobile teachers were females; two were married, and two were single. The instructional competency of the mobile teachers was generally described as very satisfactory. Regarding the delivery of the ALS Program, it was also rated as very satisfactory. The competencies of the mobile teachers, as rated by the Division ALS Coordinator, were described as very satisfactory. In terms of delivery of the ALS Program, it was also rated very satisfactory. The majority of the ALS learners were males, single, and had been enrolled in ALS for ten months. The performance of the ALS learners in the Accreditation and Equivalency Test was outstanding. The mean score was 93.85%. The Accreditation and Equivalency (A&E) Test Performance of ALS Learners scores of mobile teachers three significantly differed from test scores of mobile teachers 1, 2 and 4. Furthermore, the learners' test scores of the three mobile teachers 1, 2, and 4 equally performed in the Accreditation and Equivalency Test. The profile of ALS learners consisting of age, sex, civil status, educational attainment, months enrolled, and reasons for enrolling in ALS were not correlated to their performance in Accreditation and Equivalency Test Performance.

**Keywords:** alternative learning, accreditation and equivalency test, educational management



## Conceptual Understanding and Attitude Toward Fractions of Teacher Education Students in a Socio-Constructivist Learning Environment

Joy I. Mendoza and Edwin D. Ibañez

### ABSTRACT

This study determined the students' levels of conceptual socio-constructivist understanding before and after instruction and verified the conceptual changes in an environment. These students' attitudes and their relationship to their learning levels of understanding were also established. The study used the descriptive-correlational research method, A conceptual analysis based on Jensen and Finley's method. A conserghein's classification of changes was utilized to describe these with That understanding and changes from the pretest to the posttest. On the other hand, students were asked to answer the socio-constructivist attitude questionnaire to determine their attitudes. Results of the study revealed that before instruction, high achievers had the best understanding, and both average and low achievers had no understanding of fractions. After instruction, the high, average, and low achievers had the best, partial, and correct/incomplete levels of understanding. For the type of conceptual change that occurred, both average and low achievers had changed for the better, and high achievers had unchanged conceptions. Consequently, regarding their attitudes, the high achievers had a low degree of agreement, while the average and low achievers agreed on the said intervention. A negative linear correlation exists between the student's conceptual understanding and attitudes. That is, whenever the level of understanding or attitude increases, the other decreases.

**Keywords:** conceptual understanding, attitudes towards fraction, socio-constructivist learning environment

## Academic Performance and Attitude of Grade 8 Students in Selected Topics in Mathematics 8 under Two Media of Instruction: A Comparative Analysis

Jackielou H. Nery and Edwin D. Ibañez

### ABSTRACT

The study was conducted to determine students' academic performance and attitude in selected Mathematics topics for Grade 8 under two media of instruction. Sixty six Grade 8 students in San Antonio Integrated School were the study's respondents. Specifically, it was conducted to: 1) describe the socio-demographic profile of Grade 8 students in terms of age, sex, dialect spoken at home, type of elementary graduated, grade in Mathematics 8, educational attainment of parents, occupation of parents, and monthly gross family income; 2) determine the academic performance of Grade 8 students in selected topics in Mathematics 8 both in Filipino and English as media of instruction; 3) determine the attitude of Grade 8 students in selected topics in Mathematics 8 both in Filipino and English as media of instruction; 4) find out if the socio-demographic profile of Grade 8 students both under Filipino and English media of instruction influence their academic performance in Mathematics 8; 5) find out the difference between students' academic performance in selected topics in Mathematics 8 both in Filipino and English as media of instruction; and 6) find out the difference between students' attitude both in Filipino and English as media of instruction. Results revealed that the mean age of Grade 8 students was 13.29 years. The majority of them were males. All of them graduated from public elementary schools. Many have grades under the developing stage (75-79) and almost all were Tagalog. Most of their fathers finished elementary, and most of their mothers finished secondary. Most of their parents were engaged in unskilled jobs, and many had monthly gross family income below P5,000. Among the socio-demographic profiles of the respondents, only their Grade in Mathematics 8 influenced their performance in Mathematics 8. Findings revealed that although there was a slight difference in the academic performance of the experimental and control groups, this was not statistically significant. Thus, there is no significant difference in the academic performance in selected topics in Mathematics 8 of those students taught in Filipino or English. Hence, language then appeared not to affect the students' academic performance. Filipino and English as media of instruction are equally effective in teaching mathematics.

**Keywords:** academic performance, attitudes in mathematics, medium of instruction

## Perceived Principals Leadership Styles and Job Satisfaction of Public Elementary School Teachers in Talavera South District, Division of Nueva Ecija

Cherry D. Vicente and Rosario F. Quicho

### ABSTRACT

The study was conducted to determine the relationship between the perceived principal's leadership styles and job satisfaction of public elementary school teachers of Talavera South District, Division of Ecija, during the school year 2016-2017. The respondents of the study were the 132 teachers. The study was anchored on the theories on leadership styles developed by Bernard and Avolio (2003) and the job satisfaction theory by Lussier (1998). Descriptive statistics and Pearson & were used to analyze the Majority of the respondents were females (90.9%) with a mean age of 11.48. married (76.5%) and Roman Catholic (75.0%). Most have AMS units (75%); teacher 3 (47.7%) had a mean teaching experience of 15 years and a mean monthly salary of Php 22,732.95. The respondents handled Grade 2 (16.7%) and worked with the principals for less than one year (38.6%). Most respondents perceived their principals as fairly often performing the roles of transformational leaders ( $\bar{x}=4.07$ ) frequently. not always show idealized influence ( $\bar{x} = 4.24$  ) fairly often showing inspirational motivation ( $\bar{x} = 4.19$  ) intellectual stimulation ( $\bar{x} = 4.00$ ) and risk acceptance ( $\bar{x} = 3.85$  ). Some principals were perceived as fairly often showing transactional leadership style ( $\bar{x} = 3.96$ ), giving contingent rewards ( $\bar{x} = 4.12$ ), showing management-by-exemption ( $\bar{x} =4.10$ ), and laissez-faire ( $\bar{x} =3.66$ ). The teacher respondents were very satisfied with their job ( $\bar{x} = 4.44$  ), particularly in terms of school policy ( $\bar{x} = 4.49$  ) supervision ( $\bar{x} = 4.44$ ), relationship with the principal ( $\bar{x} = 4.41$  ), working conditions ( $\bar{x} = 4.38$  ), relationship with peers ( $\bar{x} = 4.48$  ) status in society ( $\bar{x} = 4.53$  ), advancement and growth ( $\bar{x} = 4.43$ ) achievement (  $\bar{x} = 4.43$  ), work itself ( $\bar{x} = 4.57$  ) and satisfied with pay and other benefits ( $\bar{x} =4.07$ ). Sex was found to have a significant but negative relationship with status in society and work itself. Religion was negatively correlated with pay, other benefits, and years of societal experience and status. The monthly salary was negatively correlated with status in society and work itself. Highly significant relationships were found under transformational Highly significant relationships leadership styles: idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, and risk acceptance in terms of school policy, supervision, relationship with the principal, working conditions, pay, colleagues, status in society, achievement, work itself and advancement aspects of job satisfaction. Transactional leadership style, contingent reward, management-by-exception, and laissez-faire had a highly significant relationship to almost all aspects of job satisfaction except laissez-faire to work itself.

**Keywords:** principal leadership, job satisfaction, principal style



## Elementary Pre-Service Teachers' Technological Pedagogical Content Knowledge (TPACK) Self-Efficacy and ICT Integration

Mark Gill M. Mercado and Florante P. Ibarra

### ABSTRACT

This study determined the relationship between Technological Pedagogical Content Knowledge (TPACK) self-efficacy and ICT integration of elementary pre-service teachers at Central Luzon State University. The study's respondents were 52 elementary pre-service teachers enrolled in the student teaching program during the school year 2016-2017. This study was anchored on the TPACK framework developed by Mishra and Koehler (2006), the Self-Efficacy Theory proposed by Bandura (1977), and the TPACK-Based Evaluation model recommended by Abbit(2011). Most respondents were females (88.46%), with a mean age of 20.06. Most of them were taking Generalists as their specialization (86.53%), handled different grade levels, taught different subjects, attended ICT-related training and seminars, and owned ICT equipment such as cell phones (96.2%) and computers (90.3%). Respondents obtained an overall GPA mean of 2.13 in ICT-related and Educational Technology courses, which could be verbally interpreted as "Good". Furthermore, most perceived themselves as highly proficient in all the Technological Pedagogical Content Knowledge (TPACK)framework domains. They were highly proficient in Technology Knowledge ( $\bar{x}$  = 2.87), Content Knowledge ( $\bar{x}$  = 2.97), Pedagogical Knowledge ( $\bar{x}$  = 3.00), Pedagogical Content Knowledge ( $\bar{x}$  = 2.99), Technological Content Knowledge ( $\bar{x}$  = 3.20), Technological Pedagogical Knowledge ( $\bar{x}$  = 3.13 ), and Technological Pedagogical Content Knowledge ( $\bar{x}$  =3.07). Most of them were found to be good at integrating ICT into classroom instruction ( $\bar{x}$  =3.06), particularly in terms of planning ( $\bar{x}$  = 3.06) and implementation ( $\bar{x}$  = 2.96). Respondents' GPAs in Educational Technology and ICT-related courses were found to have a negative significant relationship with their planning and implementation of instruction integrated with ICT. Their TPACK self-efficacy was significantly related to their planning and implementation of ICT-integrated instruction. Pre-service teachers encountered problems integrating technology into instruction, such as a lack of internet connection/ slow connectivity and a lack of computers, equipment, and devices.

**Keywords:** information communications technology, educational technology, TPACK self-efficacy, technology integration, teacher education