21st Century Skills and Readiness of Preservice Teachers towards Practice Teaching Program

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Abstract - In this 21st Century, many individuals would like to discover, experience, and understand so many things around them. This research was conducted to determine the significant relationship between 21st Century skills and readiness of preservice teachers of a state college in the Philippines in practice teaching. The study used quantitative and correlational research designs. Respondents were the 133 preservice teachers who responded on the two adapted research questionnaires. Results reveal that, preservice teachers of the state college under study always demonstrated the 21st Century skills since it posted a very high mean. In terms of their readiness to practice teaching, it was revealed that they were ready in practice teaching. However, the 21st Century skills have no significant relationship with the readiness of preservice teachers in general, but collaboration skills were significantly related to the readiness of preservice teachers in terms of teacher’s personality and classroom management. Communication skills were directly related to readiness of preservice teachers in terms of classroom management. Lastly, creativity was significantly related to preservice teachers’ readiness toward practice teaching in terms of teacher’s personality, lesson planning, content, teaching methodologies, and classroom management. Therefore, Higher Education Institutions should place emphasis on the different 21st Century skills which have significant effect on the readiness of preservice teachers in practice teaching.

Keywords: 21st Century Skills, Education, Practice Teaching, Preservice Teachers, Philippines

INTRODUCTION

In this fast changing world, many people have explored, experienced, and understood so many things in so many different ways. Learning and education have become easy because of the different technologies arising. However, despite the easier access to information, the number of skilled students and novice professionals are getting low. Many of the employers have noticed that young professionals applying for a job lack important skills that includes critical thinking, problem solving, and communication [1].

However, many higher educational institutions have prepared their undergraduate programs to make sure that students are ready for work. In teacher education, programs are designed to prepare pre-service teachers for their work in school classrooms. Pre-service teachers must understand teaching pedagogy as well as be able to use these learned skills in classroom [2].

Moreover, practice teaching is one of the important components necessary to become a teacher. It gives different experiences to practice teachers in the real classroom practices which include teaching and learning. This is also a preparation to expose them to the real-world aspect of the teaching profession and to assist them put into practice the theoretical knowledge acquired during their college years [3],[4].

This program represents varied experiences to which preservice teachers are exposed when they work in classrooms and schools. This is regarded as one of the difficult but most essential phases in teacher training. Further, this program is intended to supply actual, contextual experiences which students-teachers are exposed to and the complexities and richness of the actuality of being a teacher [3].

In terms of teacher preparedness, many institutions of higher education that provide teacher training programs are faced with the task of making sure that graduates are prepared to teach students in grades K-12 [5]. Moreover, in career preparedness, it is clearly stated that pre-service teachers in any teacher education programs are about to begin their career in difficult academic environment. At the same time, many intellectual arguments on college and career readiness may focus on school-wide systems or
on the abilities individual students need for success [6].

So, as one of the higher educational institutions in
the country, Davao del Norte State College has a
mandate to prepare the preservice teachers to become
work ready especially in the teaching career. It is also
a task to ensure that these pre-service teachers are
equipped with the different skills needed. Therefore,
there is a need to conduct a research on the
preparedness of the preservice teachers of DNSC and
its relationship to 21st Century skills.

OBJECTIVES OF THE STUDY

This study aimed to determine the relationship
between 21st Century skills and readiness towards
practice teaching program. Specifically, it aimed to
assess the level of 21st Century skills obtained by
education students of a state college under study in
terms of critical thinking skills, collaboration skills,
communication skills, creativity; self-direction skills,
global connections, local connections, and using
technology as a tool for learning. Second, it aimed to
ascertain the level of readiness of education students
in practice teaching program in terms of teacher
personality, lesson planning, content, teaching
methods, classroom management, and question skills.
Lastly, it sought to determine the significant
relationship between 21st century skills and the level
of readiness of the education students towards practice
teaching program.

HYPOTHESIS

There is no significant relationship between the
21st century skills and the level of preparedness of
third year education students of a state college in the
Philippines under study towards practice teaching
program. The hypothesis was tested at 0.05 level of
significance.

THEORETICAL FRAMEWORK

The study is grounded from Social Cognitive
Theory of Albert Bandura (1986). This theory
emphasizes the different factors that affect the human
career development and its main point is how
cognitive, behavioural and environmental factors
affect learning of people [7]. In this study, the 21st
century skills which include critical thinking skills,
collaboration skills, communication skills, creativity
and innovation skills, self-direction skills, global
connections, local connections, and using technology
as a tool for learning represent the behavioural
variable of this theory [8],[10]. Moreover, the
effectiveness of classroom instruction of teachers in
the case of this study are student teachers represent the
environmental variable, and the cognitive processes
represent the learner variable [8]. These variables
may help to prepare students to be career ready and
need to equip desirable knowledge, skills, and
attitudes to be 21st century skilled especially to
come critical thinkers and problem solvers. Further,
life ready individuals need to be able to transfer
learned knowledge into contextual and real world
experiences [8]. Further, the study was anchored on
the proposition that, when 21st Century skills were
intrinsically linked to preservice teachers program, the
most effective teaching and learning occurred. This
integration allows the preservice teachers to develop
these skills both personally and professionally [9]. In
practice teaching program, the different criteria to be
met which include teachers’ personality, lesson
planning, content, teaching methods, classroom
management, and questioning skills [11].

METHODS

Research Design

A quantitative non-experimental research design
was employed in this study. The variables were not
being manipulated by the researcher but instead were
examined as they existed [12]. This research used a
survey to gather data that determined 21st Century
skills of the preservice teachers of Davao del Norte
State College. Furthermore, it also used gathered data
in determining the level of preparedness of preservice
teachers in practice teaching program. In order to
properly describe the attitudes, opinions, behaviors, or
characteristics of the population, administering a
survey to a sample or to an entire population was
indeed helpful [13].

The Correlational Research Design was also used
in this study to describe and measure the degree of
association or relationship between two or more
variables or sets of scores[13]. This was used in the
study with the data on the 21st Century skills of
preservice teachers of DNSC which were correlated to
the data on the level of preparedness of preservice
teachers towards practice teaching program.

Population And Sample

The respondents of the research were the
preservice teachers of a state college in the Philippines
taking English, Mathematics, Biological Science, and
Technology and Livelihood Education (TLE) major in 2018-2019. Since the number of preservice teachers is relatively small, purposive sampling technique was used specifically total population sampling. This was used because the size of the preservice teachers of 133 was typically very small. The preservice teachers were selected based on their major. The complete list of preservice teachers was retrieved from the Dean of the department where they belong. The students evaluated the level of 21st Century skills in terms of critical thinking skills, collaboration skills, communication skills, creativity, self-direction skills, global connections, local connections, and using technology as a tool for learning. Furthermore, respondents were also requested to evaluate their level of preparedness in teaching personality, lesson planning, content, teaching methods, classroom management, and questioning skills. The preservice teachers answered the two survey questionnaires.

Data Collection
The study was presented to the House Review for approval of the proposal. After the proposal was approved, the researcher was finding for appropriate survey tools to be used in this study. After a long search, the researcher finally found the appropriate survey tools to be used in measuring both 21st Century skills and readiness of preservice teachers towards practice teaching program. These tools underwent to validation and reliability testing.

After proven valid and reliable, the researcher wrote a letter to the Dean of the Institute of Education for the approval to conduct the study. After approved, the researcher asked the respondents for the approval before conducting the survey and sought consent among students. The researcher personally administered the survey to the preservice teachers. All questionnaires accounted for and retrieved. The questionnaires were collected, collated, and tallied for statistical analysis.

The tabulated data of survey responses were placed by the researcher in an Excel spreadsheet and were given to the statistician for statistical treatment. Descriptive statistics including mean, was used to determine measures of central tendency to determine the level of 21st Century skills and the level of readiness of preservice teachers towards practice teaching program. Pearson Product Moment Correlation was employed to the degree of linear correlation between two variables and to determine the significant relationship between the 21st Century skills and level of readiness of preservice teachers towards practice teaching program. Soon after, the tables of statistical results were released by the statistician for the researcher to interpret.

Research Instrument
The study used two adapted questionnaires, which were simplified and contextualized by the researcher. The research instrument used in 21st Century Skills was adapted from Ravitz[10]. Survey for Measuring 21st Century Teaching and Learning. A reliability testing was done in both research instruments. The result revealed that the 21st Century Skills instrument was reliable since the Cronbach’s Alpha is .887. While the research instrument used in the readiness of the preservice teachers in practice teaching program was adapted from Practice Teaching Evaluation Form. Reliability testing was conducted and had a Cronbach’s Alpha of .975 and considered reliable.

Ethical Considerations
In this study, privacy and confidentiality of the respondents are the utmost concerned. In the research instrument, respondents were given option to write their real names or codes this is for the monitoring purposes and the same time anonymity. The researcher also safeguarded and guaranteed the privacy and confidentiality of participants’ information. The researcher kept the record especially the confidential details to protect the rights and welfare of the participants. A non-disclosure agreement was also provided to protect the integrity and confidentiality of both parties.

Participants were also informed about the purpose of the study and their signatures were the proof of their voluntarily participation. The study was approved by the president of the college and recommended by the director of the research, extension, and production office. The participants were also oriented about the importance of the study and how they will benefit on the result and the same how the institution will be benefited from this.

Statistical Tools
The following statistical tools were used in treating the data
Mean was used to measure the central tendency and to determine the level of 21st Century skills and the level of readiness of preservice teachers towards practice teaching program.
Pearson-r was employed to the degree of linear correlation between two variables and to determine the significant relationship between the 21st Century skills and level of readiness of preservice teachers towards practice teaching program.

RESULTS AND DISCUSSION

Students today experience different changes in our society. These changes allow them to go beyond basic formulaic knowledge and skills [7]. In terms of teacher education, preservice teachers experience the changes in the society and they are expected to gain more knowledge and skills to recognize the challenges of a changing society [14]. When we talk about skills, the study reveals that the preservice teachers of Davao del Norte State College had always demonstrated 21st Century skills since the result showed a very high mean as presented in table 1. In addition, 21st Century skills preservice teachers exhibit creativity, communication, critical thinking, collaboration, and the use of technology. These skills are very important especially in teaching literacy, math, and science [9]. In this study, preservice teachers demonstrated 21st Century skills namely: collaboration skills, use of technology as tool for learning, self-directed skills, communication skills, critical thinking skills, local connections, creativity, and global connections.

Table 1. Level of 21st Century Skills of Preservice Teachers of Davao del Norte State College

<table>
<thead>
<tr>
<th>21st Century Skills of Preservice Teachers</th>
<th>Mean</th>
<th>Descriptive Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills</td>
<td>4.54</td>
<td>Very High</td>
</tr>
<tr>
<td>Collaboration Skills</td>
<td>4.63</td>
<td>Very High</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>4.55</td>
<td>Very High</td>
</tr>
<tr>
<td>Creativity Skills</td>
<td>4.47</td>
<td>Very High</td>
</tr>
<tr>
<td>Self- Directed Skills</td>
<td>4.56</td>
<td>Very High</td>
</tr>
<tr>
<td>Global Connections</td>
<td>4.35</td>
<td>Very High</td>
</tr>
<tr>
<td>Local Connections</td>
<td>4.50</td>
<td>Very High</td>
</tr>
<tr>
<td>Using Technology as Tool for Learning</td>
<td>4.63</td>
<td>Very High</td>
</tr>
<tr>
<td>Overall</td>
<td>4.53</td>
<td>Very High</td>
</tr>
</tbody>
</table>

This study also confirms that preservice teachers were ready to deploy as practice teachers in the different secondary schools in the Division of Davao del Norte and Division of Panabo City, Philippines, since the overall mean is high as showed in table 2. The study further reveals that the preservice teachers were very much ready in terms of classroom management and teacher’s personality. The result of this study confirms that for the student-teachers to be effective teachers in their future careers they need to develop skills required for speaking, teaching efficacy related to classroom management [15]. Furthermore, preservice teachers recognised themselves as very well prepared for the teaching profession and well-prepared preservice teachers possess positive teacher’s personality [16].

Since the study is grounded on the belief that there are different factors that affect human career development, the Social Cognitive Theory believed that the cognitive, behavioural, and environmental variables affect human learning [7]. One of the factors of this theory is behavioural variable in which the 21st Century Skills is being described [8]. The result of the study reveals that 21st Century skills do not significantly relate to preservice teachers’ readiness towards practice teaching as shown in Table 3. So, being 21st Century Skilled does not guarantee that preservice teachers become ready in practice teaching program as claimed by the one of the variables of Social Cognitive which is behavioural variable which may help in an individual become career ready [8]. However, as to relationship of each indicator of 21st Century skills that is readiness towards practice teaching, the study reveals that creativity skill was significantly related to preservice teachers’ readiness towards practice teaching. This implies that the higher the creativity skills of the preservice teachers the higher the chance that preservice teachers would be prepared in practice teaching program.

To confirm, creative thinking has a positive and strong relation to teaching effectiveness. This is specifically on teacher’s personality, lesson planning, teaching the content, teaching methodologies, and classroom management [17] [18].

Table 2. Level of Readiness of Preservice Teachers of Davao del Norte State College in Practice Teaching

<table>
<thead>
<tr>
<th>Readiness of Preservice Teachers towards Practice Teaching</th>
<th>Mean</th>
<th>Descriptive Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers’ Personality</td>
<td>4.37</td>
<td>Very High</td>
</tr>
<tr>
<td>Lesson Planning</td>
<td>3.91</td>
<td>High</td>
</tr>
<tr>
<td>Content</td>
<td>4.08</td>
<td>High</td>
</tr>
<tr>
<td>Teaching Methods</td>
<td>4.14</td>
<td>High</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>4.58</td>
<td>Very High</td>
</tr>
<tr>
<td>Questioning Skills</td>
<td>4.07</td>
<td>High</td>
</tr>
<tr>
<td>Overall</td>
<td>4.19</td>
<td>High</td>
</tr>
</tbody>
</table>
The study observes that preservice teachers have high communication skills. So, when preservice teachers have high communication skills, they can bring together their thoughts, data, and findings and share these effectively to the different media as well as speaking and in writing [17]. Furthermore, effective communication skills are indeed necessary to teachers especially in implementing effective classroom management and interaction with the class [20]. Therefore, preservice teachers who have high communication skills have a high readiness in developing effective classroom management. This simply means that when preservice teachers can communicate effectively and properly, they can command and formulate better ways of managing the classroom.

Moreover, this study also shows that collaboration skills are significantly related to readiness of preservice teachers towards teacher’s personality and classroom management. In connection, collaboration is the ability to work productively and equitably while valuing others in diverse educational settings[9]. This is be assumed that preservice teachers can seek help

### Table 3. Significant Relationship between 21st Century Skills and Readiness of Preservice Teachers towards Practice Teaching Program

<table>
<thead>
<tr>
<th>21st Century Skills of Preservice Teachers</th>
<th>Teachers’ Personality</th>
<th>Lesson Planning</th>
<th>Content</th>
<th>Teaching Methods</th>
<th>Classroom Management</th>
<th>Questioning Skills</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills</td>
<td>-0.052</td>
<td>-0.072</td>
<td>-0.016</td>
<td>-0.071</td>
<td>0.043</td>
<td>-0.100</td>
<td>-0.060</td>
</tr>
<tr>
<td>Collaboration Skills</td>
<td>0.213*</td>
<td>0.119</td>
<td>0.121</td>
<td>0.088</td>
<td>0.247*</td>
<td>0.113</td>
<td>0.160</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>0.137</td>
<td>0.103</td>
<td>0.090</td>
<td>0.088</td>
<td>0.212*</td>
<td>0.065</td>
<td>0.120</td>
</tr>
<tr>
<td>Creativity Skills</td>
<td>0.270*</td>
<td>0.228*</td>
<td>0.217*</td>
<td>0.206*</td>
<td>0.336*</td>
<td>0.190</td>
<td>0.252*</td>
</tr>
<tr>
<td>Self-Directed Skills</td>
<td>0.081</td>
<td>-0.002</td>
<td>0.010</td>
<td>0.028</td>
<td>0.183</td>
<td>-0.003</td>
<td>0.047</td>
</tr>
<tr>
<td>Global Connections</td>
<td>0.072</td>
<td>-0.022</td>
<td>0.012</td>
<td>0.029</td>
<td>0.164</td>
<td>-0.016</td>
<td>0.036</td>
</tr>
<tr>
<td>Local Connections</td>
<td>-0.058</td>
<td>-0.085</td>
<td>-0.115</td>
<td>-0.108</td>
<td>0.113</td>
<td>-0.126</td>
<td>0.072</td>
</tr>
<tr>
<td>Using Technology as Tool for Learning</td>
<td>0.131</td>
<td>0.023</td>
<td>0.070</td>
<td>0.093</td>
<td>0.115</td>
<td>0.052</td>
<td>0.083</td>
</tr>
<tr>
<td>Overall</td>
<td>0.131</td>
<td>0.048</td>
<td>0.055</td>
<td>0.064</td>
<td>0.235*</td>
<td>0.029</td>
<td>0.094</td>
</tr>
</tbody>
</table>

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from others like cooperating teachers, copreservice teachers, and practice teaching supervisors to become productive and effective in the teaching learning process especially in terms of their personality and classroom management. Preservice teachers also appreciate the fact that they can share their thoughts with their peers for the sake of improved learning activities since collaboration skills are essential for all teachers especially preservice teachers[9] [21].

Lastly, the study confirms that 21st Century Skills have a significant relationship to preservice teachers’ readiness towards classroom management. This implies that when preservice teachers demonstrate 21st Century Skills specifically on collaboration, communication, and creativity, they are well prepared to implement effective classroom management. In terms of collaboration, preservice teachers may seek help from their cooperating teachers on how to properly handle a class. Further, when preservice teachers have good communication skills, they can command their students effectively. Lastly, when preservice teachers are creative, they can implement different styles of classroom management such as different ways of checking the attendance, collecting assignments and papers, etc. Therefore, 21st Century skills to teaching and learning for the novice teachers have effect on management of teaching[22].

CONCLUSION AND RECOMMENDATIONS
Based on the results of this study, the preservice teachers were ready with 21st Century skills since the result showed a very high mean specifically in all indicators of 21st Century skills. Furthermore, preservice teachers were very ready in practice teaching program since the mean showed a high result. Also, they were very much ready in terms of teacher’s personality and classroom management. Though the study confirms that 21st Century skills had no significant relationship towards readiness of preservice teachers in practice teaching program, this did not mean that all indicators of each variable had no significant relationship. In fact, creativity is significantly related to readiness of preservice teachers specifically on teacher’s personality, lesson planning, content, teaching methodologies, and classroom management. This study also concludes that, when preservice teachers are skillful in terms of communication, there is a chance that they can implement effective classroom management since the result indicated a positive relationship between communication and readiness towards classroom management. It is also concluded in this study that when the preservice teachers have collaboration with cooperating teachers, co-preservice teachers and practice teaching supervisors, there would be an effective teaching process specifically in teacher’s personality and classroom management. Lastly, this study confirms that 21st Century skills are significantly related to classroom management. This implies that when the preservice teachers exhibit 21st century skills such as collaboration, communication, and creativity; they would be able to implement effective classroom management. The Social Cognitive Theory explained that cognitive, behavioural, and environmental variable affect human learning but it does not confirm if it affects the readiness of preservice teacher especially in work. But, when they have desirable knowledge, skills, and attitudes they may become ready in life and be able to transfer learned knowledge contextual and real world experiences. The study is only limited to the 21st Century Skills and readiness of the preservice teacher towards practice teaching program and only give focus to behavioural variable of Social Cognitive Theory.

Based on the findings of this research, the following are suggested: that teacher education program needs to place emphasis on the development of 21st Century skills particularly to enhance preservice teachers’ collaboration skills, communication skills, and creativity since these are significantly related to preservice readiness towards practice teaching program. Secondly, teacher education program needs to do intervention programs that help preservice teachers to be ready not only in practice teaching but also in their career after graduation. Programs need to focus on developing their readiness towards teachers’ personality, lesson planning, teaching content, teaching methods, and questioning skills. Thirdly, since collaboration skills, communication skills, and creativity were significantly related to preservice teachers readiness, it is suggested that professors of teacher education need to help preservice teachers enhance these skills by incorporating them the curriculum and to the teaching and learning process. Lastly, future researchers may investigate further on the reasons that influence the preservice teachers readiness towards practice teaching. A qualitative research or mixed method can be used to further explain the result of this study.
REFERENCES


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