

# 21<sup>st</sup> Century Skills of Pre-Service Teachers of the University of Eastern Philippines System Inputs for An Enhanced Student Teaching Program

**Nimfa R. De Veyra**

Faculty, University of Eastern Philippines,  
University Town, Northern Samar

## **ABSTRACT**

The study assessed the level of 21st century skills of pre-service teachers of the UEP system, which would serve as a basis in coming up with an enhancement program for student teaching. Particularly, it determined the profile of the pre-service teachers in the three campuses of the University of Eastern Philippines in terms of sex, annual income, type of high school attended, degree program and academic performance; and the profile of the cooperating teachers and supervising teachers in terms of sex, educational attainment, academic rank, years of experience as cooperating teacher and training-teachers seminar attended. Likewise, the study assessed the level of the 21st century skills of the respondents as perceived by the pre-service teachers and cooperating teachers in terms of learning and innovation skills, effective communication skills, life and career skills and information, media and technology skills. The study found out the relationship between the profile of the pre-service teachers and their level of 21st century skills; the relationship between the profile of the cooperating teachers and the level of 21 century skills of the pre-service teachers: and the difference in the levels of 21 century skills of the pre service teachers as perceived by the pre-service teachers themselves, the cooperating and supervising teachers.

The respondents were senior teacher education students of the three campuses during the school year 2013-2014, the supervising teachers of the University of Eastern Philippines three campuses and the cooperating teachers of the students in the Department of Education schools. Using the descriptive correlational design, the study utilized a modified instrument 21st century skills. Data were treated using frequency counts, means, percentages, analysis of variance and multiple regression analysis.

Majority of the pre-service teachers are female; had a family income from 40,000-below; graduated from public high school; had BEED degree and had good academic performance.

Majority of the cooperating teachers are female; BS/AB graduates with MA units; with Teacher III positions; had 1-5 years' experience cooperating teacher and had no training seminars attended.

Majority of the supervising teachers are female; BS/AB with MA units; with Instructor II positions; had 1-5 years' experience as supervising teacher and had no training-teacher seminars attended.

Majority of the pre-service teachers had "High" level of 21st century skills in terms of learning and innovation skills and information, media and technology skills effective communication skills and "very high" in terms of life and career skills.

Sex, type of high school attended and academic performance of the pre-service teachers were found to be significantly related to their level of 21st century skills. The profile of the cooperating/supervising teachers, particularly sex and experience as supervising teachers, was significantly related to the level of 21 century skills of the pre-service teachers.

There was a significant difference in the level of 21st century skills of the pre-service teachers as perceived by the three groups of respondents.

**Keywords:** *Cooperating teacher, 21st century skills, Student teaching program, life and career skills, enhancement*

## **1. Introduction**

The illiterate of the 21 century is not the one who has not learned, but the one who does not want to learn, unlearn and relearn.

Alvin Toffler

The above-mentioned futuristic statement of Toffler on globalization confirms dramatic changes and a kind of seismic shift in human history. These changes are enveloping internationally and at the corners of almost all institutions.

Today, as never before, meeting our e-society's challenges demand educational excellence. The widespread consensus and issues that the Philippine educational systems are failing to adequately prepare students for survival - ready to succeed in life, career, and citizenship. Evident realities outcomes of the as educational system are due to these enormous changes. People now live in the millennium ushered by dramatic technological revolution, in an increasing diverse, globalized, and complex media-saturated society. The shift of ways an individual learns today is so much far that from decades back. The illiterates before were those who could not read and write, and do simple arithmetic but now, they are those who cannot learn, unlearn, and relearn. That education delivery systems to some will be difficult and hard to accomplish considering the changes and transitions from traditional classrooms to virtual classrooms; ordinary library to online public access catalogue OPAC; simple hi-way to cyberspace; tribal natives to digital natives; calculators to iPads: postal mail to e-mail; face-to-face classes to web-based or web centric learning; ordinary citizens to netizens. The advent of global knowledge has given everyone a critical need to know that ushered us to an accelerated globalization in every aspect of our lives.

Going global in education has been a trend for many institutions of learning. Academic communities have restructured their schools to emphasize course content proficiency. The global trend of learning in schools is moving from the traditional didactic approach towards inquiry learning which requires students to be active constructors of knowledge (Chu: 2011). Preparation of students to meet international standards required in the global village has already been emphasized. This information-driven perspective goal is to produce literate students who can learn, unlearn and relearn information characterized by an abundance or explosion of data waiting to be transformed into knowledge.

Logically, institutions should produce literate students who possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship. In short, the global

market demands highly skilled and well-educated workforce who can make impossible things possible.

The knowledge revolution demonstrates the need to explore our view of the knowledge needed by the graduates in the 21st century. This era emphasizes collaboration from all sectors of government closely linked with education to help address the hot button topics in most schools, the need to reformat school systems. If education institutions are to serve students well in the 21 century, then pedagogies will be developed and goals will be attained.

In the light of realizing the quest for competitiveness, organizations like the Partnership for the 21st Century Skills (P21:2008) have pioneered a collaborative effort among educators, businesses, and governments to make 21st century learning a reality in every corner of the United States and beyond. Present direct actions have been taken to find and address these primary and devastating educational problems.

Asking questions about what schools are doing or not doing, rather than asking what is wrong with the learners is an opener for schools globally. With this, many schools in the US, Europe, and Asia have started integrating International standards of 21st century education in their schools. The Philippines has commenced adopting the K to 12 programs in preparation for our graduates in the 21st century. The K to 12 curriculum envisions a holistically developed Filipino with 21st century skills who is prepared either for employment or college education. It is imperative then, to equip and train the head, the heart, and the mind of the Filipino learner to keep pace with the challenges of the info-tech era. Inasmuch as President Aquino's K to 12 curriculum is concerned, benchmarking from kindergarten to Grade 12 must be in place.

Setting new benchmarks for teacher education is no mean task. Advocating the current trends in education is to bridge the gap between theory and practice. This portrays the idea to comply, to act upon, and to realize a very basic goal-quality education from quality teachers. In the bid for quality education, laudable moves toward strengthening partnership from the Teacher Education Institutions (TEIS) to Basic Education Schools (BES) to foresee what the future teachers would be through teaching and learning experiences. To this end, pre-service teachers, as future teachers, are not excused to handle the K to 12 learners who are expected to attain 21st century skills.

The most popular themes of congresses held on teacher education reflect critical awareness and serious concern for the preparation of future teachers in public and private colleges and universities. These confront educators and policy makers the thrusts of the educational system in the light of accelerated fast moving technological changes and innovations that impact on the young whether teacher training institutions will be able to prepare the kind of ever ready - workable teachers who can adapt to the ever changing lifestyles of society.

However, the quality of teacher education preparation in the country is still doubted. While pre-service teachers learn well the intricacies of the "what" and "how" of teaching, i.e., the content and strategies, pre-service teachers seem not to adjust well with the demands of the teaching profession. As observed and experienced by the researcher as supervising teacher for two decades, some pre-service teachers are possessed and equipped with the basic knowledge relative to theories on teaching and learning process but deficient in necessary skills and habits of a world class would-be-teachers. The lack of 5C's (communication skills, critical thinking, creativity, collaboration, and commitment and dedication), which are key to success in their future career, has been observed. Other pre-service teachers are still wanting competence in effective communication skills, critical thinking skills and classroom management, flexibility and creativity and innovative skills during in the student teaching phase. It is noticeable that while the pre-service teachers may have mastered the concepts, they lack application of skills that may provide them the smooth transition to the complexity of real teaching.

If the K to 12 curriculum emphasizes 21st century skills among its future graduates, the more stress on building a solid foundation of skills should be put on teacher education preparation. The pre-service teachers are indispensable components of the K to 12 curriculum, as they will be the future teachers in the field who will train the K to 12 students. To simply quote the famous adage "we cannot give what we do not have," the pre-service teachers who do not possess 21st century skills cannot expect to train well K to 12 students on 21st century skills.

Hence, the study was conceptualized.

## 2. OBJECTIVES OF THE STUDY

The study assessed the 21st century skills of pre-service teachers of the University of Eastern Philippines system which would form the basis for enhancing the Student Teaching program. Specifically, it tried to:

1. determine the profile of the pre-service teachers in the three campuses of of the University of Eastern Philippines in terms;
  - a. sex;
  - b. annual family income;
  - c. type of high school attended;
  - d. degree program; and
  - e. academic performance.
2. determine the profile of the cooperating teachers and supervising teachers in terms of:
  - a. sex;
  - b. educational attainment;
  - c. academic rank;
  - d. years of experience as cooperating teacher; and
  - e. training-teacher seminar.
3. assess the level of the 21st century skills of the respondents as perceived by the pre-service teachers and cooperating teachers in terms of:
  - a. learning and innovation skills;
  - b. effective communication skills;
  - c. life and career skills; and
  - d. information, media and technology skills.
4. find out if there is a significant relationship between the profile of the pre-service teachers and their level of 21st century skills.
5. find out if there is a significant relationship between the profile of the cooperating teachers and supervising teachers to the level of 21st century skills of the pre-service teachers.
6. ascertain if there is a significant difference in the levels of 21st century skills of the pre-service teachers as perceived by themselves, the cooperating teachers and supervising teachers.

7. identify inputs on how the student teaching program would be enhanced

### 3. METHODOLOGY

#### Locale of the Study

The study was primarily conducted in the University of Eastern Philippines campuses and secondarily in the Cooperating Schools in the Department of Education, Northern Samar Division.

The University of Eastern Philippines (UEP) is the first state university in the Visayas located in different locations in Northern Samar, Philippines. It was established first as Catarman National High School (CNHS) in 1918, renamed as Samar Institute of Technology (SIT) in 1957 and converted in 1964 to University of Eastern Philippines (UEP) by virtue of Republic Act 4126 authored by Congressman Eladio T. Balite. UEP is now a system having three campuses; the Main campus located at the University Town, Catarman, Northern Samar; the Laoang campus in Laoang, Northern Samar, and the Pedro Rebadulla Memorial campus in Catubig, Northern Samar.

The UEP PRM and UEP Laoang campuses were integrated into the university system by virtue of RA 8292 (Higher Education Modernization Act of 1999) and RA 8745 (General Appropriations Act of 1999). Through these republic acts, Pedro Rebadulla Memorial Agricultural College (PRMAC) and the Laoang National Trade School (INTS) which were formerly Commission on Higher Education (CHED) supervised schools were integrated and since then operated under the University of Eastern Philippines system. This integration placed the two schools under the administrative supervision and control of the UEP Main campus.

The partner of the UEP System in molding the pre-service teachers is the Department of Education (DepEd) Northern Samar Division. The DepEd schools are composed of Secondary, Elementary, and to include K-12 curriculum Kindergarten. Some of the schools in the entire province were considered cooperating schools of the university considering the local and hometown assignment of pre-service teachers for their related learning experiences. To name these schools and address from the Legislative District I elementary department are: Mondragon Central Elementary School, Mondragon, Northern Samar; Catarman I, II, and III Central Schools in Catarman, Northern Samar; Bobon Central

Elementary School, Bobon, N. Samar; Rosario Elementary School, Rosario, Northern Samar; Lavezares Elementary School, Lavezares, N. Samar; and San Isidro Elementary School, San Isidro, N. Samar. For the secondary department, included are Catarman National High School and Cawayan Integrated School, Catarman, Northern Samar, Bobon school for Philippines Craftsmen, Bobon, Northern Samar Basilio Chan Memorial Industrial School, Lavezares, Northern Samar, Allen National High School, Balicuatro College of Arts and Trades, Allen, Northern Samar, Alegria National High School, San Isidro, Northern Samar. In the 2nd Legislative District the following cooperating schools are included: San Roque Central Elementary School, San Roque, N. Samar, Pambujan Central Elementary School, Rawis Elementary School, Laoang 1 Central School, P. M. Geta Elementary School, Pangpang/Palapag II Central Elementary School, Palapag I Central School, Catubig I Central Elementary School, Las Navas Central I Elementary School, and the secondary schools Mondragon Agro-Industrial School, Don Juan Avalon Memorial High School, Pambujan National High School, Laoang National High School, Palapag II Integrated School, Somoroy Agro-Industrial School, Catubig Valley National High School, UEP Catubig Laboratory High School.

#### Research Design

The study utilized the descriptive-correlational research design. The study described the profile of the pre-service teachers in terms of sex, annual income of family, type of high school graduated, degree program and academic performance as well as the profiles of the supervising teachers and cooperating teachers as their mentors. The study also described the level of 21st century skills along the four indicators, effective communication skills, learning and innovation skills, information, media and technology skills and life and career skills as perceived by the pre-service teachers themselves and the cooperating/supervising teachers.

The study employed correlation design to determine if a relation exists between the profile of the pre-service teachers and the level of 21st century skills of the pre-service teachers and between the profile of the cooperating/supervising teachers and the level of 21st century skills of pre-service teachers.

#### Population and Sampling

The population of the study comprised of senior pre-service teacher education students officially enrolled

in Student Teaching in the three campuses of UEP, their respective supervising teachers, and cooperating teachers. from the different schools identified by DepEd as service areas for student teachers.

Computing the number of samples using the Slovin's formula, 236 out of the 581 or 40.61% of the total population comprised the study samples. A prorated distribution was utilized to assign the number of samples per campus and per degree program.

To identify the pre-service teacher-respondents, a fishbowl method was done. The respective cooperating teachers of the identified respondents were automatically considered cooperating teacher-respondents. Accordingly, supervising teachers of the pre-service teachers were also purposively selected.

The number of pre-service teachers is not equal with the number of cooperating and supervising teachers. In DepEd schools, some cooperating teachers handled at most two or three pre-service teachers from different TEIS in their class. Hence, the inequality in number.

Academic rank. This is the cooperating/supervising teacher-respondents' position in the DepEd or university classified into Teacher I, II, III, Master Teacher I, II, and III. On the part of the supervising teachers in the three campuses, the ranks were classified as Instructor I, II, III, Assistant Professor I, II, III, IV and Associate Professor I to V.

Number of years' experience as cooperating/supervising teacher. This refers to the number of years spent in mentoring pre-service teachers assigned to them by the cooperating/laboratory schools.

Teachers educational training/seminar. This is an educational endeavor that ventured attendance towards professional development in line with guiding, mentoring, facilitating, advising, evaluating and critiquing pre-service teachers assigned to them.

Educational attainment. Refers to the highest degree of education completed by the supervising teachers in the three campuses and the cooperating teachers in the DepEd. This is classified as doctoral degree, with doctoral units, masteral degree, with masteral units, Diploma Course, and Baccalaureate degree.

Learning facilities. These are the amenities in the campuses which could be used in the delivery of the teacher education programs. The adequacy of the

learning facilities is classified as Very Adequate, Adequate and Inadequate.

Level of 21 century skills. The level of 21st century skills is the mean score of the indicators for the 21st century skills questionnaire. The level is classified into Very High, High, Average, Low and Very Low.

### **Research Instrument**

The study made use of a modified instrument patterned after the P21 Framework ([www.p21.org](http://www.p21.org)). It was modified for the purpose of integrating the skills adopted in the Philippines 21st century skills and in the local setting. Some items were added and revised to suit the framework of the Philippine K to 12 curriculum goals.

The questionnaires for the pre-service teachers consisted of two parts: the profile and the level of 21st century skills. The questionnaires for the cooperating/supervising teachers are also of two parts: the profile and the level of 21st century skills of the pre-service teachers.

In addition to the questionnaires fielded to the respondents who were deployed to DepEd schools, the researcher made use of the report of ratings for general weighted average (GMA) of pre-service teachers for the first semester of the current school year. The concerned university supervisors for student teaching in the three campuses supplied the researcher the Deployment List with corresponding school assignments of the pre-service teachers in the DepEd Elementary and High Schools.

### **Validation of Research Instruments**

The questionnaires' constructed on the level of 21<sup>st</sup> century skills were validated in the North Western Samar State University (NWSSU), Calbayog City. Some of the college of education faculty, who had direct contact with their pre-service teachers, and some of their partners from DepEd schools, and NWSSU pre-service teachers helped in the validation of the modified instrument.

To check the suitability of the items, tryouts were done at the UEP Laboratory Elementary School for pre-service questionnaires and the School of Basic Education, Asian Development Foundation College, UEP Campus for the cooperating teacher.

### **Data Gathering Procedure**

Once the validity of the instrument for the respondents was established, letter requests to conduct

the study were sent to the Offices of the University President, chairs of the college of education in the two satellite campuses, the DepEd Schools Division Superintendent through the Director for Graduate Studies noted by the adviser to allow the researcher to distribute questionnaires, to conduct the study to the target respondents in the different elementary and secondary schools, and to provide data the researcher needed.

After weeks of the distribution of questionnaires and data collection, the data were organized, tallied, collated and analyzed carefully.

#### 4. RESULTS AND DISCUSSION

##### Profile of the Pre-Service Teachers

The profile of the respondents included the sex, annual income, type of high school attended, degree program and academic performance.

The 236 respondents from the pre-service group comprised the three campuses and different teachers degree programs. From the UEP Main Campus, out of 351 pre-service teachers, only 143 were taken in which every course was proportionately computed for samples. Comprising the number were BEED- 101, BSED-68, BSHE-30, BEED-HE-45, BSIE-28, BTTED-29. From UEP Laoang Campus, out of 146 pre-service teachers, only 60 respondents were taken from BEED (48) and BSED (12). In addition, from UEP Catubig campus, only 33 were taken from BEED (19) and BSED (14) groups.

Sex. Out of 236 respondents, 164 or 69.5 percent were female while 72 or 30.5 percent were male. This is inferred that teacher education courses in the university are female dominated.

Annual family income. Out of 236 respondents, 106 or 44.9 percent had income from 40,000 and below 50 or 21.2 percent had income from 60,000 99,999, 49 or 20.8 percent, from 40,000 59,999; 25 or 10.6 percent 100,000 249,000; and six (6) or 2.5 percent had income from 250,000 and over. The study shows that a majority of the respondents had income from 40,000 and below, which is interpreted as very low income. It indicates that the pre-service teachers belonged to families which have incomes barely enough to sustain basic needs.

Type of high school attended. Out of 236 respondents, 203 or 86.0 percent studied in public high schools and 33 or 14.0 percent studied in the private high schools. It. indicates that majority of the respondents graduated

from public high schools, which could be attributed to the fact that majority came from families with very low income, hence, the inability to support a costly education in private schools.

Degree Program. Out of 236 respondents, 108 or 46.0 percent were BEED; 54 or 23.0 percent were BSED; 32 or 13.0 percent were BTTED; 19 or 8.0 percent were BEED-HE; 12 or 5.1 percent were BSHE and 11 or 5.0 percent were BSIE. This study shows that majority of the respondents were enrolled the BEED degree program.

Academic Performance. Out of 236 respondents, 147 62.3 percent had good performance with a rating of 2.49 1.75; 75 or 31.8 percent had very good performance with a rating of 1.74-1.25; nine (9) or 3.8 rating had fair performance with a rating of 2.99-2.5 and five (5) or 2.1 percent had excellent performance with a rating of 1.24 1.00. It indicates that the pre-service teachers had an average academic performance.

##### Profile of the Cooperating Teachers

The profile of the cooperating teachers included the sex, educational attainment, academic rank, experience as cooperating teacher and training/seminars attended.

The total number of respondents from the cooperating teachers group is 224. There were 140 from UEP Main, 53 from UEP Laoang and 31 from UEP Catubig campus.

Sex. Out of 224 respondents, 172 or 76.8 percent are female while 52 or 23.2 percent are male. It can be inferred that the teaching profession is dominated by females.

Educational Attainment. Out of 224 respondents, 139 or 62.0 percent were BS/AB with MA units; 35 or 15.6 percent were MA/MS graduates; 30 or 13.4 percent were BS/AB graduates; 11 or 5.0 percent were MA/MS graduates with PhD units and nine (9) or 4.0 percent were PhD/EdD/DA graduates. The data showed that majority of the respondents have not yet finished their master's degree. This can be inferred can be implied that there is still a need to upgrade teachers' competence through pursuing higher education.

Academic Rank. Out of 224 respondents, 75 or 33.5 percent were Teacher III; 56 or 25.0 percent were Master Teacher I; 45 or 20.1 percent were Teacher II; 41 or 18.3 percent were Teacher I and seven (7) or 3.1

percent were Master Teacher IV. The data showed that majority of the respondents were Teacher III. It means that a greater number have already been promoted in the department.

Experience as Cooperating Teacher. Out of 224 respondents, 98 or 44.0 percent had 1-5 years experience; 76 or 34.0 percent having 6-10 years experience; 39 or 17.0 percent had 11-15 years experience and 11 or 5.0 percent had 19-20 years experience as a cooperating teacher. The data show that majority of the respondents had 1-5 years experience. This means that the teachers were relatively new to the teaching profession.

Training-Teachers/Seminars Attended. Out of 224 respondents, 86 or 38.0 percent did not attend any seminar; 60 or 27.0 percent attended trainings and seminars; 43 or 19.0 percent attended two (2) trainings and seminars; 25 or 11.0 percent attended three (3) trainings and seminars and 10 or 5.0 percent attended four (4) trainings and seminars. Findings revealed that a majority of the respondents had no seminars attended. This means that respondents should update their knowledge in teaching content and methodologies by attending seminars.

### **Profile of the Supervising Teachers**

The profile of the supervising teachers included the sex, educational attainment, academic rank, experience as cooperating teacher and training/seminars attended.

The number of respondents from the supervising teachers who were respondents in this study was only 64 in which 26 supervising teachers were from UEP main campus, 20 from UEP Laoang and 18 from Catubig campus.

Sex. Out of 64 respondents, 47 or 73.0 percent are female while 17 or 27.0 percent are male. This can be inferred that the female respondents dominated the workforce. This finding is consistent with the males outnumbered by females among pre-service teachers. This finding supports the study of Gorembalem (2003) that females outnumber the male teachers.

Educational Attainment. Out of 64 respondents, 21 or 33.0 percent were BS/AB with MA units; 18 or 28.0 percent were MA/MS graduates; 17 or 27.0 percent were MA/MS graduates with PhD units; six (6) or 9.0 percent were MA/MS graduates with PhD units and one (1) or 1.5 percent was with post-doctoral training and one (1) or 1.5 BS/AB Graduate. The data shows

that majority of the respondents were BS/AB with MA units. It infers the need to pursue higher education to improve their quality of teaching for the benefit of their students.

Academic Rank. Out of 64 respondents, 13 or 20.3 percent were instructor II, 12 or 18.7 percent were assistant prof. I; 10 or 15.6 percent were instructor III; eight (8) or 12.5 percent were assist prof. II seven (7) or 11.0 percent were assist prof. III and instructor I; two (2) or 3.1 percent were assoc. professor 4 and assoc. professor 2; and 3 or 4.7 percent were special lecturer. The data shows that the respondents have varied academic ranks.

Experience as Supervising Teacher. Out of 64 respondents, 18 or 28.1 percent had 1-5 years experience; 16 or 25.0 percent had 6-10 years experience; 15 or 23.4 percent had 19-20 years' experience; 11 or 17.2 percent had 11-15 years experience as a cooperating teacher and four (4) or 6.3 percent had 21 years and above experience. The data shows that the respondents had varied number of years as supervising teacher. This indicates that supervising teachers had little experience as cooperating teachers.

Training/Seminars Attended. Out of 64 respondents, 45 or 70.0 percent did not attend any seminar; 12 or 19.0 percent attended one (1) training and seminar; four (4) or

6.0 percent attended two (2) trainings and seminars; two

(2) or 3.0 percent attended three (3) trainings and seminars and one (1) or 2.0 percent attended four (4) trainings and seminars. The findings revealed that a majority of the respondents did not have seminars attended. It can be implied that there is a need for the respondents to upgrade professionally through seminars which they could attend.

### **Level of the 21<sup>st</sup> Century Skills of the Respondents Perceived by the Pre-Service Teacher's Cooperating Teachers and Supervising Teachers as Life and Career Skills**

The pre-service teachers had a mean of 4.48 in life and career skills, indicative of a very high level of 21 century skill. This supports Vadil's study (2012) that teachers have very good life and career skills. Specifically, those that got the highest means were to treat others the way s/he wants to be treated, conduct themselves in a respectable, professional manner,

work positively and ethically, and respond open-mindedly to different ideas and values. This means that the student teachers have developed the values and traits of respect to the profession by working under the norms of ethics and respect to other individuals' ideas by being open-minded. The finding on cultural diversity was stressed by Castro (2009) that there is a growing shift toward more positive attitudes about teaching culturally diverse students. A sincere sensitivity to students' diversity is an attitude emphasized by Gourneau (2006) on the attitudes of effective teachers.

The three lowest means, though still rated high, were on setting and meeting goals, setting goals with tangible and intangible success criteria, and balancing tactical and strategic goals. This means that the pre-service teachers were a bit deficient in skills of recognizing what they were really heading to in their present careers. This could be accounted to the lack of maturity of student teachers in seeing the goals of their career.

### **Information, Media and Technology Skills**

The respondents had a mean of 3.91 on information, media and technology skills. This means a high level 21st century skill. This supports Vadil's study (2012) that teachers are good along information, media and technology skills. None of the items for this component was rated very high. The respondents had the highest means of accessing information efficiently (time) and effectively (sources); using technology as a tool to research, organize; evaluate and communicate information; and understanding the role of the economy in society.

This means that the pre-service teachers were skilled much in accessing technology for research and communication, as evidenced by the student teachers' skill in using computer applications for their instructional materials preparation, test papers and bulletin board structuring. The pre-service teachers manifest knowledge of surfing the internet for research. The respondents were fully aware of the role of the economy in society since they fully know how they are directly and indirectly affected with economic situations in their lives.

The lowest means, though still rated high were skills using digital technologies (computers, PDAS, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to

successfully function in a knowledge economy; understanding and addressing global issues, and using entrepreneurial skills to enhance workplace productivity and career options. The use of high end technology is still a new thing for the pre-service teachers. The study supports Rutherford's study (2011) that most digital natives are not intrinsically inclined to integrate technology and embrace 21<sup>st</sup> century teaching. This could also be supported by the fact that these technologies are not provided by the school. There is a need for the exposure of pre-service teachers to global issues. Because the pre-service teachers are focused on the usual routines of the classroom, they are not given the chance to cultivate entrepreneurial skills.

### **Learning and Innovation Skill**

The respondents had a mean of 4.11 which means a high level of 21st century skill on learning and innovation. This supports Vadil's study (2012) which concludes that teachers are very good along learning and innovation skills. The highest means were on skills such as developing, implementing and communicating new ideas to others effectively; being open and responsive to new and diverse perspectives; incorporating group input and feedback into the work; viewing failure as an opportunity to learn; understanding that creativity and innovation is a long term, cyclical process of small successes and frequent mistakes; on creating ideas to make a tangible and useful contribution to the field in which the innovation will occur; and adopting easily to changes. The skills were focused on the pre-service teachers' creativity and the open-mindedness to adapt to changes which they would encounter. The flexibility of teachers is manifested in the pre-service teachers being able to adapt to change easily.

The lowest means, though rated high, were focused on analysing and evaluating major alternative points of view, synthesizing and making connections between information and arguments and solving different non-familiar problems in both conventional and innovative ways. The lowest means focused on the pre-service teachers' ability to analyse, to synthesize and to create, skills which require higher-order thinking. Thinking creatively while working technologically was advanced by Chandra and Calmers (2008) to be taught to pre-service teachers for them to develop and hone skills in investigating ideas, to produce and evaluate, and to create their own technologically product.



## Effective Communication Skills

The respondents had a mean of 3.94 which was rated as high in terms of effective communication skills. Only the indicator on exercising the rights and obligation of citizenship is rated very high. This means the pre-service teachers have imbibed the traits that manifest their commitment to being citizens of the Philippines. Other skills with high means focused on listening effectively to decipher meaning of knowledge, values, attitudes and intentions; use communication for a range of purpose; utilize multiple media and technologies; exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; assuming shared responsibility for collaborative work, and value the Individual contributions made by each team member; and using interpersonal and problem solving skills to influence and to guide others toward a goal. This means that the pre service teachers were skilled in using their interpersonal intelligence to produce results through collaboration and sharing of responsibilities. Saner, et al. (1994) and Webb (1993), posit that collaborative learning opportunities with classmates can have a lasting impact on individual student learning. Communication, particularly listening, is used to enhance their knowledge and attitudes.

## Test of Relationship between the Profile of the Pre-Service Teachers and their Level of 21st Century Skill

To test the null hypothesis that there is no significant relationship between the profile of the pre-service teachers and their level of 21st century skills, the multiple regression analysis was used.

Findings revealed that sex, type of high School attended and academic performance were found significantly related to their level of 21 century skills; however, monthly income and degree program was not found significantly related to their level of 21" century skills.

Sex was found to be significantly related to the level of 21st century skills because the F-ratio of 2.000074 was greater than the significant F of 0.158488. The null hypothesis was rejected. The coefficient of determination of 0.76% indicated the degree of relationship between the profile of the pre-service teachers and their level of 21 century skills. This means that the level of 21st century skills could vary among the males or females.

Annual income was not found significantly related to their level of 21st century skills, because the F-ratio of 0.031202 was less than the significant F of 0.859927. The null hypothesis was accepted. The coefficient of determination of 0.01% indicated the degree of relationship between the annual income of the pre-service teachers and their level of 21st century skills. This means that the level of 21 century skills was not dependent on the family income.

Type of high school attended was found significantly related to their level of 21st century skills because the F ratio of 0.872285 was greater than the significant F of 0.35119. The null hypothesis was rejected. The coefficient of determination of 0.33% indicated the degree of relationship between the type of high school attended by the pre-service teachers and their level of 21st century skills. This means that the level of 21st century skills could vary among the kind of high school one has graduated from. This could be accounted to the varied focus of preparation in secondary education of the public and private high schools.

Degree program was not found to be significantly related to their level of 21st century skills because the F-ratio of 0.189708 was less than the significant F of 0.663521. The null hypothesis was accepted. The coefficient of determination of 0.07% indicated the degree of relationship between the degree program of the pre-service teachers and their level of 21st century skills. This means that regardless of the course, the respondents had common levels of 21st century skills.

Academic performance was found to be significantly related to their level of 21st century skills because the F ratio of 2.853992 was greater than the significant F of 0.092346. The null hypothesis was accepted. The coefficient of determination of 1.08% indicated the degree of relationship between the academic performance of the pre-service teachers and their level of 21st century skills. This means that the level of 21 century skills varied among the different levels of academic performance. High academic performers could have attained more of the 21st century skills because some of these skills were part of the academic content of the teacher education curriculum.

## Test of Relationship Between the Profile of the Cooperating/Supervising Teachers and the Level of 21st Century Skills of the Pre-Service Teachers

To test the null hypothesis that there is no significant relationship between the profile of the

cooperating/supervising teachers and the level of 21st century skills of the pre-service teachers, the multiple regression analysis was used.

Findings revealed that sex and experience as supervising teachers were found significantly related, while educational attainment, academic rank and trainings attended were not found significantly related to their level of 21st century skills of the pre-service teachers.

Sex was found to be significantly related to the level of 21st century skills, because the F-ratio of 2.534255 was greater than the significant F of 0.112767. The null hypothesis was rejected. The coefficient of determination of 1.08% indicated their degree of relationship between sex and their level of 21st century skills. This means that the male and female teachers had varying perceptions on 21st century skills.

Educational attainment was not found to be significantly related to the level of 21 century skills, because the F-ratio of 0.334621 was less than the significant F of 0.563514. The null hypothesis was accepted. The coefficient of determination 0.14% indicated the degree of relationship between the educational attainment and their level of 21st century skills. This means that the perceptions on 21 century skills were not dependent on what educational attainment one has achieved.

Academic rank was also not found to be significantly related to the level of 21st century skills, because the F-ratio of 0.201465 was less than the significant F of 0.653962. The null hypothesis was accepted. The coefficient of determination 0.08% indicated the degree of relationship between academic rank and their level of 21st century skills. This means that the perceptions on 21st century skills were not dependent on the academic rank one possesses.

Experience as supervising teacher was found to be significantly related to the level of 21st century skills because the F-ratio of 0.89696 was greater than the significant F of 0.344588. The null hypothesis was rejected. The 0.38 coefficient of determination indicated the degree of relationship between years' experience as supervising teacher and their level of 21st century skills. This means that the teachers with few and/or more years of supervising teachers had varying perceptions on 21st century skills.

Teachers' training/seminar attended was not found to be significantly related to the level of 21st century skills because the F-ratio of 0.159155 was less than the significant F of 0.690305. The null hypothesis was accepted. The 0.06% coefficient of determination indicated the degree of relationship between the training attended and their level of 21st century skills. This means that the perception of 21st century skills was not dependent on the number of training one has attended.

### **Test of Difference on the Perceptions on 21st Century Skills of the Three Groups of Respondents**

The F-test revealed that the computed f-relation of 11.4621 was greater than the critical f value of 3.013024, hence, the null hypothesis that there is no significant difference among the three groups of the respondents was rejected. It indicates that there was a significant difference in the perception of the three groups on the level of 21st century skills of the pre-service teachers. This supports Busalla's study (2002) which stated that there was a significant difference between the perception of the critic teachers and student teachers on the perception of students' level of competencies. While it could be said that the pre-service teachers know better on some 21st century skills which are not readily seen in their daily encounters with the teachers, the supervising teachers and the cooperating teachers could have observed the skills in opposite ways. The difference among the perceptions of the supervising teachers and cooperating teachers could be attributed to the difference in the length of time the pre-service teachers were with the teachers.

### **Inputs for an Enhanced Student Teaching Program**

Education from around the world does not only enhance their professional growth, it also opens their eyes to their potentials being able to bring this treasure trove of global resources into their classroom so that their students could also benefit from these global opportunities.

In consonance, the Filipino nation of the future is at its best today nurturing, enhancing and articulating the best potentials of its people. Filipinos are valued and respected participants throughout the global community, not because of the scarcity of opportunity in the country but because they can compete globally. In the master plan for education and modernizing

Philippines education (Master Plan for Basic Education, 1996-2005), it was envisioned that education in the country should fortify our hearts, minds and bodies so that each succeeding generation continually brings forth an ever improving Philippines and world.

This part presents the major output of the study which is an action program geared towards the enhancement of the student teaching program in the University of Eastern Philippines.

## 5. SUMMARY

The study assessed the level of 21st century skills of pre-service teachers of the UEP system, which served as a basis in coming up with an enhancement program for student teaching. Particularly, it determined the profile of pre-service teachers in the three campuses of the the University of Eastern Philippines in terms of sex, monthly Income, type of high school attended, degree program and academic performance; and the profile of teachers and supervising teachers in the cooperating terms of sex, educational attainment, academic rank, years of experience as cooperating teacher and training-teachers seminar attended. Likewise, the study assessed the level of the 21st century skills of the respondents as perceived by the pre-service teachers and cooperating teachers learning and innovation skills, effective in terms of communication skills, life and career skills and information, media and technology skills. The study found out the relationship between the profile of the per-service teachers and their level of 21st century skills; the relationship between the profile of the cooperating teachers and the level of 21st century skills of the pre-service teachers, and the difference in the levels of 21st century skills of the pre-service teachers as perceived by the pre-service teachers themselves, the cooperating and supervising teachers.

The respondents were senior teacher education students of the three campuses during the school year 2013-2014, the supervising teachers and the cooperating teachers of the students in the Department of Education schools. Using the descriptive-correlational design, the study utilized a modified instrument on 21st century skills. The data were treated using frequency counts, means, percentages, analysis of variance and multiple regression analysis.

Majority of the pre-service teachers are female, had a family income from 40,000-below; graduated from

public high school, had BEED degree and had good academic performance.

Majority of the cooperating teachers are female; BS/AB graduates with MA units; with Teacher III positions: had 1-5 years' experience as cooperating teacher and had no training-teachers seminars attended.

Majority of the supervising teachers are female; BS/AB With MA units; with Instructor II positions; had 1-5 years' experience in supervising teacher and had no training teacher seminars attended.

Majority of the pre-service teachers had "High" level of 21st century skills in terms of learning and innovation skills and information, media and technology skills, effective communication skills and "very high" in terms of life and career skills.

Sex, type of high school attended and academic performance of the pre-service teachers were found to be significantly related to their level of 21st century skills. The profile of the cooperating/supervising teachers, particularly sex and experience as supervising teachers was significantly related to the level of 21st century skills of the pre-service teachers.

There was a significant difference in the level of 21st century skills of the pre-service teachers as perceived by the three groups of respondents.

## 6. CONCLUSIONS & IMPLICATIONS

The teaching profession, be it in the pre-service or in the in-service phase, is female dominated. Pre-service teachers come from families with very low incomes. Hence, they were confined to studying in public schools. The course BSEd is a common course in the three campuses. There is still a need to improve the academic performance of the pre-service teachers.

The cooperating and supervising teachers have not yet finished their master's degrees. There could have been some factors hindering their professional development such as too many pressures at work or the financial incapability. Hence, a majority have not yet moved to higher positions. The inability to finish the degree and the movement to higher positions is due to the cooperating teachers being new in service. There is a need for teachers to be exposed to seminars and trainings.

The respondents are ready to face the challenges of the 21st century. They have a high capacity to learn and innovate, communicate and use information and media technology. The respondents are even more

prepared for life through the skills which they have gained to sustain in their chosen career. It can be implied further that the respondents have been practicing 21st century skills.

Sex, type of school attended in high school and the academic performance of the pre-service teachers can influence the level of 21st century skills. Sex and experience as cooperating/supervising teacher can influence the level of 21st century skills. The groups of respondents have different views on the level of 21st century skills.

## 7. RECOMMENDATION

Based on the findings of the study, the following recommendations were arrived at:

1. The school administrators should encourage students to take up related vocational courses such as the BSIE, BSHE, BEED-HE and BTED considering that these are in demand in the world market. This also pushes the recommendation of A. B. Sygoco (2006) and N. Ricafort (2010).

2. The UEP system should design a set of curriculum components for 21st century learning outcomes to produce graduates who possess these 21st century skills.

3. Professional development like skills on mentoring/coaching pre-service teachers should be conducted regularly to update and adopt new trends and best practices in handling teacher apprentices.

4. Workshops for pre-service teachers, cooperating teachers and supervising teachers should be designed and conducted by the UEP system to equip them with operational or manipulative skills in using advanced technology with dexterity.

5. Joint orientation programs/seminars for cooperating/supervising teachers to fine tune student teaching learning environment, learning to teach standards based on 21st century skills should be included in the program of activities in the UEP laboratory and cooperating schools.

6. A mentor-mentee enhancement program on Big 6 (an approach to teaching info-tech skills, teaching info literacy and information skills, and problem solving to both students and teachers) and seven C's (cognitivism/constructivism, critical thinking, creativity, cooperation/ collaboration, communication, competence, career and citizenship) cum global awareness should be created and conducted by the

UEP three campuses before the entire schedule of student teaching activities.

7. Info-communication-media facilities like internet/WiFi connectivity, computers, LCD and other hi-tech facilities should be provided in the laboratory/cooperating schools of the university. These are vital to demonstration teachings where pre-service teachers learn to teach with technology.

8. UEP system should develop "UePals" website, a global community so that teachers and students can join and start collaborating on-line with anyone in the world in order to exchange ideas and learn together.

9. The enhancement program for student teaching should be adopted by the laboratory schools of the UEP system to realize the academe's vision to be a world-class university in general and to prepare PST who can cater the needs of the 21st century learners in diverse and multicultural environments.

10. A study to identify the practices of UEP faculty members and cooperating teachers in developing 21st century skills among students and to find its extent should be conducted.

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