

SOCIAL SCIENCES

SS-01

CONSIDERING FARMERS' PREFERENCES IN BREEDING AND DISSEMINATION OF WHITE CORN VARIETIES AS STAPLE FOOD

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Farmers' evaluation, through participatory approaches, of the performance of improved open-pollinated white corn varieties was conducted in wet season 2011 in selected municipalities of Isabel, Quezon, Bohol, and North Cotabato. Eleven improved open-pollinated white corn varieties and farmers' variety, as local check, were included in participatory varietal selection (PVS) trials. The study aims to increase productivity, yield and income of farmers utilizing the PVS approach and technology innovation systems. Using the PVS trials, preference analysis (PA) involving male and female farmers was conducted at physiological maturity. Based on visual evaluation, the following characteristics were mostly preferred: resistance to pests and diseases, plant height, ear size and weight, grain quality, and good root anchorage. PA further revealed that both male and female farmers strongly agreed on their preferences for the best performing varieties ($r=0.635$; $r=0.141$). In addition to PVS, sensory evaluation (SE) was also conducted to solicit farmers' opinion on the eating quality of the different white corn varieties. This process of selecting the most preferred varieties involving farmers facilitates varietal improvement, adoption, and dissemination. Findings from this study also reveal that PVS approach requires an understanding of the biophysical, socio-cultural, and economic circumstances of white-corn farming communities. This could contribute to addressing food security and nutrition, as well as providing farmers with suitable varieties in their locality.

Keywords: white corn, participatory varietal selection, preference analysis, sensory evaluation

THE LINK BETWEEN EXTREME POVERTY AND YOUNG DEPENDENTS IN THE PHILIPPINES: EVIDENCE FROM HOUSEHOLD SURVEYS

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The high level of extreme poverty or those experiencing hunger in the country is the most pressing issue that needs to be addressed by our policymakers. Official government statistics and data from self-rated hunger surveys show an increasing trend in hunger incidence among households. On the one hand, data from the National Statistical Coordination Board (NSCB) show that the percentage of households experiencing hunger almost remained the same from 8.2 percent in 2003 (equivalent to 1.36 million households) to 7.9 percent in 2009 (1.45 million households). On the other hand, the Social Weather Stations (SWS) quarterly surveys on hunger incidence show an increasing trend in the percentage of families that experienced hunger, reaching 21.5 percent (about 4.3 million households) in the 3rd Quarter of 2011, the highest since December 2009. This study looks at the determinants of extreme poverty among households using the data from the Family Income and Expenditures Survey (FIES) by applying the concept of regression discontinuity design to distinguish the characteristics of “extremely poor” (subsistence poor) from “poor” households. Using a *logit* model on the pooled FIES data in 2003, 2006 and 2009, the results show that presence of a young dependent in the household increases the probability that the household will be *extremely poor* by about 4 percentage points, controlling for other factors. Other variables that influence the probability of the household being *extremely poor* are the education of the household head and percentage of cash transfer from abroad. Moreover, regional characteristics such as varying food prices and underemployment rate explain a lot about the probability of the household being *extremely poor*. The study shows that we cannot ignore the evidence linking population growth and poverty. Development policies aimed at addressing poverty incidence in the country must include measures that will manage the country’s burgeoning population.

Keywords: extreme poverty, regression discontinuity design, young dependents, *logit* model, population management

SS-03

**THE INCOME-HAPPINESS PARADOX
AMONG FILIPINO PARTICIPANTS:
DO DAILY INCOME, HOUSING TYPE, AND
EDUCATION INFLUENCE SUBJECTIVE WELLBEING?**

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Among people from developed countries, growth of income has weak relationship to happiness; the greater the income, the lesser influence it has on subjective wellbeing (SWB). This study explores how socio-economic status based on income per day, housing type, and educational attainment affects SWB among Filipino participants. We used Diener's Satisfaction With Life Scale (SWLS) and a researchers-developed work and family satisfaction scale in obtaining data on SWB. One hundred fifty respondents, purposively recruited from high income (mean=P1,500 income/day) to low income (mean= P30/day) earners with mean age = 36.8 participated in the study. Type of house was evaluated using the rural community population indicator of 2010 being used by local government units. Results showed that income per day is significantly correlated with work satisfaction ($r=.28$, $p =0.01$) but not with life and family satisfaction while housing type is significantly related to overall life satisfaction ($r=.30$, $p=0.01$) and work satisfaction ($r=.38$, $p=0.01$). Educational attainment is not in any way correlated to work, life, and family satisfactions. Data also show that moderate to high income earners especially those with type A housing have higher overall life satisfaction compared to those in the lower income groups. No observe asymptotic trend on the SWB among higher income earners suggesting that income still largely contributes to ones SWB. We conclude that happiness of people from poor countries such as the Philippines is still greatly affected by increase in one's socio-economic status particularly income and housing type. It is with surprise, however, that among the participants educational attainment seems to have no role on happiness.

Keywords: subjective wellbeing, income, housing, education, happiness

SS-04**DEVELOPMENTAL DIFFERENCES OF CHILDREN IN PRIVATE PRESCHOOLS AND DAY CARE CENTERS**

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This study examines the influence of preschool education and day care program on the motor, cognitive, language, self-help, and social-emotional development of children aged 4-5 in Umingan, Pangasinan. One-hundred eight children grouped into three (out-of-school children [OSC], n=37; day care, n=34; and private preschool, n=37) participated in the study. We used Form-2 of the Revised Early Childhood Development Checklist (ECD) in determining developmental differences among the three groups. Among four years old, results indicate that children in private preschool are significantly better in receptive language, cognitive, and social-emotional domains compared to children in day care and OSC. Children in day care are significantly different only in the fine motor domain as compared to OSC. No significant differences were found in expressive language, self-help, and gross motor. Relative to the ECD norm, however, the participants are slightly delayed in their overall development index. Among five years old, children in private preschool are far better in gross and fine motor, receptive language, cognitive, and social-emotional domains compared to day care and OSC. In contrast, OSC children are significantly better in self-help as compared to the private preschool and day care groups. As against the norm in the ECD, all five year old participants are significantly delayed in their overall development index. Overall, results indicate that formal preschool education but not day care program seems to influence significant differences in children's development especially in language, social-emotional, and cognitive domains. However, the significant delay in the children's overall development index relative to the ECD norm may reflect problem on the quality of preschool education in rural communities.

Keywords: motor, cognitive, language, development, preschool

SS-05

LEARNING STYLES OF ENGINEERING TECHNOLOGY STUDENTS AND THEIR CONCEPTUAL UNDERSTANDING ON THE PARTICULATE NATURE OF MATTER

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This research study investigated the learning styles of engineering technology students and explored their understanding on the particulate nature of matter. The sample consisted of 40 engineering technology students enrolled in General Chemistry. The study was a descriptive research-causal comparative and designed to accommodate both qualitative and quantitative analysis. Qualitative method was used to analyze the inputs of the students in the Visual Conceptual Questionnaire (VCQ). Quantitative method was used in describing the profile of the students learning styles and determined the relationship on the conceptual understanding of the particulate nature of matter. Results showed that out of 40 students, 12 students (30%) were accommodators, 5 students (12.5%) were assimilators, 9 students (22.5%) were convergers and 14 students (35%) were divergers. The students level of understanding is most likely incline towards partial understanding. This suggests that student answers to VCQ on the particulate nature of matter showed partial misconception but indicating some degree of relevance toward the concept. Considering the results for the One-Way ANOVA Test, there is no significant difference between the scores of students on their learning styles. This further connotes that the learning styles of students does not affect their conceptual understanding in the nature of matter. Results of the study also implies that chemistry teachers should also focus on the microscopic level aside from macroscopic level in teaching the nature of matter since it is fundamental in learning the concept of matter.

Keywords : learning styles, conceptual understanding, visual conceptual questionnaire, misconception, particulate nature of matter

SS-06**PERCEPTIONS OF FACULTY AND STUDENTS IN THE AGRICULTURE PROGRAMS OF THE ISABELA STATE UNIVERSITY AT CABAGAN CAMPUS**

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This study is conducted to determine the reasons in the declining number of students in agriculture programs of the Isabela State University (ISU), Cabagan Campus. It specifically sought to determine the following: a) general perceptions in agriculture of faculty and students; b) reasons of agriculture students in enrolling; and c) perceptions of faculty and students on the decreasing number of enrollees in the university's agriculture programs. Descriptive method of research was used in this study in seeking answers to the problems. One hundred students and twenty faculty members randomly selected from the four colleges of the campus were the participants of this study. There were two sets of questionnaire used in gathering the data. The first set of questionnaire measured the perceptions of the faculty while the second set determined the perceptions of the students in agriculture programs of the university. Frequency distribution, weighted mean, percentage distribution and a five-point Likert-type scale were used in the analysis and interpretation of the data. This study found that the participants perceived agriculture to be one of the major contributors in the economic development of the country. However, they also perceived that agriculture programs are less attractive, less useful, and less suitable to the new generation. This is because according to them the young generations of today do not want to work in the farm anymore which contributed to the decline of enrolment in the agriculture programs. Moreover, majority of the students who are taking agriculture programs are those who really have the passion in agriculture and others are those that have no other option but to take the opportunity of enjoying the free tuition fee education offered by schools with agriculture programs.

Keywords: agriculture, agriculture programs, perception in agriculture, agriculture usefulness, agriculture suitability, agriculture attractiveness, declining enrollment

SS-07

**HANDLING KNOWLEDGE AND IDEAS AS PATTERNS:
EMPLOY PARADIGMS AS PACKETS FORMING NON-
REGULAR INTERLOPING FINITE FRACTAL**

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Based on more than two decades of research on the applications of paradigms, I came out with a creativity technique, “Generating New Ideas through Probing Paradigms” as an alternative to brainstorming. As a byproduct of that research, I developed a concept of representing knowledge and ideas in terms of paradigms as patterns within patterns within patterns... - much like a non-regular interloping finite fractal. The creativity technique consisted of the following steps: (a) decide on the subject matter, (b) determine the paradigm, (c) probe the paradigm, (d) map ideas in the mind, and (e) connect ideas to produce new ideas. This needed a basis and framework. The formulation is as follows. A paradigm is a model, map, pattern, etc, and has many definitions. According to Stransfield, a paradigm is a compact representation of reality with less mass and energy. In the brain, the idea or concept in memory corresponds to a particular pattern of activity of a group of connected neurons and synapses. Instead of mapping the paradigm physically on paper, we map it in our mind. A paradigm is like a packet. Spread it out and its components are also paradigms. Spread a component packet and we will find that it also consists of paradigms and so forth and so on. The components of a paradigm are ideas. Some of the ideas may have already been in the mind and only the connections have to be modified. Organized ideas constitute knowledge and represented by paradigms. Within the mind the interconnection can be to any logical paradigm. Thus, we can picture the system as a finite non regular fractal that is interloping. This implies that mathematics and statistics can be applied to knowledge creation, idea generation, and knowledge management. The system can also explain the concept of paradigm shifts.

Keywords: creativity, knowledge, idea, paradigms, fractals

INTEGRATING SCIENCE AND LOCAL KNOWLEDGE FOR CLIMATE CHANGE IMPACTS AND VULNERABILITY ASSESSMENTS

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This project aims to build the capacity of concerned stakeholders in the province of Albay in assessing the impacts of and their vulnerability to climate change and sea-level rise with the use of a computer modeling system and complemented by the local knowledge of the people. It serves as a pilot site in the Philippines for the assessment of climate change impacts and vulnerability using SimCLIM, a modeling system for examining the effects of climate variability and change over time and space. Case studies in upland and coastal communities, using household survey, participatory rural appraisal techniques, among others, were conducted to demonstrate the assessment. The upland communities were highly exposed to typhoons and El Niño, while the coastal communities were affected by floods and storm surges during typhoons. Adaptation strategies were mostly spontaneous and meant to bear the losses from the impacts. Meanwhile, future climate change and sea-level rise scenarios generated through SimCLIM, using ensembles and SRES (Special Report on Emission Scenarios) A1FI set at high sensitivity, presented a 4-5°C increase in temperature and about 10% increase in precipitation in 2100 in the *barangays* where the upland communities are located, and 1.3-meter sea level rise in the same year in the eastern coast of Albay, where lies the coastal communities. Combining both computer-based modeling system and participatory approaches in the conduct of assessment proved useful, particularly in developing adaptation strategies, as the former demonstrated the ‘forward-looking’ aspect of climate change while the latter put into context the vulnerability of the group assessed taking into account the non-climatic factors. The approach also familiarized the local communities and other stakeholders with the concepts of climate change.

Keywords: climate change, sea-level rise, SimCLIM, vulnerability, local knowledge

SS-09

DISASTER RISK REDUCTION AND MANAGEMENT: CRITICAL FACTORS FOR SUCCESS AT THE LOCAL GOVERNMENT LEVEL

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This paper identifies weaknesses and gaps in the Disaster Risk Reduction and Management Plan (DRRMP) implementation at the local government level. The purpose is to help stakeholders to effectively operationalize existing DRRMP, or design one that highlights identified critical factors. The approach used is qualitative in nature that considers direct observations on the management of the recent flood disaster in Iligan City triggered by typhoon *Sendong*, in-depth interviews of randomly chosen survivors, and analysis of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) and the local Disaster Risk Reduction and Management Plan. There was some incongruence in the local hazard maps with the actual land use as housing projects sprouted close to the banks of a major river. These were wiped out during the recent flood. There was no apparent participation of all stakeholders, particularly the communities exposed to risks, in the formulation of the local DRRMP. This deprived the affected communities the opportunity to vital information and capacity-building for resilience. There was no functional early warning system in the affected communities, an important component in disaster risk reduction, and no visible posting of directions on what to do and where to go in times of disaster. Forced or pre-emptive evacuation of residents at risk right after upgrading of typhoon signal number one to number two, was not implemented. Early mobilization of means for emergency management was also problematic. Other weaknesses and gaps identified concern functions of the Local DRRM Office (LDRRMO). The weaknesses and gaps identified may be a mirror of other local DRRMPs in the country. A serious review and implementation of RA 10121 at all levels, is urgently needed for a truly functional DRRM.

Keywords: disaster risk, hazard maps, typhoon *Sendong*, flood, resilience

