Original Paper

Comparative Study of Teaching and Learning Centers in Universities by Country

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Abstract
The purpose of this study is to compare the roles and functions of teaching and learning centers in universities operated in three Asian countries and to find effective management strategies. To this end, periodic or non-periodical literature analysis and interviews with the staffs, were conducted together with the domestic and overseas research. As a result of the study, Korea is in the center of learner support, while Singapore is in the center of teaching support, and the Philippines has only a few programs for learners and teachers. This phenomenon means that the operation of the university’s teaching and learning center focuses on strengthening the teaching and learning capacity to support teachers and learners. In addition, the establishment of teaching and learning centers in each country is composed of institutions affiliated with the College of Education as separate independent institutions, supporting teams or individuals. In terms of financial aspects, Human and financial distinctions were significantly different.

Keywords
Teaching and Learning Center, teaching, learning, functions between teaching and learning centers, types and features of inter-country operation programs of teaching and learning centers

1. Introduction
The rapid development of technology and the Internet have changed the way of life as well as everyday life. In addition to the existing pedagogy-centered learning method, the learner-centered education paradigm shifts the use of information and communication technology, resulting in the diversity of learning, rapid information collection, web-based learning and computer-based learning is widely used. This means that teachers and learners in college education require the ability of digital literacy for digital lessons from the traditional analog teaching. Therefore, in the university education in each country, the need to support and promote the learning of the students along with the improvement of
the instructional ability of the teachers is increasing. For this purpose, the Center for Teaching and Learning (CTL) and media have been developed and operated.

1.1 Preliminary Study on Educational Environment in Study Countries

Singapore is one of the fastest growing economies in Asia, with a population of 5.6 million, of 719 square kilometers. This growth is due to the fact that it has a strong and sophisticated education system with a lot of capital, with centralization, integration, consistency and flexibility of education. The result is an international benchmarking that combines Western and Oriental educational philosophy. Singapore education focuses on innovation, creativity and research with practical and relevant policies. The Singapore Education vision has an action plan to design education to fit the learner’s capabilities and interests and to provide years of changes in educational structure and options for learners. Recently, the paradigm of education is mainly focused on mechanical learning, innovation based on innovation and effective teaching strategies, interaction learning, empirical discovery, differentiated teaching methods, and lifelong learning instead of repeating classes (Singapore, OECD 2010).

The Philippines is located on the southeast coast of the Asian continent. It is 300,000 square kilometers in size and has a population of almost 103 million, making it the 12th largest country in the world. The official languages are Filipino and English. Three-quarters of all people speak English, and the level of education is high. Elementary and middle school courses are compulsory and literacy rate is about 10%. Education has developed and many people study in the United States and exchange is active, but the gap between rich and poor is severe. More than half of the population lives in cities, and many of the immigrants that go abroad include highly skilled workers (Philippines 2018).

Korea is a peninsula with an area of 99,000 square kilometers and a population of 51.11 million, ranking 27th in the world. Half of the population lives in Seoul and the metropolitan areas, and the GDP is $ 1.5297, the 11th largest economy in the world, but it is a divided nation separated by the liberal democracy in South Korea and the Democratic People’s Republic in North Korea. Due to the geographical conditions connecting the continents and the ocean, they have taken cultural heritage from the continent early and developed their own cultures and brought them to Japan and East Asia. Since 2000, the University has been evaluating the voluntary efforts of universities and has been conducting reforms and evaluations of universities financially supporting excellent universities in order to create a climate for studying universities and research universities. In particular, Korea’s excellent Information and Communication Technology (ICT) is able to use the world’s fastest high-speed Internet due to the installation of high-speed information and communication network. It has an ICT environment to share information.

1.2 Preliminary Study on CTL in Study Countries

The first teaching and learning center in North America teaching and learning center began in 1962 at the University of Michigan’s Center for Research on Learning and Teaching. Since then, it has been called variously as “faculty development centers”, “teaching and learning centers”, “centers for teaching and learning”, “centers for teaching excellence”, “academic support centers”, etc., and
generally “Teaching and Learning Centers” (TLC). CTL is an independent academic unit within the university, providing professional improvement of faculty, career preparation for graduate students, academic support for students, and other services (Wikipedia, 2019). In Korea, it is used as “Center for Teaching and Learning” so I will refer to it as CTL in this paper.

Singapore’s teaching and learning center began with the establishment of the Center for Development of Teaching and Learning (CDTL) at the National University of Singapore (NUS). In 1984, it started as an educational technology center. In 1996, it changed its name to CDTL. In 1999, it was changed to the Center for Instructional Technology, which led to the development of class technology. In addition, in 2008, three management teams have been appointed to oversee program development, research and public relations activities, and are now considered to be the core departments of NUS, which achieve university goals. CDTL is committed to becoming a world-class teaching and learning center. We share best practices with the use of technology to create real learning experiences, improve the quality of education by providing professional program development and consulting services to the educational community, and build strong partnerships between departments.

The most prominent Center for Teaching and Learning in the Philippines is known as the Philippine Normal Training Department (PNTD) which was established between 1905 and 1906. From 1906 to 1941, Filipino students gained educational experience by assisting American teachers. From 1999 onward, the Center for Teaching and Learning has been operating as the core department of the University of Education of the Philippine Normal University (PNU). As a result, the Center for Teaching and Learning in the Philippines maintains the best university mission to promote professional teacher development by creating meaningful teaching and learning environments and providing community experiences to future teachers through practical teaching and research activities.

The teaching and learning center in Korea is operated by most universities to support teaching and learning activities. However, as a result of examining and analyzing cases of excellent teaching and learning centers in foreign and domestic universities, the programs operated by the teaching and learning center have become a one-size-fits-all (Yeom & Kim, 2008). There were several problems encountered by the CTLs such as lack of awareness of the university members, lack of policy support from the university authorities, lack of professionalism of the staff in charge, lack of program publicity, lack of budget, lack of awareness about the necessity of the program (Min & Lee, 2005; Min, 2012). Therefore, the teaching and learning center program in Korea should be centered on “students” and “learning”, and it should provide community oriented programs and education-oriented education policy plans in addition to individual and university-specific programs (Min, 2012). In the early years of establishment, the research and development center for teaching and learning centers of Korean universities mainly focused on the introduction and operation of teaching and learning centers or the development direction in connection with university education (Roh, 2007; Yeom & Kim, 2008; Lee, 2003). In recent years, however, the focus has shifted to the study of perceptions and needs of teaching and learning centers and the quality management of education centering on operating programs (Min,
The reason for this is that there is a shift in the perception that basic functions of the teaching and learning center can be fulfilled in terms of manpower and activities as well as the basic purpose of establishing the teaching and learning center (Roh, 2007). The role of the teaching and learning center in Korean and foreign universities has been divided into three areas: the development of instructional expertise of the professors, the support of learners’ learning, and the integration of learning activities in the established system (Roh, 2007).

Therefore, the role of the teaching and learning center is to move away from the program operation of the university itself and to establish an online community such as MOOC (2018) or KOCW (2018) currently being implemented in Korea to realize the social contribution of education and to research and develop various service functions and it is necessary to carry out the social responsibility of the teaching and learning center together with the improvement of the quality of education.

2. Methodology

2.1 Setting the Research Purpose

The purpose of this study is to review and redefine the roles and functions of the teaching and learning center in college education. In order to do this, this paper aims to find effective management methods by comparing the teaching and learning centers of universities in Singapore, the Philippines, and Korea. Based on the teaching and learning center environment in three Asian countries, the research purpose set in this study is to compare the following areas:

1) functions of the teaching and learning center;
2) types and characteristics of inter-country operation programs of teaching and learning centers;
3) national and international organizations; and
4) major programs.

2.2 Research Procedure and Analysis

In order to achieve the purpose of the research, a formative research methodology which is attracting attention as a new research methodology was utilized. This is because it is a conclusion-oriented research methodology that pursues generalization while considering the conditions and environments to which theories and models are applied (Chung, 1997). Therefore, we collected and analyzed formal data through case studies related to domestic and foreign research. For the purpose of collective data collection methods, interviewing data collection methods such as one-on-one interview, small group interview and large group interview were used (Lim, 1994). In addition, periodic or non-periodical literature published by the teaching and learning centers in three countries was analyzed. In the literature, the teaching and learning center operation plan, teaching and learning center performance report, teaching and learning satisfaction survey, teaching and learning demand survey and response strategy research, annual regular reports, manuals and guidelines were used.

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In order to ensure the validity and appropriateness of the research, in-depth interviews were conducted with 10 persons in charge of running programs at university teaching and learning centers in three countries in August 2017. The interviewer consisted of 4 males and 6 females, and was operating a program at the teaching and learning center. The subjects were interviewed at the university teaching and learning center in all three countries. The contents of the interviews were all recorded with the consent of the interviewees, and semi-structured questionnaires were used to ask questions based on the basic interview questions produced by the researcher, and to add other questions that might be helpful during the interview. The questions used in the interview were developed based on the items used in the study of Lim (2001), and the data obtained through the interviews were applied. The opinions of the participants who participated in the interviews were categorized according to the purpose of the research. Through this, it was possible to grasp the validity of the research and to find out how to operate and improve the effective teaching and learning center in the university.

3. Results and Discussions
In this study, the operation of the teaching and learning center was identified by comparing and analyzing differences in the roles and functions of teaching and learning centers in three Asian countries. The results are as follows:

3.1 Analysis Results
This study compares the current state of operation of three teaching and learning centers in three Asian countries, namely Singapore, Philippine, and South Korea. In Singapore, the Center for Educational Technology changed its name to the Center for Development of Teaching and Learning. In the case of the Philippines, the Philippine Normal Training Department has been changed to Center for Teaching and Learning. In the case of Korea, the name is used to expand the organization from the Center for Teaching and Leaning to the Educational Innovation Institute.

3.2 Comparison of Functions between Teaching and Learning Centers
Singapore is using media to share its innovation and best practices with faculty participating in teaching and learning and to create practical learning experiences and focuses on the practice of evidence-based and effective teaching and learning that supports the university’s vision. As a training center, the Philippines operates as a development center, observation center, pilot center, and research and creation center. In Korea, teaching support programs and educational quality management are the main functions of teaching support, learning support, e-learning support, and support departments.
3.3 Comparison of Types and Features of Inter-Country Operation Programs of Teaching and Learning Centers

Programs operated by teaching and learning centers in various countries include Singapore’s professional development programs, faculty support programs, subsidy programs, workshops and seminars, counseling, teaching grants, publishing and research, and teaching awards. In the case of the Philippines, on-the-job training and specialization of research methodologies are being conducted with an emphasis on training and research methodology. On the other hand, Korea is focused on teaching, learning, media and e-learning, and quality management. Recently, programs on quality management have been increasing.

Therefore, the program of teaching-learning center in each country is mainly operated by teaching support or many quantitative center, and it is thought that the role of program is set according to national educational needs and environment.

3.4 Comparison of Inter-National Organization of Teaching and Learning Centers

In the case of the teaching and learning center organization in each country, Singapore is composed of academic development team and management support team. Philippines is an affiliated organization of the college of education. Korea consists of a center director, faculty support, learning support, e-learning support and performance management support. Therefore, while Singapore and Korea are independent organizations and are composed mainly of teams and support functions, the Philippines is a part of the education college and is composed of teaching professors and staff members.
- I think university evaluation is the most important factor nowadays. Therefore, in the past, center-based management has expanded the organization and upgraded its position and status as an educational innovation center to strengthen the organization of teaching and learning centers (Korea).

3.5 Comparison of Major Programs between Countries

In terms of educational services, Singapore has a strong emphasis on teaching professors’ lessons and utilization of professors’ research results. In the Philippines, the teaching and learning centers in each country are focused on improving instructional teaching strategies, developing faculty research capacity, Learning communities, and tutoring programs. Thus, while the Philippines and Singapore have teaching areas that focus on teaching strategies and improvement, Korea focuses on the areas of academic warning students or learning communities that are due to lack of education, I think that I am trying to strengthen the teaching and learning corresponding to the education.

3.6 Others

The national teaching and learning centers are limited due to their geographical and socio-economic conditions. In the case of the Philippines, due to the lack of human resources and educational infrastructure, it is difficult to provide teaching and learning support. However, Singapore is supported by the latest technology with advanced research base as well as human resources and financial support. Because of the geographical influence, Korea runs its programs by securing time to recharge during vacation. Therefore, it can be seen that there are significant physical, human and financial differences among the teaching and learning centers in each country.

Therefore, in terms of function, the Philippines focuses on training and development, while Singapore has a practical learning experience approach for innovation and sharing. Korea focuses on the quality of education as well as the support function of teaching and learning. Therefore, it is thought that the function of the teaching and learning center is set according to the educational needs and environment of the country along with the unique characteristics of the centers providing the services.

In conclusion, there were various differences in function, program, organization, and infrastructure of the university’s Center for Teaching and Learning (CTL) between countries. Therefore, Singapore needs to develop learning programs along with e-Learning support for a learner-centered, non-face-to-face environment, away from teaching. In the Philippines, as the educational paradigm changes, a separate independent Center for Teaching and Learning (CTL) must be established so that learning programs can be developed along with e-Learning support in a non-face-to-face environment for teaching-learning interaction. Korea must actively support the teaching support program along with the high-level application of the non-face-to-face environment program that has already been developed.
Table 1. Comparison of University’s Center for Teaching and Learning (CTL) between Countries

| Country   | Functions                                      | Operation programs                  | Organization                        | Major programs                                      | Others                          | Conclusion                                                                 |
|-----------|------------------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------------------------|---------------------------------|---------------------------------------------------------------------------|
| Singapore | Provide a practical learning experience         | Teaching support                    | Independent research and management team | Class improvement, research and development          | Sufficient education infrastructure | - Need to support e-learning in non-face-to-face environments             |
| Philippines | Training                     | Training and research methods       | University Affiliated institutions   | Improvement of instructional strategies and development of research capabilities | Lack of Educational infrastructure | - Need to support e-learning in non-face-to-face environments             |
| Korea     | Program operation and education                | Teaching and Learning support        | Independent Support                 | Learner-centered expansion of Education infrastructure | Expansion of non-face-to-face environment program | - Need to apply a non-face-to-face environment program                   |

4. Conclusions and Recommendations

In order to meet the demands of the teachers and students who are in demand of education, it is essential to install the CTLE (Centers for Teaching and Learning Excellence). The common functions and services of the teaching and learning center are tutoring, workshops, and professional development programs (Roberts, 2013). As a result, the roles and functions of the teaching and learning centers in university education have become more important as the education paradigm changes, and universities in each country are changing the name of teaching and learning center reflecting the latest trend of education. In the case of programs run by the teaching and learning center, Korea is learner-centered, while Singapore is supported mainly by teachers, and the Philippines operates only a small number of programs for learners and instructors. This phenomenon means that the operation of the teaching and learning center of the university is focused on strengthening the teaching and learning ability corresponding to the education area, and the background of the program is the role of the program according to the educational needs and environment of the country. In terms of organization of teaching...
and learning centers in each country, it is composed of organizations affiliated with teachers’ colleges or separated into separate independent institutions and supported by teams or individuals. In the financial aspect, government support, student tuition fees, Because it operates in a variety of ways, it can be seen that the teaching and learning centers are showing a great deal of physical, human and financial differences due to the infra construction in the countries or universities they belong to. This is in line with the previous study (Truschel & David, 2009) that each learning center is unique because of the unique nature of the institution providing the program.

Based on the results of previous researches, in order for the university’s teaching and learning center to fulfill its original functions and roles, it is necessary to recognize the importance of the education and development center in the university education for the members of the education policy. The educational environment should be supported by the full support of the state. In addition, a community forum or a council for teaching and learning to overcome physical, personnel, and financial differences in teaching and learning centers by country is established to share the information and best practices of universities to spread opportunity through experiential practice of university education.

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