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Contact Address:
Prof. Dr. Aytekin İŞMAN
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October 01, 2017
Prof. Dr. Muzaffer ELMAS
Sakarya University

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BENCHMARKING IMPLEMENTATIONS OF SAKARYA UNIVERSITY IN THE FRAMEWORK OF EFQM MODEL

Assistant. Prof. Dr. Hatice SARIALTIN
Vocational Higher School of Sapanca
Sakarya University
hsarialtin@sakarya.edu.tr

ABSTRACT
From the Perspective of European Foundation of Quality Management – EFQM Excellence Model, the purpose of the study is to reveal the benchmarking implementation of Sakarya University (SAU) and extend the study from SAU to national level, to Turkish Higher Education sector to find out where benchmarking stands in Turkish Higher Education System and How it can be institutionalized according to its own methodology by using case study as qualitative research method through extensive literature review and rich primary data gathered multi methods providing triangulation.
Key Words: EFQM Excellence Model, Benchmarking, Benchmarking Implemetation, Sakarya University.

INTRODUCTİON

EFQM Excellence Model is a practical tool to help organizations establish an apropriate management system by measuring where they are on the path to excellence, helping them to understand the gaps, and then stimulate solutions (Steed and Pupies, 2003). As it is known, EFQM Model is based on nine criteria, with five "Enablers", and four "Results". The enabling criteria cover what the organization does; What an organization can manipulate? and the results criteria cover What an organization need to focus on achieve business excellence. Enablers cause results (EFQM, 2013). According to EFQM Model - Higher Education (HE) version (2003), excellence is an outstanding practice in managing the institution and achieving results balancing the needs of students, staff, funding and regulatory bodies and those in our local communities, based on a set of fundamental concepts. Quality is related to processes that requires strategically formalized internal and/or external process benchmarking, while standards are related to results that requires internal and/or external performance comparisons.

As the EFQM Model is used widely across Europe, and has been extensively tested in a range of private and public sectors, it offers benchmarking applications with others within the institution and/or outside the sector providing a common language to share good practices and develop both individual and organizational learning through a systematic methodology (Steed and Pupies, 2003; EFQM Benchmarking User Guide, 2013). According to literature, benchmarking for HEIs, is an ongoing process which aims to measure and improve the organization's performance by inter-organizational learning about possible improvements of its core and/or support processes by investigating these processes in the better performing organizations (Alstete, 1996; McKinnon et al, 2000; ENQA Workshop Reports, 2012; Burguel, 2008; ESMU et al, 2008). It is important to understand the difference between the concepts of "comparison" and "benchmarking" reguired by the EFQM Model. By doing comparisons we know what others have achieved and how good they are. Comparisons relates to performance results (relates to quantities), ofcourse provides significant data for quality assurance and accreditation processes of any HEI. However, benchmarking is a management approach examines how to ensure success, not what the success is. It is an inter-organizational research, learning and adaptation process which is systematically conducted in the framework of its own methodology. Benchmarking is recognised now as a single discipline and it can produce useful results if it is used as a management tool for quality improvement rather than just comparing performance results or just making rankings among institutions (Vlasceanu, et al, 2007; Odora, 2014; Sarıaltın, 2015). Now, benchmarking of disciplinary learning outcomes is an integral part of the Bologna Process. In Europe use of benchmarking has been supported by the European Commission for more than ten years.

WHY Starting Point of the Study is Sakarya University as a Research Sample?

The success in Turkish Higher Education we quantitatively experienced, must be caught as qualitative. Being aware of this fact, as Sakarya University (SAU), we prioritized quality and adopted it as a work habit and life philosophy.

Sakarya University: the winner of;
- National Quality Grand Prize (2010), given by KalDer (Society for Quality),
- Award of Continuity in Excellence Prize (2013), given by KalDer,
- EFQM Excellence Award Prize (2015), given by EFQM,

- Institutional Evaluation Program-IEP (2016), by European University Association-EUA

Management by processes, strategic management and quality assurance at SAU operates within a Total Quality Management Framework (TQM), implementing the EFQM Model as a roadmap in order to develop a wider quality culture in its teaching and research processes.

Besides internal benchmarking included in SAU's Performans Evaluation System, external performance comparisons are achieved at the programme level through the nationally approved agencies e.g. MUDEK (for engineering), FEDEK (for art and sciences). At the Evaluation Meeting (December, 2016), it is declared that many other faculties are either undergoing accreditation or preparing their application for external accreditation. Accreditation agencies (like ENQA, ABET, CHEA, EQAR, MUDEK, FEDEK), develop evaluation criteria and conduct peer evaluations to assess whether or not those criteria are met. As a quality assurance process, the goal of accreditation for SAU is to ensure that education and research meets acceptable levels of quality.

Engagement with external benchmarks is a central plank of SAU's quality strategy. It is a way of managing progressive change and the model at SAU coincided with the key tenets of quality systems found in higher education institutions across the world. Also, the commitment of the university's senior leadership assuring and enhancing the quality of its education through peer review processes such as EUA's Institutional Evaluation Program (IEP) show that how strategic aims at SAU are comparable nationally and internationally (SAU IEP Final Report, 2016). According to this report, SAU is seeking accreditation in the United States (through the Higher Learning Commission based in Chicago). Also, hosting of the International Conference on Quality in Higher Education (ICQH) and the involvement of many members of staff, including the Rector. This presence on the international quality show that SAU opens itself to external peer reviews and external comparisons which is crucial for the implementation of EFQM Excellence Model.

PURPOSE, METHOD AND RESEARCH QUESTİONS

In the EFQM Excellence Model 2013, benchmarking is defined as "A systematic comparison of approaches and/or processes with other relevant organisations that gains insights that will help the organisation to take action to improve its performance. *It should be noted that* the focus is on *understanding how benchmarking partner does something*, *not just the results they achieve*. This is reflected in the RADAR logic EFQM Model use to assess (EFQM Benchmarking User Guide, 2013). When assessing enablers, in order to demonstrate that the way approaches and processes are conducted, have been benchmarked with other organizations would be considered within the framework of benchmarking methodology. When assessing the results to demonstrate how performance results against other organizations, performance comparisons would be considered.

From this perspective, the purpose of the study is to reveal the benchmarking implementations of Sakarya University and from this point to question and investigate the place of benchmarking practices in the Turkish Higher Education System. Sakarya University, as a study sample, is the one that proves its education, training and research quality, student centredness and the balanced satisfaction of all its stakeholders as its critical success factors. Therefore, SAU is the best sample to question and investigate where does benchmarking stands in Turkis Higher Education.

For this purpose, the case study method has been planned through semi-structured interviews with quality-dedicated top management of SAU, Academic Evaluation and Quality Improvement Committee (SAUDEK) coordinator, and quality/benchmarking professionals of Kalder for the benchmarking application data in detail to examine phenomena within its context. As an empirical method of qualitative research, case study collects rich data through multi methods (triangulation) and gives a depth picture in the manner of inductive reasoning (holistic approach). The case method is particularly useful for exploring how and why things are happening representing the truths (Denzin and Lincoln, 2005). In achieving this goal, the study tries to answer the following questions;

- What kind of benchmarking does Sakarya University implement?
- How is it linked to EFQM Excellence Model?
- Today, what types are in use? And How?

Benchmarking Implementations of Sakarya University in the Framework of EFQM Model

SAU considers benchmarking as a quality assurance process leading to sustainable business excellence in the framework of EFQM Model. SAU which join the EFQM align itself with role-model institution and gain practical exposure to leading edge developments in the field of Educational and institutional excellence utilizing the EFQM Benchmarking Methodology. The EFQM Benchmarking Methodology is unique in combining both metrics and process benchmarking as part of its data collection, analysis and integration of good practices. In

doing so, the methodology fully reflects the scope of the EFQM Model for business excellence, where results are expressed in relation to four key stakeholders areas;

- the people in SAU,
- the students,
- the community in which SAU operates,
- the overall performance of the institution.

Results in these areas give a comprehensive view of what and how SAU is achieving, and provide comparable performance data and metrics.

However, in order to deliver maximum results, it is also necessary to consider how SAU is managed; this is reflected in the enablers of The EFQM Excellence Model, which describe the culture of SAU; how it approaches topics such as objective setting, student relationships, competencies, leadership, etc.

The interaction between what is achieved and how it is achieved, typical of The EFQM Model, is therefore also reflected in the EFQM Benchmarking Methodology. In this context, EFQM Benchmarking implemetation stages at Sakarya University briefly involves;

- Plan**:** know what we want to improve,
- Collect: identify the leaders in those areas,
- Analyse: learn from the leaders: what they are achieving and how they are achieving it,
- Adapt: disseminate and incorporate the learning into our own institution.

Internal benchmarking is the part of the annual performance assessment process of SAU (as stated above), which comparisons are made of the different units or divisions within the institution, and also with other institutions in order to identify good practices. The results of the comparison can then highlight areas where improvements are needed, where SAU can learn from others and where problems have to be investigated.

External collaborative benchmarking practices SAU carries out, usually involves comparisons with a group of institutions or organizations regardless of the sector. As a Quality Organization implementing the EFQM Excellence Model, SAU involved in international university rankings and compares its results to the main leagues of the HE sector countrywide and worldwide. This is ofcourse a unique opportunity to gain visibility and external recognition. However, university international rankings which assess the performance against set criteria, while benchmarking focuses to improve critical processes, identify areas for improvement and set targets for institutional development.

Benchmarking practices encourage SAU to look beyond peers to different benchmarking partners giving "outside the box" thinking as distinguished from sharing knowledge only with its peers. In doing so, benchmarking provides a model for action and improvement. Alot of learning takes place by gaining comprehensive evidence-based data.

Sakarya University is usually selected as a benchmarking partner by many HEIs and other organizations due to its integrated total quality approaches and practices based on EFQM Excellence Award criteria. Within this scope, SAU has done extensive benchmarking studies this year between April-August 2017. For instance, A Pakistani delegation, composed of members of the Higher Education Commission of Pakistan and financial specialists from several universities of Pakistan, made a benchmarking visit to examine and learn good practices of quality assurance systems, strategic management, process management and financial processes of SAU.

Another example is the benchmarking visit of officials from Nilufer Municipality and IETT to Sakarya University to understand, compare and learn the SABIS (information system of SAU), quality approaches and partnerships management of SAU as good practices according to EFQM Model. Both are Nilufer Municipality and IETT (general Directorate of IETT Enterprises) EFQM Prize winners and both officials are also benchmarking specialists of KalDer.

When choosing partners to benchmark itself, SAU prefers the leaders in their fields and award winning institutions or companies regardless of the sector. Due to application for EFQM Excellence Grand Price this year, SAU has made a benchmarking visit to İtalian Bosch Bari on 1 August 2017 to research, compare and learn process management system, partnerships, leadership, industry 4.0 practices and corporate social responsibility projects of Bosch Bari who is EFQM Excellence Award Prize winner in 2016. This is a generic benchmarking exercise of the mutual learning takes place at a high level between two organizations. SAU, as a quality leading university in Turkish HE System, implements both internal and external collaborative process benchmarking with good (even best) performing organizations in Turkey and in the world to ensure a wider quality culture and

institutional development together with its quality dedicated Rector, top management team, faculty deans, unit and division authorities, SAUDEK Coordinator and volunteer Quality Envoys. The above explanations of SAU's benchmarking case is based on observation, experience and document reviews of the author who is one of the quality envoys of SAU. (http://www.saudek.sakarya.edu.tr/)

Benchmarking has become widespread by excellence awards which are basis for national and international quality awards. One of the scoring elements of RADAR tables of EFQM Model is "learning" and "creativity". Within this scope, good practices and improvement oppotunities should be determined both inside and outside the organization. Sakarya University as EFQM Excellence Awards Price Winner (in 2015), continues its benchmarking exercises to gain experienced true data about itself and other organizations to support decision making and improve its teaching and research processes, and to identify areas for continuous process improvements. For SAU, the most focal point of benchmarking is to develop a common language in Turkish HE System to share good practices within the framework of EFQM Benchmarking Code of Conduct. If so, benchmarking creates the potential for radical improvements and mobilize this potential of higher education institutions.

Extending the study from SAU's perspective to the national level (to Turkis HE sector), it is aimed to clear up "where benchmarking stands in Turkish Higher Education System and How it can be institutionalized as an ongoing quality management tool " . This study is the first research study in the field of higher education benchmarking in Turkey. As explaining and exploring benchmarking case of Sakarya University in detail, multiple data gathering and data analysis are all time consuming, the study has not ended yet. At the end of the study, it is expected to find out proper answers to the following questions by conducting depth interviews with Higher Education Council- Quality Board Members, University Rectors whose institutions have already participated EUA's IEP evaluation and benchmarking professionals of Kalder (national cooperation partner of EFQM);
- How to formulize and institutionalize the benchmarking process as an ongoing management tool within the framework of its own methodology?
- How we establish a National Higher Education Benchmarking Institution?
- What responsibilities could SAU undertake for this initiative as a leading Institution in quality improvements and outward looking university with many external engagements?
- How Kalder contribute to this initiative using its extensive benchmarking experiences and network?

CONTENT AND CONTRİBUTİON
The extended version of the study will start explaining HE benchmarking and its linkage to EFQM Model based on extensive literature review, and then present the SAU's internal and external benchmarking implementations with all aspects of its quality journey and will continue introducing current benchmarking applications of selected Turkish Universities who have participated the EUA's Institutional Evaluation Programme-IEP, seeking to answer above research questions.

Some implicit focus of benchmarking have always been part of higher education. Peer reviews, external accreditations and site visits have encompassed some aspects of benchmarking for both the peers and the institutions could make comparisons with their own institutions. What is new today is the use of explicit benchmarking and the formalisation and institutionalisation of these processes (ESMU, et, al, 2008). Multiple data analysis still continues therefore, study has not ended yet.   At the end of the study, it is strongly expected that we can identify what the benchmarking means for Turkish HEIs, how it can be institutionalized according to its own methodology and whether or not we can constitute National Higher Education Benchmarking Institution.

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DETERMINATION OF SOCIOTROPY AND AUTONOMY LEVELS OF FRESHMAN AND SENIOR NURSING STUDENTS

Dilek Yılmaz
Faculty of Health Sciences, Uludag University, Bursa, Turkey
dilekkara15@hotmail.com

Yurdanur Dikmen
Faculty of Health Sciences, Sakarya University, Sakarya, Turkey
dikmen@sakarya.edu.tr

Gülseren Çıtak Tunç
Faculty of Health Sciences, Uludag University, Bursa, Turkey
gctunc@uludag.edu.tr

Funda Erol
Faculty of Health Sciences, Sakarya University, Sakarya, Turkey
fundaerol@sakarya.edu.tr

Dilek Karaman
Ahmet Erdogan Health Services Vocational School, Bulent Ecevit University, Zonguldak, Turkey
diduzgun@hotmail.com

ABSTRACT
Purpose of this research is to determine sociotropy-autonomy personal characteristics of freshman and senior nursing students, who continue their education, and examination of related factors. Research was conducted on Uludag University Health High School Nursing Department students that continue their education as freshmen and seniors in the 2015-2016 Academic Year Spring Term. In the term that study was conducted, 136 volunteer students created the research universe. Research data was gathered with "Student Information Form" and Sociotropy-Autonomy Scale (SAS). Average of sociotropy points was determined as 76,30±13,42. Point average of sociotropy subscale are; in the dimension of "disapproval concerns" was found as 19,13±6,83 in dimension of "separation anxiety" was 30,09±7,83 and in the dimension of "pleasing others" was found as 13,29±3,88. According to this, it can be said that, by considering the point scale which can be taken from scale, sociotropy personal characteristics of students are above the intermediate level. In addition, it was seen that autonomy points average was 79,41±14,26. In the points average of autonomy subscale dimensions, "personal success" was 33,84±6,75, "freedom" was 34,31±6,11 "liking loneliness" was determined as 13,17±4,05. It was determined that in the students who are in last year of their education and students that have elementary families, sociotropy and autonomy personal characteristics were determined as significantly more increased (p<0,05).

INTRODUCTION
According to Beck's cognitive theory, personality has two dimensions as to be sociotropy and autonomy. In this theory, sociotropy (social affiliation) defined as the ability of individual to show positive interaction with others (Kaya & Aştı & Acaroğlu & Kaya & Şendir, 2006). Autonomy emphasizes individuals' independency, protection of personal right, increase and the need of reaching determined aims. (Beck & Taylor & Robbins, 2003; Bieling & Beck & Brown, 2000; Malak & Üstün, 2011). It was stated that individuals that have high autonomic personality happy from directing their activities, reaching aims, control things that goings-on in their environment and being successful (Bagby et al., 2001). However sociotropy shows the need of individual that being in a positive relationship with others (Malak & Üstün, 2011). For the ones who show high sociotropy characteristics, getting approval from others is very important. Maintaining their positive entity image is related with approval from the ones that they love, to be loved, to be respected and to be taking care of by loving ones.

Autonomy in nursing area remains in primary criteria of professionalism, and it is stated as decision making ability for care and independency of nurses in their applications. (Finn 2001; Karagözoğlu, 2009; Kaya et al., 2006). Moreover, in order to play a role which carries occupation characteristics as a health discipline member in health system and provide extensive and efficient care, nurses must have professional affiliation in addition to autonomy characteristics. In other words, in the name of professionalization, nurses must be autonomous and must be directed to socializing in occupational dimension as to be able to evaluate autonomy. Socializing, is one of the conditions that necessary for autonomy and for socializing, it is need to change individual, cognitive and behavioral processes (Külekci & Özlü & Özer, 2015; Mrayyan, 2005).

In the literature as to be related with the subject many studies which examine sociotropy and/or autonomy personal characteristics of nurses and nursing students (Collins & Henderson, 1991; Didişen & Gerçeker & Bolışık & Başbakkal & Gürkan, 2015; Dwyer & Schwartz & Fox, 1992; Karagözoğlu, 2009; Karagözoğlu and Kangallı, 2009; Kaya et al., 2006; McBride & Bacchiochi & Bagby, 2005; Mrayyan, 2004; Yetim & Beydağ, 2015; Wynd, 2003) exist; it was stated that in these conducted studies, autonomy and sociotropy can be affected from some variables (age, gender, education status, living place, general structure of the family, duration of occupation, marital status etc.).

Independently decision making and solving problem ability, is expected professional behavior form nurse and it was emphasized that in health care area, there is a need for nurses who have critical thinking, problem-solving skills, autonomic nursing and nursing focus (Kelleci & Gölbaşı, 2004). In a conducted study, it was stated that determination of nursing students' sociotropy-autonomy personal characteristics and search of related variables, will benefit nursing curriculum and content studies, therefore will benefit in providing nurses who can provide the needs of healthy/sick individual and/or relatives, society to health caring system (Kaya et al., 2006).

Because of this reason, determination of first and last year nursing students' sociotropy and autonomy levels and affecting factors must be examined and it is intended for to determine nursing education's effect on students sociotropy and autonomy personality characteristics. Taking into action from this reason, conduction of this study was needed.

Aim of the study
Purpose of this research is to determine sociotropy-autonomy personal characteristics of freshman and senior nursing students, who continue their education, and examination of related factors.

METHOD
Study Design
A descriptive cross-sectional study.

Setting and Sampling
Research was conducted on Uludag University Health High School Nursing Department students that continue their education as freshmen and seniors in the 2015-2016 Academic Year Spring Term. The reason behind why only freshman and senior year students were included is to examine the effects of nursing education on sociotropy-autonomy levels through nursing education period. In the term that study was conducted, 136 volunteer students created the research universe.

Research Ethics
This study was conducted in accordance with Helsinki Declaration principals. In order to conduct to study, primarily for the use of scale, written permission was gathered from writers of scale by e-mail. Later, permission was taken from institutions' research commission (Number No: 2016/4) where the study was conducted. Before filling the survey forms, students were informed about the purpose of the study and volunteerism basis was taken in consideration.

Instruments
Research data was gathered with "Student Information Form" and Sociotropy-Autonomy Scale (SAS) which was developed by A. T. Beck, N. Epstein, R. P. Horisson and J. Emery in 1983 and its adaption to Turkish was done by Nesrin Şahin and friends in 1993. SAS, is scale that contains 30 item sociotropy sub scale and 30 item autonomy sub scale. Every item is in five staged likert scale type that starts with "it does not describe" answer to the question "how it describes you" and finished with "describes well" answer. Question items of sub dimensions of sociotropy and autonomy take part as mixed and the highest point that can be achieved from a sub scale is (30 items) 120 points. High points from sociotropy sub scale reflect high sociotropy personal characteristics and high points from autonomy subscale reflect autonomy characteristics in high levels.

Data Analysis
In determination of research data; frequency, percentage, arithmetic average and standard deviation was calculated. In analysis of data, Kruskall-Wallis Variance Analysis and Mann-Whitney U Test was used. Statistical significance was taken as 0,05.

FINDINGS AND CONCLUSIONS
The average age of the students who participated in the survey was $21,13 \pm 1,85$ years, it was found that 80,1%

of the students were female and 61% of them were senior students. It was found that 61,8% of the students graduated from the Anatolian High School, 69,9% voluntarily selected the nursing department and 41,2% resided in the country (Table 1).

Table 1.Distribution of Students definitive characteristics (n=139)

Variables	N	%
Gender		
Female	109	80,1
Male	27	19,9
Year		
First year	53	39,0
Last year	83	61,0
Graduated High school		
Anatolian High School	84	61,8
Vocational High School	25	18,4
High School	24	17,6
Science High School	3	2,2
Department Selection Status		
Wanted	91	69,9
Did not want	45	33,1
Living Place		
Family	38	27,9
Dormitory	56	41,2
House	45	30,9

It was also found that 78,7% of the students came from the elementary family, 69,9% of the mother, 58,8% of the father were in primary education, 75% of the family's income was equal to outgo and 39% have three and above the number of siblings (Table 2).

Table 2. Distribution of other definitive characteristics of Students (n=139)

Variables	N	%
Family Type		
Elementary family	107	78,7
Extended family	27	19,9
Broken family	2	1,5
Mother Education status		
Not literate	12	8,8
Primary education	95	69,9
Highschool	22	16,2
University	7	5,1
Father education status		
Not literate	5	3,7
Primary education	80	58,8
Highschool	37	27,2
University	14	10,3
Family Economical Status		
Income lower than outgo	17	12,5
Income equal to outgo	102	75,0
Income more than outogo	17	12,5
Sibling number		
1	40	29,4
2	43	31,6
3 and above	56	39,0

Average of sociotropy points was determined as 76,30±13,42. Point average of sociotropy subscale are; in the dimension of "disapproval concerns" was found as 19,13±6,83 in dimension of "separation anxiety" was 30,09±7,83, and in the dimension of "pleasing others" was found as 13,29±3,88. According to this, it can be said

that, by considering the point scale which can be taken from scale, sociotropy personal characteristics of students are above the intermediate level.

It was seen that autonomy point's average was 79,41±14,26. In the points average of autonomy subscale dimensions, "personal success" was 33,84±6,75, "freedom" was 34,31±6,11, "liking loneliness" was determined as 13,17±4,05. These gathered point averages, according to potential distributions, it is seen that they have autonomy personal characteristics that above the intermediate level. It was determined that in the students who are in last year of their education and students that have elementary families, sociotropy and autonomy personal characteristics were determined as significantly more increased (p<0,05).

In the conclusion of this conducted study, sociotropy-autonomy personal characteristics of senior and freshman nursing students were found intermediate level. It was determined that in the students who are in last year of their education and students that have elementary families, sociotropy and autonomy personal characteristics were determined as significantly more increased.

In the direction of these results, it can be suggested that more conduction of studies with the aim of determining sociotropy and autonomy levels of nursing students and affecting factors, reconsideration of nursing education programs in a way that will develop occupational autonomy and sociotropy and addition of classes related to this.

This study is a cross-sectional research and because it is limited with freshman and senior nursing students in Uludag University, research does not represent the other nursing students in Turkey. These restriction is that research is conducted with only the freshman and senior nursing students. Another restriction is the questions in the survey are limited about the defining characteristics of students so that there might be lots of variables which all cannot be analyzed.

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EMBEDDED-IMPROVEMENT BASED ON EMBEDDED-CONSULTATION IN HE IN LINE WITH ENQA-ESG, QUALITY AND BPM STANDARDS

Abdi KURT – Zeki YARAR
Project Coordinator – abdi.kurt@yahoo.com
Professor Dr.
Mersin University Quality Coordination Center – zyarar@mersin.edu.tr

ABSTRACT

This study is a look at ENQA-ESG [1] from the angle of European Higher Education Quality Space (EHE-QS) which covers several quality standards, models, frameworks and methodologies for the sake of embedded-improvement. EHE-QS is a new concept laid down with this study and will be embodied during the paper. With the version of May-2015, ESG is more close to team playing and more sensitive to the environment (Bologna tools like National Qualifications-NQ frameworks, European Credit Transfer System-ECTS, Diploma Supplement-DS) [2] in which it is expected to play. There are also other quality standards and models which span whole HE activities as well as the area, where ESG is involved in particular. It can be said that ESG is just a quality player in European HE Area like ISO 9001, EFQM and etc., which form EHE-QS. These quality players should pay regard to each other, communicate and collaborate with and integrate to each other in melting point. The basic question in the study is that "what is the main quality playmaker" in this EHE-QS, is it ESG, ISO 9001 [3] or EFQM [4] or other programme-unique quality players like EUR-ACE [5]? After determining main quality player, the next question is how "Embedded- Improvement based on Embedded-Consultation" will be embodied with the main quality structure in line with ESG, ISO 9001 and BPM standards [6]. All issues in the study will be taken in the light of the experiences gained in Mersin University

Keywords: ISO 9001, ESG, BPM in HE, Embedded-Improvement, Embedded-Consultation, Quality Watchdog, RACI, 6 Sigma, Mersin University.

INTRODUCTION

For embedded-improvement based on embedded-consultation (EI-EC), we need to give some initial information about the quality players, those Higher Education Institutions (HEIs) are faced with in European Higher Education Quality Space. Every HEI, as such, has a different quality culture and understanding and tends to be different from the others in implementation of quality. This gets other quality players, such as ISO 9001, EFQM to the playground beside ESG. But sometimes, apart from trying to be different, working with different quality players becomes a necessity to be competitive among the others in managing HEIs' routines (mission-based) and expectations (vision-based). This study stands in competitive side.

It can be said that ISO 9001 (Ver.2015) is a "Quality Watchdog" that is stick to an institution or university (outboard) which masterminds universities' whole activities based on business process structure and continuously nudges top-management for sustainable and continuous improvement with its improvement tools. It does this from outboard without intervening institution's formal structure (legitimacy) unlike ESG. With its horizontal lines (process structure), ISO 9001 is a kind of house keeper for other quality players and makes a bedplate for them. Without it, other quality players hang in air since they are not a quality system like ISO 9001. So, ISO 9001 is the main playmaker in EHE-QS which is open and maybe much experienced to collaborations coming from other quality players. ISO 9001 stipulates institutions move to process structure and have business processes (BPs). BPs in ISO 9001 is highways of Quality Management System and all activities should be put across. ISO 9001 is not an easy-to-implement standard since it brings excessive bureaucratization and inflexibility [7] into HEI. This is very normal since it is mission-oriented and established in managing routine. Managing routine requests robustness and mightiness.

Like ISO 9001, ESG also mentions about processes [part 1, 1.1] and spans all activities in an HE institution within the continuous improvement cycle (ESG page 5) based on accountability and enhancement. Processes mentioned in ESG are not business processes like the ones in ISO 9001 and they are in need of a methodology for being discovered and implementation. With the current standing in the EHE-QS, ESG does not force institutions to make a shift from functional structure to process structure (like ISO 9001) and enables them to provide quality assurance for their activities as they are. The practical meaning of this standing is that there are approximately three hundreds business flows in functional structure and these business flows should be quality-assured against three business processes in process structure regarding Turkish Universities.

ESG is a Quality Assurance (QA) framework, fully European [8] but ISO 9001 is a Quality Management (QM) system, fully international (as its name implies). QA versus QM means control versus performance, strategic versus operational respectively. ESG is HE-Specific but ISO 9001 is generic standard for all sectors including HE [9]. QA takes all written at top management in its care (white collar) and hands over to below (to blue collar) with a controlled-way; QM takes over the things coming down and manages them with a performance-way. QM can cover totality but QA takes all in particular. So, ESG divides HE into ten parts and controls them with ten standards and guidelines while ISO 9001 manages all activities holistically with imperative system procedures. System procedures determine whether the standard is a quality system or quality assurance. ESG discovered this in its 2015 version and took off "procedures" from its text written in its previous version (ESG-2005, Clause 1.1) [10]. Embedded Improvement based on Embedded Consultation therefore should be taken separately for every HE activity or HE process which gathers several inter-related activities in one flow. In this study, EI will be taken for HE Processes for the sake of integration with ISO 9001. In that way, HE Business Processes having EI will serve to ESG too.

Business Process Management (BPM) is "a field of knowledge at the intersection between Business and Information technology" [11]. It is a business methodology and having the related technologies. BPM is a combination of both methodology and technology that can be understood by business analysts (discovering and documenting processes) and technical developers (performing processes with technology). BPM notation (BPMN) is fully entrusted with business process management and helps institutions bring about paradigm shift to process-oriented management. This is a helping hand for ESG to provide "assurance of conformity to customer and applicable statutory and regulatory requirements (legal requirements ISO 9001:2015 1-Scope)". BPM is a complementary to ISO 9001 [12]. ISO 9001 asks HEIs to document their processes in paper, BPM do the same in digital (together with paper works). Where BPM enters ISO 9001 is clause 4.4 in 2015 version. Clause 4.4 asks HEIs to document all processes and process-related activities but does not stipulate any methodology on how to do. BPM is a methodology and technology which interprets 4.4 very well and fulfils what needs to be done in digital. Jeston and Nelis (2008) define BPM as the achievement of an organization's objectives through the improvement, management and control of essential business processes. Like BPM, ISO 9001 requests institutions the same, document "processes", no matter these are business processes or just processes and adopt the process approach (ISO 9001:2015, 0.2 Quality Management Principles)

In the light of text above; it can be said that EI (for HEIs) based on EC needs the trio of standards, ESG, ISO 9001 and BPMN with their latest versions. As ISO 9001 collaborates with EFQM in HE [13], ESG needs ISO 9001 too, as house keeper. ISO 9001 needs BPM for the best process management practice which embodies EI and EC. EI in terms of quality assurance is best done with BPM methodology since this methodology has an internationally-recognised modelling standard, BPMN 2.0 (ISO/IEC 19510:2013 identical to OMG BPMN 2.0.1 [14]). BPM enhances the functionality of ISO 9001 and best serves to ESG regarding EI-EC.

<u>Consultation Sides;</u> (as part of improvement in a university process);

- Students (ESG 1.3, student complaints)
- Lecturers (ESG Scope and Concepts, stakeholders)
- Administrative staff (ESG Scope and Concepts, stakeholders)
- End users of the service HE provides (ESG Scope and Concepts, external stakeholders)
- Top university management (ESG 1.9, periodically review, ISO 9001:2015, 9.3 Management Reviews)
- Law and Regulations (legal requirements)
- Requirements of ISO 9001 standard (embodying other management standards like ISO 14001, 27001 etc)
- Terms of HEI
- Process-related risks (Internal Control Standards-ICS) – this issue is out of scope for this study

According to the one of the four principles on which ESG is based, Quality Assurance (ESG page 6) takes into account the needs and expectations of students, all other stakeholders and society. This ESG principle fully supports the items written in consultation side above.

All requests coming from these consultation sides can be acquired via a corrective and preventive activity (ISO 9001 v.2015, clause 10) and "wishes and suggestions system" that is stick to every HE business processes. In that way, improvement will be managed and done separately (and autonomously) for every process since every

HE process has a different management team (RACI matrix referenced below) and as such, different improvement approach. Consultation side will have a kind of dashboard on which all consultation results will be available in a filtered way and ready for the improvement and further processing.

Improvement Sides

What criteria should be taken into account in improvement is as follows (as per ISO 9001:2015, 9.1.3);

- conformity (*conformance to and compliance with legal and quality requirements*)
- effectiveness (*fit for purpose*)
- performance against efficiency (*money for value*)
- satisfaction (*user comfort of receiving service*)

These four criteria should be determined for every HE Process separately and every process team should be very aware of these criteria. Quality Assurance in logic looks at processes separately and tries to establish the Quality Assurance for every process. In brief, QA is for every activity (or process) but QM is for whole institute. It can be said here that ESG is framework covering ten Quality Assurance standards while ISO 9001 is a standard having ten requirements for Quality Management System.

Every criterion can have several Key Performance Indicators-KPIs. KPIs can be process-specific, national or internationally-approved or fixed indicators. ENQA-ESG gives several clues about what the KPIs should be in its guidelines.

Improvement Team to be embedded into the HE Processes
Improvement team should also be embedded to the process via a RACI matrix [15] with a role seen in the table below. In that way, an improvement cycle will have been established; this continuously pays regard to the processes running.

RACI Matrix – handing over all processes' roles to RACI team

R - Who Is Responsible?, The person who is assigned to do the work (Doer) [19] A - Who Is Accountable?, The person who makes the final decision and has ultimate ownership (owner) C - Who Is Consulted?, The person who must be consulted before a decision or action is taken (consultant) I - Who Is Informed?, The person who must be informed that a decision or action has taken (reporter)	Bachelor Process	Master of Science	Doctorate Process
Establishing QA team for Higher Education Processes – one example			
Rector of university	A	A	A
Dean of Faculty with deputy deans	R	R	R
Secretary of Faculty (part of consultation team)	C	C	C
Academic Board of Faculty (part of consultation team)	C	C	C
Managerial Board of Faculty (part of consultation team)	C	C	C
Academic – 1 (sub doers)	R	R	R
Academic – 2 (sub doers)	R	R	R
Academic – 3 (sub doers)	R	R	R
Quality Assurance Coordinator or manager	I	I	I

The responsibilities about R, A, C, I can be shared or sub-divided.

Every HE process should have a statement like the one below for quality assurance (in improving cycle);

"At least two weeks before management review (ISO 9001:2015 Clause 9.3); the R comes together with her/his team and prepares a report to be presented to the I, who is QA coordinator. The informed (I) takes this report, along with other management review inputs, to the management review meeting for discussing whether or not HE Processes need something for the sake of improvement. The R can prepare a report covering fully text or some analysis about business process, which is responsible for, and present this analysis to I (Informed). There is no format for this. In that way, the A, owner of the processes, is informed of what is happening about the HE Processes in the management review meeting. RACI matrix is run dynamically after embedding it to the BPM-ed

processes and managed over the dashboard of the related process. The I (informed) is the main actor to do improvements based on consultation and reports from RACI team.

Technology sides for embedded-improvement

BPM and BPM notation (BPMN) mentioned in previous sections have two facets and gather sides, business analyst and technologist for the solution. BPMN [16] is a standard used in business process modelling and there is several open source or proprietary programmes or tools in sector in compliance with BPMN. Oriented on no-code bases (as possible as it can be), these tools or programmes enable modelling and executing business processes. For embedded-improvement, some practical studies in paper and digital should be done as follows*;

- SIPOC Diagram [17] for HE Business Processes
- Process Ontology for HE
- Process flows and definitions – in BPM-ed HE Business Processes
- Performance tables, Key Performance Indicators - embedded to BPM-ed HE Business Processes
- XML Schemas (XSD) – as part of modeling business processes
- Process mapping – for ISO 9001
- Business Process Database - in BPM-ed HE Business Processes
- RACI matrix – embedded to BPM-ed HE Business Processes
- Preventive and corrective + suggestion system - embedded to BPM-ed HE Business Processes
- BPM-ed HE Business Processes – modelled in line with BPMN 2.0
- Execution of BPM-ed processes via BPM suites
- Embedded-improvement structure based on consultation via process dashboard.

And technology infrastructure* (for processes modeling and embedded improvement);

- Java JDK SE (Java Development Kit Standard Edition)
- Apache Tomcat (web server)
- Eclipse (open source, integrated development environment-IDE)
- H2 (in-memory H2 database by default)
- Activiti BPM, Activiti Explorer
- Spring Framework (Application development framework for Java)
- Spring Data
- Bootsrap (front-end framework for web development)
- Angular js (Jquery framework)
- Jenkins (continuous integration tool)
- Selenium (web browser automation)

Note: All these items are taken from a project, presented to TUBITAK (ID-308950)

When it comes to functional management;

HE Processes are the ones, Bachelor of Science, Master of Science and Doctorate, not more. More means that activities are seen as business process. Modelling these processes with BPM and then running them online means that they pay regard to all stakeholders' requirements (ESG, page 5) while doing what they are supposed to do.

The rest is the areas left out of HE Business Processes (Bachelor, Ms, and Doctorate) and can be managed in functional manner based on business flows. EI is still valid for every business flows, ESG pays attention to them too but these areas are out of the scope for this study. Processes can be in two forms, business processes or just processes. Master of science is a business process for HE but policy making process, academic calendar planning process are just processes and can cover workflows, definitions some other parameters like business processes but they are not business processes. This distinction between business processes and processes is very important in managing HE in right plane, Mixing them drives HEIs into segregation rather than integration.

In embedded-improvement, BPM-ed processes should pay regard and be sensitive to what is happening around. For example, a business process, being used in engineering faculty, should be very aware of requirements of an area-specific quality assurance standard labelled as EUR-ACE® and internalize its sayings (requirements and requests) as well as other quality standards like ESG, ISO 9001, ICS (Internal Control Standards) together with BPMN. So, a BPM-ed process is a smart HE worker managing HE routines at its best.

Analysing an average Turkish University (Mersin University, 35.000 students and 3.000 academics, including staff); we want to conclude our study. There are 550 forms (in average, in doc format) in total, in which whole university active content resides. These forms in doc format are accessed and used via a Quality Management System by whole users. Of these 550 forms, 107 are actively being used in three HE Business Processes, BSc, MSc and PhD. These 107 forms, when embedded into related business process which are modelled with BPMN, will manage university's routine (mission-critical dynamic business side). These are the forms which serve to the main processes of a university and rank % 20 in average (more or less). This reminds us of "Pareto Analysis" and its 80/20 rule [18]. This analysis shows where attention should be paid to while doing improvement.

Note: BPM-ed business processes should be on board in a university since it is the main machine (process engine) doing the real business while ISO 9001 outboard as "Quality Watchdog".

CONCLUSIONS AND SUGGESTIONS

There are 300 workflows in average in a Turkish University when it is configured in functional structure and 3 business processes when configured in business process structure. This is a junction point regarding where to go and how to implement embedded-improvement based on embedded-consultation. Providing Quality Assurance for all activities in a university in line with ESG is easier in process structure since main tasks related to mission-critical reside in university business processes, Bachelor of Science, Master of Science and Doctorate. Focusing on three university processes makes the integration easier too with other quality players, like ISO 9001, EFQM etc. in EHE-QS. Modelling these processes with BPMN standard, HE Business Processes becomes a real bedplate for embedded-improvement based on embedded-consultation. Risk management coming from Internal Control Standards [20] can also be embedded into the study to cover process risks.

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EXISTING CRITERIA DETERMINING COURSE QUALITY IN DISTANCE EDUCATION

Gülay Ekren
Vocational School of Ayancık, Sinop University, Sinop, Turkey
gekren@sinop.edu.tr

ABSTRACT
Today, while governments mostly focus on indicators such as productivity, cost effectiveness, social satisfaction, and accountability as quality indicators, higher education institutions take into account fundamental indicators such as student output, learning and teaching processes, student and staff support, assessment, evaluation, and resources. These fundamental indicators can be varied institutional-based, program-based or course-based. In the context of higher education, quality assurance of distance education actually requires different quality indicators and different regulations from traditional higher education. On the other hand, quality assurance in distance education is more debated than traditional education. Currently, people do not trust the quality of distance education. Therefore, initiatives to increase the quality of distance education may be increased the assurance in distance education.

The aim of this study is to examine the studies which provide criteria to evaluate online courses for creating or improving quality standards in online environments in the context of higher education and also to make a descriptive analysis by presenting differences and similarities between the course quality measures of these studies. This study is expected to guide the online course developers, faculty, and administration of higher education institutions to improve or to redefine the quality of their proposed online courses.

Keywords: Distance education, Quality Assurance, Accreditation, Quality of courses.

INTRODUCTION

Quality assurance is designed to improve and prove the quality of methods, educational products and outputs in an organization. A quality assurance system includes standards to be awarded and documented procedures for all defined processes, as well as defined ways to respond to a number of problems, and significant accountability for outputs (Kirkpatrick, 2005). Quality assurance in online distance learning requires different quality indicators from traditional education, as well as evaluations in different settings, and also readiness for e-learning (Stella, Gnanam, 2004; Latchem, 2014). Different views on quality assurance in open and distance learning are pioneers to the development of pedagogical paradigms in open and distance learning. These different views are summarized as follows (Latchem and Jung, 2012: 13-14): (1) distance education and face-to-face education should be assessed with the same criteria and methods, (2) the quality assurance criteria and mechanisms used in traditional education cannot be applied to open and distance learning, since aims, institutional structure, registration, procedures are different, (3) certain guidelines and standards are required for e-learning, (4) the basic principles of learning and teaching do not change at open and distance learning apart from technology, (5) quality assurance in open and distance learning must be compulsory, accountable and managed externally, (6) quality assurance in open and distance learning must be optional, runs internally and should be developed a culture of institutional quality, (7) it is the duty of the providers of open and distance learning to prove that the processes and outputs of open and distance learning are at least as good as traditional institutions, (8) traditional learning and teaching methods are old fashioned, more learning-centered, so structural and connectivist methods should be applied and then the most appropriate one must be selected from practical, face-to-face or technologically enhanced learning methods. In the light of these discussions, we can say that there is a consensus on the idea that "online courses require additional attention to detail".

Zawacki-Richter (2009) asked 25 experts (at least 10 years of professional experience in the field of distance education) from 11 countries (Australia, Brazil, Canada, China, Fiji, Germany, Ireland, New Zealand, South Africa, UK, and USA) to identify distance education research priorities and classified them as macro, meso, and micro levels. He stated that accreditation as a collegial process based on self and peer assessment for public accountability and for improvement of academic quality and quality standards in distance education have a meso level research priority. He also addressed that "course evaluation" is as a common research theme. Wright (2003) presented the criteria for evaluating the quality of online courses by asking specific questions. For example, at the beginning of the course, do the learners have enough general information that will assist them in completing the course and also in understanding the courses' objectives and procedures? How accessible is the course material? Does the material organize in such a manner that learners can discern relationships between parts of the course? Does the level of the language proper for the intended audience? etc.

Higher education institutions take into account of the main indicators for quality assurance and accreditation such as student outcomes, curriculum, courses and educational software, learning and teaching, student and staff support, assessment and evaluation, internal quality assurance systems, management, staffing, and resourcing (Chalmers & Johnston, 2012; Latchem, 2014). According to Chalmers and Johnston (2012), these indicators should be measured adequately and one should not be considered as a priority over the others. Besides, in a study conducted by Lagrosen, Seyyed-Hashemi and Leitner (2004), the authors have stated quality indicators such as institutional cooperation, information and responsiveness, offered courses, campus facilities, teaching practices, internal evaluations, external evaluations, computer facilities, collaboration and benchmarks, post-university factors, and library resources in the context of higher education.

Furthermore, the quality assurance indicators of online courses can be differed from various aspects of processes, approaches, and networking from country to country (Campbell and Rozsnyai, 2002; Stella& Gnanam, 2004). Besides, these quality indicators are different from traditional education in some aspects (Phipps & Merisotis, 2000; Kidney, Cummings & Boehm, 2007). In order to build trust on the quality of distance education, countries such as the United Kingdom, the United States and Australia are assessing distance education programs as rigorously as traditional institutions. For example, the British Open University has to meet the same quality assurance standards as other traditional British universities. These standards, which are set by the British Quality Assurance Agency (QAA), are getting up the British Open University to higher levels in terms of teaching quality, mostly similar in the USA universities (Stella, Gnanam, 2004; Mills, 2006).

On the other hand, activities to be adapted by higher education institutions in order to establish quality assurance in open and distance learning are evaluated in terms of curriculum, staff support, and student support and outcomes as follows (Kirkpatrick, 2005):

> **In terms of curriculum and teaching**: Determining academic standards and qualifications, establishing standards in designing and admission process of programs, creating a cycle in which overall programs can be viewed by various aspects, establishing of mechanisms for the evaluation of the effectiveness of learning, teaching and evaluation strategies, developing strategies to monitor the processes that the learners are involved in, creating quality control systems to monitor the performance of online tutors and assessors.

> **In terms of staff support:** Training all staff such as teachers, course designers, online instructors, consultants, and administrators, who are in charge of open and distance learning, improving the use educational design and pedagogy, information and communication technologies of teaching staff, providing training on institutional policies and operations, training all staff in the learning management systems, procedures and policies that they are connected to, identification of the necessary experience and competencies for administrative and academic staff and establishment of reliable systems for communication purposes.

> **In terms of student support:** Establishing of performance standards and document processes, documentation of the content and structure of student and staff records, and giving responsibility for monitoring them, establishing the procedures to monitor the operations in downloading and uploading materials and student records, creating procedures, policies and timelines for setting and acceptance of the assignments to students, establishing of procedures and timelines for the development of learning materials (including printing, production and distribution), establishment of communication and monitoring standards for students to access tutors, determination of student support services (including location, scope, service standards, accessibility), establishing of mechanisms such as schedule, announcement, position and administration of exams, monitoring of performance indicators regularly.

> **In terms of students outcomes:** establishing of student continuity at reasonable rates, mechanisms for monitoring student continuity and strategies for responding to students' problems, ensuring that students are improving, and also developing strategies to monitor their performance standards in course subjects and throughout lectures and programs, identification of external benchmarks or standards, developing and monitoring policies on assignments, grading (such as certificate, bachelor's, master's degree) applications and degree distribution.

The aim of this study is to examine the studies which provide criteria to evaluate online courses for creating or improving quality standards in online environments in the context of higher education and also to make a descriptive analysis by presenting differences and similarities between the course quality measurements of these studies.

STUDIES TO DETERMINE COURSE QUALITY STANDARDS IN DISTANCE EDUCATION
Quality standards or rubrics in distance education involve a set of criteria to guide higher education institutions through the development, evaluation, and improvement of online and blended courses. These standards (rubric) and guidelines are used as online course evaluation materials. There are several universities and organizations which propose quality standards or guidelines for online courses via rubrics. Some of them are listed as follows (http://fod.msu.edu/oir/evaluating-online-courses):

- Quality Matters from Michigan State University,
- Quality Online Course Initiative from University of Illinois,
- Online Course Evaluation Project from Monterey Institute for Technology and Education,
- Online Course Development Guide and Rubric from University of Southern Mississippi Learning Enhancement Center,
- Online Course Development Guidelines and Rubric from Michigan Colleges Online,
- Chico Rubric from California State University,
- Online Course Assessment Tool from Western Carolina University,
- Online Learning Consortium Standards,
- E-learning Rubric from E-campus Alberta, Canada.

These rubrics or guidelines identify the issues for faculty when developing online courses based on best practices. Besides, these rubrics are utilized as a self-assessment tool by faculty or an organization when offering online courses. Using these rubrics can represent a developmental process for online course design and delivery. The rubrics covered in the study are introduced below:

Quality Matters Rubrics for Higher Education & Continuing and Professional Education
Quality Matters (QM) is a quality assurance organization, initiated in 2003 as a non-profit subscription service. The services are adapted into different rubrics such as higher education, continuing and professional education, K12 and educational publishing. Each rubric focuses on different components. In this study, higher education rubric as well as continuing and professional education rubric will be examined.

Higher Education rubric (QM HE) and Continuing and Professional Education (QM CPE) rubric are common on five standards such as learning objectives (competencies), assessment and measurements, instructional materials, course activities and learner interaction, course technology which should be worked together to ensure students' achievement of desired outcomes. This requirement named as alignment. A standard course review process of QM HE to catch this alignment is shown in Figure 1.
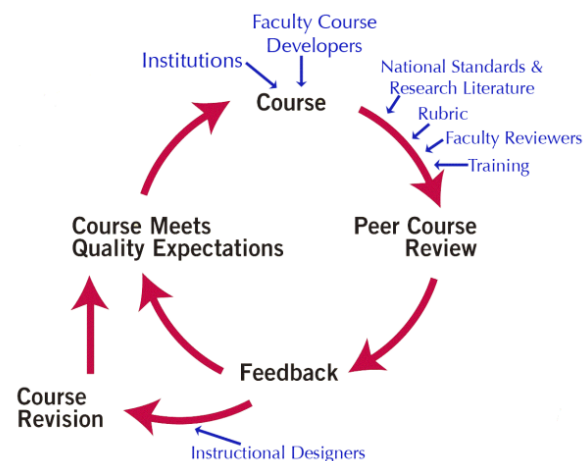
Figure 1. Course Review Process of QM (QM, 2014)

In addition to alignment standards, QM HE has extra three general standards for determining course quality such as "course overview and introduction", "learner support", and "accessibility and usability" (Standards from the QM Higher Education Rubric, 2014).

QM CPE rubric, which released in 2013, can be used to evaluate massive open online courses (MOOCs), non-credit competency based courses, and continuing education learning offered by colleges and universities. Besides, it can be used to improve develop training run by businesses, or professional development courses managed by associations which are not concerning with academic credit. This rubric is based on the QM HE, but also adapted to the requirements of continuing and professional education (Standards from the QM CPE Rubric, 2015). It is essential for competency-based education, and competencies in this rubric are acted like learning

objectives.

The Online Course Evaluation Project Standards

The Online Course Evaluation Project (OCEP) is a project of the Monterey Institute for Technology and Education (MITE) funded by The William and Flora Hewlett Foundation, and is aimed to provide a criteria-based evaluation tool to assess and compare the quality of online courses in higher education. OCEP focuses on the instructional and communication methods, and the presentation of the content and the pedagogical aspects of online courses. OCEP employ a team approach in evaluating courses; subject matter experts evaluate the scholarship, scope, and instructional design aspects of courses, while online multimedia professionals are used to consider the course production values and technical consultants are established and evaluated the interoperability and sustainability of the courses (OCEP, 2010).

OCEP has eight categories to evaluate online course quality; (1) course developer and distribution models (developer organizational unit, distribution of the course, licensing models), (2) scope and scholarship (audience and grade level, breadth of coverage, writing style and accuracy, course orientation and syllabus, learning objectives clearly stated, exercises, projects, and activities, additional text material required or optional, instructional philosophy, rights of use and copyright associated with course content), (3) user interface (navigation, course progress indicator for the student, placement of elements and presentation consistency, playback control of media and elements), (4) course features and media values (pedagogical features, media presentation effectively presents course concepts, text, video, animation, graphics, audio, simulations and games, accommodates variety of media types and learning styles, student interaction with the content), (5) assessment and support materials (assessment availability, assessment methods, assessment grading, grading rubrics provided, test item types, feedback loop for test items, support materials for the instructor and for the students), (6) communication tools and interaction (course environment, communication tool access, content to utilize communication tools), (7) technology requirements and interoperability (course format, operating systems and platforms supported, browsers supported, server-side requirements, required applications or plug-ins, learning object architecture or modular course elements, interoperability standards, accessibility), (8) developer comments (general comments and differentiating features, course effectiveness, course structure, additional services, test item availability, hours of student work and study, content authoring environment).

Online Learning Consortium Standards

The Online Learning Consortium (OLC) is a professional online learning society devoted to improve the quality of American higher education and also the international field of online education since 1992. In 2014, their name is changed from the Sloan Consortium (Sloan-C) to the Online Learning Consortium (http://onlinelearningconsortium.org/). OLC has criteria for administrations of online programs named Quality Scoreboard. This scoreboard also includes quality indicators for online courses in evaluation categories such as technology support, course development/instructional design, course structure, teaching and learning, social and student engagement, faculty support, student support, and evaluation and assessment (Quality Scoreboard, 2015).

E-campus Alberta e-learning Rubric

E-Campus Alberta e-learning rubric is originally developed in 2000 to support the establishment of quality online curriculum including course standards, support standards, and institutional & administrative standards in the context of post-secondary level. It was updated in 2013 and named as "Quality Standards 2.0". Then, support standards and institutional & administrative standards have been removed from the original rubric. They are still being evaluated in terms of alignment with current literature. This rubric is expected to assess existing courses or for the courses in development process. It is also expected to be a guide for faculty, instructional designers and online curriculum developers (E-learning Rubric, 2013).

E-learning rubric course standards have seven categories such as course information, organization, pedagogy, writing, resource, web design, and technology. These standards are ranked as one of three levels – Essential, Excellent, or Exemplary. Essential means "these standards are integral to a successful online course". Excellent means "these standards contribute to the efficiency or effectiveness of a learner's online experience". Exemplary means "These standards enhance the quality of a learner's online experience and increase accessibility for all learners" (http://rubric.ecampusalberta.ca/).

Chico Rubric

The Rubric for Online Instruction (ROI) is a tool which developed by a committee of Chico State faculty, administrators, staff and students of California State University in 2003 (revised in 2009) to create or evaluate the design of a fully online or blended courses (http://www.csuchico.edu/eoi/). This rubric presents a developmental process for online course design and delivery to support a faculty's effort in developing expertise in online instruction. This instrument contains six categories such as learner support and resources, online

organization & design, instructional design &delivery, assessment &evaluation of student learning, innovative teaching with technology, and faculty use of student feedback. Each category can be ranked as one of three levels – baseline, effective, or exemplary (ROI, 2009).

METHOD
This is a qualitative research using descriptive analysis. It is aimed to describe the data and characteristics that studied about the quality of online courses in the current literature. This study describes standards and criteria of rubrics using in online courses and also discovering relationships between existing rubrics for online courses which aim to determine quality in distance education. The standards and rubrics to be studied in the scope of this study are as follows:

- Quality Matters Rubrics for Higher Education (QM) and Continuing & Professional Education (QM CPE)
- Online Learning Consortium Standards (OLC)
- Online Course Evaluation Project Standards (OCEP)
- E-campus Alberta E-learning Rubric (Alberta)
- Chico Rubric (Chico)

Careful attention has been paid to the fact that these samples are produced up-to-date. A comparative analysis has been conducted to determine the differences and similarities between the indicators of these rubrics.

FINDINGS
The similarities and differences between the indicators of rubrics examined in this study are as follows:

Comparison of QM key features with other rubrics
When compared QM rubric criteria with the standards of other rubrics examined in this study such as OLC rubric, e-learning rubric, Chico rubric and OCEP rubric (Table 1.), no specific consistency have been exactly determined in other rubrics. However, the standards such as course overview and introduction, learning objectives (competences) are playing a part in other rubrics except Chico rubric. Chico also has no support for instructional materials that enable learners to achieve stated learning objectives or competencies in their rubric. Additionally, there is no emphasis on course technology in other rubrics such as the tools used in the course support, course tools, technologies required in the course, and links that provided to privacy policies for all external tools required in the course. Besides Alberta rubric and OCEP rubric do not provide learner support in the course instructions to link for technical support, the institution's accessibility policies and services, institution's academic support services and resources, and the institution's student services and resources.

Table 1. QM rubric criteria come nearer with other rubrics

QM Rubric Criteria	OLC	Alberta	Chico	OCEP
Course Overview and Introduction	+	+	-	+
Learning Objectives (Competencies)	+	+	-	+
Assessment and Measurement	+	-	+	Not totally
Instructional Materials	Not totally	+	-	+
Course Activities and Learner Interaction	-	+	-	+
Course Technology	-	-	-	-
Learner Support	+	-	+	-
Accessibility and Usability	+	Not totally	-	+

Comparison of OCEP key features with other rubrics
OCEP evaluation categories are considerably different from other rubrics examined in this study (Table 2.). The categories such as "course developer and distribution models" and "developer comments" are not provided by the other rubrics. However, some of the quality indicators in three evaluation categories such as "scope and scholarship", "communication tools and interaction", and "assessments and support materials" take in part in other rubrics.

Table 2. OCEP rubric criteria come nearer with other rubrics

OCEP Rubric Criteria	Chico	QM	Alberta	OLC
Course Developer and Distribution Models	-	-	-	-
Scope and Scholarship	+	+	Not totally	Not totally
User Interface	-	-	Not totally	-
Course Features and Media Values	-	-	Not totally	-
Assessments and Support Materials	Not totally	+	-	Not totally
Communication Tools and Interaction	Not totally	+	+	-
Technology Requirements and Interoperability	-	Not totally	-	+
Developer Comments	-	-	-	-

Comparison of OLC key features with other rubrics

Some of the quality indicators of OLC Quality Scoreboard are similar with indicators in other rubrics examined in this study (Table 3.). According to "course structure" criteria of OLC, an online course must include the outline of syllabus, library and learning resources, assignment completion, grade policy, and faculty response to students, technical support, instructional materials, and alternative instructional strategies for students with disabilities, tools for student-student collaboration, rules and standards appropriate for online students. Most of these indicators are also supported by other metrics.

Moreover, QM, Alberta and OCEP agree with the criteria in "technology support" including electronic security measures such as password protection, encryption, secure online exams, and system downtime tracking, supporting in the development and use of new technologies etc, and "student support" including accessing the course design with minimum technology skills and equipment, accessing to training, information and technical support staff throughout the duration of the course, providing frequently asked questions to respond the students most common questions, providing non-institutional support services such as admission, financial assistance, registration/enrollment etc., supporting students with disabilities, accessing required course materials in print and digital format, providing guidance/tutorials for students in the use of all forms of technology used for course delivery. Besides, they agree with "evaluation and assessment" including intended learning outcomes at the course level, assessment of student retention, feedback on the effectiveness of instruction, feedback on quality of online course materials.

Table 3. OLC rubric criteria come nearer with other rubrics

OLC Rubric Criteria	Chico	QM	Alberta	OCEP
Technology Support	-	+	+	+
Course Development / Instructional Design	+	-	Not totally	-
Course Structure	+	+	Not totally	+
Teaching & Learning	-	-	Not totally	Not totally
Social and Student Engagement	+	-	-	+
Faculty Support	-	-	-	+
Student Support	+	+	-	+
Evaluations & Assessment	+	+	-	+

Comparison of E-campus e-learning rubric key features with other rubrics

When compared the quality indicators of e-Campus Alberta e-learning rubric with the other rubric examined in this study, it can be said that course information standards of this rubric are exactly complied with other rubrics (Table 4.). Course information standards of e-learning rubric are such as providing a course outline/syllabus and course description, communication of learners with the instructor, stating achievable, measurable, relevant learning outcomes/objectives clearly, presenting grading information at the beginning of the course, and explaining the role of instructors and learners respectively. Besides, technology standards such as basic hardware and free software plug-in requirements, and providing orientation of delivery technology somewhat comply with the other rubrics.

Web design standards (logical and consistent design format, facilitating legibility and readability in design, consistent, predictable and efficient navigation) and writing standards (content is free to bias related to age, culture, ethnicity, sexual orientation, gender, or disability, positive tone of the writing, cited academic contents, clear and readily comprehensible language, correct grammar, punctuation, and spelling) are not structured in other rubrics.

Organizational standards such as "establishing a learning path, organizing learning materials, informing learners about time commitment, and pedagogy standards" such as "providing instructions for all activities graded and non-graded, providing clear details of marking criteria, incorporating interactive activities into the course, designing instructional strategies to meet different learning needs and preferences, establishing formal and informal feedback to learners throughout the course" are not exactly complied with other rubrics (E-learning rubric, 2013).

Table 4. E-campus Alberta e-learning rubric comes nearer with other rubrics

E-learning Rubric Criteria	OLC	QM	Chico	OCEP
Course Information Standards	+	+	+	+
Organization Standards	Not totally	Not totally	-	-
Pedagogy Standards	Not totally	Not totally	-	Not totally
Writing Standards	-	-	-	Not totally
Resource Standards	-	+	+	-
Web Design Standards	-	-	-	Not totally
Technology Standards	+	+	Not totally	Not totally

Comparison of Chico rubric key features with other rubrics
The indicators of Chico rubric as learner support and resources comply with the other rubrics examined in this study (Table 5). These indicators are containing information for online learner support and links to campus resources, providing course-specific resources and contact information for instructor, department or/and a program, offering resources supporting course content and different learning abilities.

Table 5. Chico rubric comes nearer with other rubrics

Chico Rubric Criteria	OLC	QM	Alberta	OCEP
Learner Support & Resources	+	+	+	+
Online Organization & Design	+	-	-	Not totally
Instructional Design & Delivery	+	-	Not totally	+
Assessment & Evaluation of Student Learning	+	+	-	+
Innovative Teaching with Technology	-	-	-	Not totally
Faculty Use of Student Feedback	-	-	-	+

CONCLUSIONS
The evaluation of online courses involves many of the same criteria applied to traditional classroom courses but also requires the use of new criteria based on the online environment (http://fod.msu.edu/oir/evaluating-online-courses). Although traditional classroom courses are usually planned with a draft outline of topics and assignments, online courses needs planning, monitoring, management, and resource allocation, and careful selection of learning materials as well as students' pre-entry guidance, communication and feedback (Alstete & Beutell, 2004). According to King (2011) improving learning standards means changing measurable learning outcomes.

Higher education institutions are more likely to see an increase in student engagement and learning with well-designed and well-structured online courses. The factors that affecting the quality of online courses are course design, course delivery, course content, institutional infrastructure, learning management systems, faculty readiness and student readiness (https://www.qualitymatters.org). Rubrics have indicators to evaluate these factors. They are created to help course developers, instructors, faculty, staff, entire organizations, and students for running online and blended courses in higher education.
This study presents a comparison of five different rubrics which share a common desire: to advance the quality of open and distance learning courses. Although there are many differences between the criteria of these rubrics, they all agreed on such criteria: Course information standards and learner support and resources.
Additionally, at least four rubrics are agreed that online courses must have the criteria below;
- Course Overview and Introduction/ Course Structure
- Learning objectives (competences)
- Assessment and Measurement/ Evaluations & Assessment
- Instructional Materials
- Accessibility and Usability
- Scope and Scholarship

- Communication Tools and Interaction
- Technology Support/ Technology Standards
- Student Support
- Assessment & Evaluation of Student Learning

In recent years, course criteria are being an important aspect of the accreditation in distance higher education. However, it has been a lack of emphasis on integrative ideas and synthesis across existing criteria of open and distance education courses. This study can be a guide for course developers in distance education, and also for any distance education institution which wants to conduct its own evaluation standards for distance courses. This study is expected to guide the online course developers, faculty, and administration of higher education institutions to improve or to redefine the quality of their online courses.

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IMPACT OF TEACHERS' USE OF FOLKTALES ON THE PERFORMANCE OF PUPILS IN READING COMPREHENSION IN PRIMARY SCHOOLS IN KADUNA STATE, NIGERIA

Dr (Mrs) Hanna Onyi Yusuf Ph.D
Department of Educational Foundations and Curriculum
Faculty of Education,Ahmadu Bello University, Zaria, Nigeria
E-mail: hannayusuf@yahoo.com
Tel: +2348033207255

ABSTRACT
The study aimed at investigating the impact of teacher's use of folktales on the performance of pupils in reading comprehension in primary schools in Kaduna, Nigeria. The sample of the study consisted of forty (40) primary four pupils from two randomly selected primary school, tagged, school "A" and school "B" in Kaduna North Local Government Area. School "A" was assigned as the experimental group while school "B" was assigned as the control group. Both groups were taught reading comprehension for eight weeks. A pre-test post-test experimental design for equivalent groups was used. Pupils were tested using reading comprehension test called retelling test. Results showed that the experimental group out performed the control group. This indicates that the use of folktales by teachers in reading comprehension may have a significant positive effect on pupils' reading comprehension. Based on the findings, it was recommended among others, that teachers should use folktales to enrich their reading comprehension lessons and to make such lessons more lively, interesting and meaningful. The reading component of the English Language Curriculum should be organized around stories that are deeply rooted in core values of the society. The curriculum should include reading comprehension passages that are based on folktales that teach moral lessons. Such moral lessons should be deeply rooted in the core values of the society.
Keywords: folktales, reading, comprehension, performance, primary, pupils, impact

INTRODUCTION / BACKGROUND TO THE STUDY

Reading is a fundamental language skill. It is also a highly complicated act that a combination of many skills and processes. Through reading, one can teach writing, speaking, vocabulary items, grammar, spelling and other language aspects. The basic goals of reading are to enable students to gain an understanding of the world and themselves, to develop appreciation and interests, and to find solutions to their personal and group problems.

Unfortunately, this important and fundamental language skill is not properly taught, by teachers in primary schools in Nigeria. Oyetunde (2009), Yusuf (2014 and 2015) claim that in some English classes, the announcement of a reading comprehension lesson or period elicits murmuring and grumbling from students as they envision the long time it will require, the laborious task of looking up words' meanings in the dictionary. What makes matters worse is that after all the time and efforts, students fail to comprehend the text. Most English as second language students, are often unable to comprehend a written text effectively (Yusuf, 2015). Hence the need to undertake this study. Any effort geared towards improving the reading comprehension of students is neither wasted nor misplaced. Perhaps, the outcome of this research could motivate students to read and improve their reading comprehension.

The benefits of folktales or storytelling in Education are being discovered as research in this area continues to grow. According to Milford (2007) when a component of art such as folktales or storytelling is integrated into the reading curriculum, students experience more meaningful learning. They are more actively involved with the text. The use of storytelling has been linked to improved literacy and language development. When children participate in storytelling it can increase reading comprehension (Bayly,2007). They learn to listen to stories, they must visualize the setting, character, problems and other parts of a story. These comprehension skills must be acquired and applied when students are reading in order to gain understanding (Milford, 2007).

Folktales or storytelling began with the advent of civilization. Generations heard and experienced the power of the word through oral expression. Oral interpretation gave way to the written word when cave paintings, and

stone tablets, became the means of conveying and preserving the story. It was not until the end of the middle ages, when Gutenberg invented the printing press that the common person was instructed to read the written word. Prior to that time, folktales or storytelling was the primary source of the literary instruction and entertainment (MacKinney, 1996). However, to date only limited research has been done on the effects or impact of storytelling on children's learning in Nigeria.

The importance of folktales or storytelling has been demonstrated in the results of over 75 years of educational research (Wood, 1994). Gold and Gibson (2001) emphasize that storytelling is the foundation of literacy development. They also state that storytelling demonstrates the relationship between the printed word and meaning and invites the listener into a conversation with the author. Trelease (1994) says that folktales or storytelling fosters the desire to read independently. It is like a TV or radio advert for literature. Folktales or storytelling time encourages children to grow as readers and broadens the types of literature they choose to read. The single most important activity for building knowledge required for eventual success in reading, is reading stories aloud to children (Anderson et al., 1985). Moreover, Beach (1993) states that oral reading instruction is a legitimate part of the developmental reading programme and can offer benefits of increased fluency, comprehension, and vocabulary. It is obvious from the foregoing that researchers seem to agree that as long as teaching exists, folktales or storytelling should be incorporated in the curriculum, regardless of the students' ages.

Rog (2001) states that reading stories aloud mean to develop children's ''concepts about print, story structure, and other elements of text'' and ''provides the child with a wealth of information about the processes and functions of written language'. It develops children's attention span and listening skills (Dragan, 2001). Reading stories aloud to children gives them new understandings on various subjects that they encounter only through books (Terblanche, 2002).

In addition, Needlman (2004) asserts that there are many good reasons to read folktales or stories aloud to students. These include: reading together is fun; reading aloud keeps interest high; reading aloud is especially important if your child is having difficulty learning to read; reading aloud builds listening skills; reading aloud builds vocabulary; stories are the building blocks of imagination and stories help teach character. Moreover, Rippel (2006) indicates that reading aloud to students has many benefits. Some of these benefits are: hearing stories read aloud expands the students' vocabulary; through read-aloud stories, students can learn about many different topics: science, history, geography, etc.; the student's attention span increases as he/she sits still for an interesting story; through hearing well-written stories being read aloud, students are absorbing proper grammar and word usage and when teachers read with their students, they are modeling an important skill for them.

In the current environment of research-based practices, many educators may be skeptical about allowing the use of a ''new'' educational tool until the effect of that tool has been clearly documented through quantitative research. This study investigates the impact of teacher's use of folktales on the performance of pupils in reading comprehension in primary schools in Kaduna, Nigeria. This is an issue previous studies conducted in Nigeria, have not tackled properly. To the best knowledge of the researchers, this is the first time a research of this nature is being conducted to determine whether or not reading comprehension significantly improves when pupils are told folktales or stories by the teacher.

REVIEW OF RELATED LITERATURE

A folktale is a popular story that was passed on in spoken form from one generation to the next. Usually, the author is unknown and there are often many versions of the tale. Folktales comprise fables, fairy tales, old legends and even urban legends. Folktales or storytelling to children builds the foundation of literacy learning. According to Fisher and Medvic (2003), the more folktales or stories students are exposed to, the more opportunities they will have for hearing rich language, learning new vocabulary, grasping story structures, and developing of love of reading. They also suggest that students who are consistently exposed to storytelling gain skills that prepare them for reading. Moreover, they noted that during storytelling, students are more attentive and relaxed, yet highly focused.

Numerous scholars believe children can benefit from listening to folktales storytelling (Alna, 1999; Isbell et al., 2004;). Kim(1999), stated that ''storytelling today is increasingly recognized as having important theoretical and practical implications''.

One of the reasons for using the technique of folktales or storytelling in the classroom is that it allows the modeling of language patterns. Learners can imitate the structure and the sounds they hear. Kim (1999) explained that while the teacher is reading, he/she can infuse the syntactic order of the written language with pitch, juncture, stress and other paralinguistic cues that contribute to the interpretation of the passage. Imitation of the sounds has a direct bearing on the increased vocabulary that is a result of hearing stories and poems. He also states that hearing words in context adds to the number of meanings in a learner's receptive vocabulary and gives the listener alternative ways to express him/her.

Alna (1999) indicates that 4th- through 6th-grades have demonstrated children who are read aloud to on a regular basis over a period of several months show significant gains in reading comprehension, decoding skills, and vocabulary. It was also found that all children benefited significantly as compared to the control groups, who were read to only occasionally or not at all.

Wood (1994) emphasized that teachers should read stories to their students. Because as the teachers are reading to their students, the students get a better feel for the language and its structure. Teacher's reading to the students is also a motivation enhancer; the reader's enthusiasm and animated mood are infectious.

Trelease (1994) found that students who had a story read aloud to them by the teacher and then asked to complete several artistic assignments produced more creative work than their counterparts who saw the movie version of the same story. The read-to students used visual imagery to create scenes and characters, while the others tended to regurgitate what they had viewed on the screen whether it was image created in their mind or not.

Alna(1999) studied the effect of systematic storytelling aloud on language comprehension and language production of pre-school and first grade children. The findings of the study showed that listening to stories read aloud helps students develop the habit of listening and at the same time gives them specific training in comprehension through exposure to the interesting and meaningful content of the stories.

Mackinney (1996) investigated the effect of the teacher's reading aloud on the reading comprehension of EFL student's reading a story. Seventy-five students participated in the study. The experimental group had a story read aloud to them by the teacher, whereas the control group read the story silently. Two dependent measures were used: a multiple-choice test and a story frame test. Results showed that the experimental group outperformed the control group on both measures. This indicated that reading aloud by the teacher may have a significant positive effect on learners' reading comprehension.

Rippel (2006) investigated the relationship between storytelling and reading comprehension. The findings of the study indicated that storytelling positively affected the subjects' reading comprehension.

Terblanche (2002) examined fourth graders' responses to a story presented in three different delivery systems: read independently, read aloud, and told as a shared storytelling experience. The findings of the study indicated that using the oral delivery systems of read-alouds and storytelling provokes more positive responses than does independent reading. Moreover, students in the read aloud treatment group made more interpretational responses. More free responses came from the storytelling group indicating that storytelling as a mode of delivery may generate more conversation about literature than reading independently.

Queini et al. (2008) conducted a 10 weeks study with fifty- three5–6 year-old kindergarteners to investigate the effect of read-aloud on children's vocabulary development and comprehension skills. The read-aloud strategy consisted of two teachers reading storybooks to children and explaining unfamiliar words. The teachers engaged children in meaningful discussions about the text, involving logical and critical thinking. Data were collected through observations, conferences with children and children's writing samples. Findings revealed gains in children's vocabulary and comprehension skills.

The present study is aimed at of investigating the impact of folktales or storytelling on pupils reading comprehension in Kaduna State, Nigeria, since literature search revealed a dearth of empirical data from Nigeria in this specific study area.

OBJECTIVES OF THE STUDY
To determine the impact of teacher's use of folktales on the performance of pupils in reading comprehension in primary schools in Kaduna, Nigeria.

Research Question
What is the impact of teacher's use of folktales on the performance of pupils in reading comprehension in primary schools in Kaduna, Nigeria?

Research Hypothesis
Teacher's use of folktales has no significant impact on pupils' performance in reading comprehension in primary schools in Kaduna, Nigeria.

METHODOLOGY
The study was carried out in two randomly selected public primary schools in Kaduna North Local Government Area. A pre-test post-test experimental design was used for the study. Two primary four intact classes were used for the study. Each group was randomly assigned to either control or experimental group. Both groups were exposed to eight (8) weeks of teaching.

However, the pupils of the control group were not exposed to folktales during the course of teaching. Both groups were subjected to a reading comprehension pretest before the commencement of the experiment and the same test was administered as a post-test immediately after the treatment.

The population of the study consisted of all primary school pupils in Kaduna North Local Government Area. The sample of the study consisted of 40 primary 4 pupils from two intact classes. The two classes were assigned as experimental and control group in each of the respective schools.

In order to answer the question of the study, the present researcher chose a number of folk stories from Tales by moonlight stories", which contains some moral lessons. The stories were chosen according to length and difficulty level. The more complex structure the story included, the more difficult it was considered. The researcher also developed a 25-item-multiple choice test on four reading passages. The test items had four choices only one of which is correct. The pupils were instructed to read the reading passages, one at a time, answer the questions by circling the correct choice. The test included items dealing with vocabulary questions, understanding certain grammatical constructions and reading implied meaning by the passage. In scoring, pupils' performance was computed out of 100 allotting (four) points for each correct answer and (zero) for each wrong answer. The time interval between the pre-test and the post-test was eight weeks, a period long enough to minimize the effects of the pre-test on the results and the conclusions of the experiment. The test was designed and administered by the researcher. An independent-sample T test was used to measure the gain scores of both groups on the pretest and then on the post-test. A One-Way Analysis of Covariance (ANCOVA) was used to measure the gain scores of the subjects in order to eliminate any possible differences between the two groups on the pre-test.

The usability of the test was tested through a pilot study of10 pupils who were excluded from the sample. The reliability coefficient of the test calculated using Cronbach-Alpha was 0.85.

Treatment
•   Teacher encourages pupils to build personal relationships in pairs and in groups as folktales are being read aloud to them.
•   Teacher provides daily opportunities to pupils for language development by telling pupils lots of stories with moral lessons.
•   Teacher creates opportunities for pupils to interact regularly on a one to one basis.
•   Teacher challenges pupils to think, talk and explore their knowledge of the world.
•   Teacher provides support to pupils as they develop language and learning strategies necessary to articulate and extend their interactions with the world.

Sample Lesson Plan

Step1:   Teacher introduces the lesson by telling pupils that she is going to tell   them a folktale title "the disobedient daughter who married a thief".

Step2:   Teacher tells pupils "Once upon a time…" pupils response "Time   time".

Step3:   Teacher proceeds to tell pupils the folktales. She tells pupils the   beginning part of the story.

Step4:   As teacher tells the story, she stops intermittently to ask pupils what   they think about what she has told them so far.

Step5:   Teacher continues to tell the story and pauses at intervals to ask pupils   to   predict what will happen next or how the story will end.

Step6:   As teacher tells the story, she makes sure she is creative, she sings,   shows facial expressions, changes in tone of voice etc

Step7:   Teacher encourages pupils to pair up or form smaller groups where   each child is given opportunity to act as the story teller.

Step8:   Teacher goes round to ensure that each pupil is actively involved.

Step9:   Teacher asks pupils questions based on the story that was told.

Step10: Teacher concludes the lesson by telling pupils to draw pictures of   their   favorite character.

Data Presentation and Analysis

The hypothesis for this research which states that teacher's use of folktales have no significant impact on the performance of pupils in reading comprehension in primary schools in Kaduna" was tested at 0.05 level of significance. The data were collected through a pretest treatment – post test design for equivalent groups and analyzed via the statistical packages SPSS.

The aim of the study was to evaluate the impact of teachers' folktales on pupils' reading comprehension in primary schools in Kaduna. It compares the use of folktales with the traditional method. The researcher hypothesized that there was no significant difference in the performance of pupils taught using folktales and those taught using the traditional method. This hypothesis was tested at 0.05 level of significance.

An independent-sample T test was used to determine whether there is a statistically significant difference between the performance of the two groups on the pretest. Table 1 represents the results.

Table 1: Results of the T test of the means of the performance of the two groups on the pre-test

Group		N	Mean	Standard deviation		T	Sig
Pretest	Control group	20	11.62	3.15		0.072	0.941
	Experimental group	20	11.54	2.93			

Table 1 shows that the difference between the performance of both groups on the pre-test is not statistically significant at α = 0.05. Thus, since there is no statistically significant difference between the control and experimental groups on the pretest, the two groups were assumed equivalent. Another independent-sample test was conducted to determine whether or not there is a statistically significant difference between the two groups' performance on the post-test.

Table 2: Results of the T test of the means of the performance of the two groups on the post-test

Group		N	Mean	Standard deviation		T	Sig
Posttest	Control group	20	24.94	2.24		6.95	0.391
	Experimental group	20	28.39	1.63			

Table 2 shows that there is a statistically significant difference at a =0.05 between the performance of the experimental group and that of the control group on the post-test in favour of the experimental group. This indicates that using folktales to teach reading comprehension to pupils in primary schools has a positive impact on students' performance. The mean score for the experimental group on the post-test was 28.20 while that of the control group was 24.21.Moreover, in spite of the fact that the difference between the performance of the

experimental group and the control group on the pre-test was not statistically significant, to eliminate initial differences, a one-way ANCOVA was carried out.

Table 3: Results of the test of between-subjects effects

Source	Sum of squares	Df	Means of squares	F	Sig
Pretest	56.676	1	3.15	22.651	
	49.432	0.000			
Group	123.681	1		2.93	0.000
Error	95.074	38			
Corrected total	273.511	40			

Table 3 shows that there is a statistically significant difference between the experimental group and the control group on the post-test. The performance of the experimental group, measured by the difference between the pre-test and the post-test, was significantly better than that of the control group.

DISCUSSION OF FINDINGS

The difference in the performance of the pupils as shown tables 1, 2 and 3 could be attributed to using folktales in teaching reading comprehension. The experimental group significantly improved in their reading comprehension ability than they already have in a period of eight weeks. The improvement achieved by the control group subjects, however, was not statistically significant. By comparing the results achieved by the two groups, the researcher reached the conclusion that the improvement achieved by the experimental group may have been attributed to the way they were taught using folk tales.

Furthermore, the differences between the two groups may be attributed to many other reasons. Firstly, using folktales or storytelling in teaching reading comprehension is a novelty. This novelty may have encouraged the pupils in the experimental group to participate actively and enthusiastically in class. Secondly, listening to stories read aloud helped the pupils in the experimental group to develop healthy listening habits and at the sometime paved the way to promoting comprehension through consistent exposure to the interesting and meaningful content of the stories. The conditions provided by the folktales or storytelling situation promoted total attention that led to greater understanding of the content, which in turn led to improving comprehension. The teacher's use of folktales allowed the pupils to recognize units of meaning. With the continuous exposure to the stories, pupils learned to gradually realize that they could achieve a higher level of comprehension by listening to larger meaningful units rather than individual words. Constant listening to the teacher's language behaviour in the classroom helped the pupils realize the feelings, moods and emotions of the characters in the texts, which helped enhance their overall comprehension of the text.

Finally, this researcher believes that reading folktales aloud to pupils allows them to become literate and motivates them to be active participants in the reading process.

This research indicates that using folktales at the primary school level will produce positive results. The findings of this study concur with the results of the studies conducted by Meyer (1995), Vivas (1996),Oyetunde (2009), Amer (1997), Yusuf (2014, 2015)and Mackinney(1996).All of these studies showed that using folktales in reading comprehension has positive effects that helped pupils improve their language skills. They also found that reading folktales aloud does offer children certain educational benefits.

CONCLUSION

Based on the empirical evidence presented, the experimental group (i.e the group that was exposed to folktales) performed better than the control group. The comprehension of the pupils in the experimental group was greatly enhanced and improved. Teacher's use of folktales stimulated pupils interest in the reading class. It stimulated discussion and enhanced pupils' self confidence. It made even poor readers active in class. It gave them the opportunity to show their abilities. Although it was only an experiment where the control of all variables was not possible because of its nature. The study did definitely show significant results stressing the value of the treatment.

RECOMMENDATIONS

•   Folktales should be included in the reading component of the English Language curriculum for basic education in Nigeria.

•   Teachers should be encouraged to use folktales in their reading lessons. This will help to stimulate pupils' interest, build their listening and vocabulary skills. Stories are the building blocks of imagination and they help to teach character.

•   This study should be replicated in other parts of Nigeria and other countries all over the world. The sample size can be larger and the duration of the treatment can be extended to 12 or 14 weeks. In addition, it would be interesting to compare results across grade levels as well as gender.

•   This study may encourage further research, which in turn, may lead to the enrichment of the field of reading methodology in general, and language teaching and learning in particular.

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LEADERSHIP STYLES KEY TO IMPLEMENTING PROFESSIONAL LEARNING COMMUNITIES IN EDUCATION: LITERATURE REVIEW

Justin Willis

Adjunct Professor, Faculty of Education, Tyler Junior College

justin.willis.2011@gmail.com

ABSTRACT

Leadership is an important part of developing effective PLCs; thus, school leaders must become familiar with research efforts regarding characteristics of effective educational leaders to facilitate and support of the development of learning communities. Research has shown that when the PLC model is properly implemented, it has the capacity to improve student achievement (Hunter-Boyce, 2009). The purpose of this literature review is to present evidence of the association between leadership styles and PLCs. Extant literature supports the idea that school leadership is a key factor to developing and maintaining effective PLCs (Wahlstrom & Louis, 2008).

LITERATURE REVIEW

Introduction

American education policymakers emphasize improved learning for adults and students as a key to school improvement (Schmoker, 2005). However, disappointment in a lack of visible improvements in the field of education is widespread. In response, the federal government, educational leaders, and local leaders have expressed increased interest in the professional learning community (PLC) reform effort because of its novel model of school culture, which actively supports change and improvement (Feger & Arruda, 2008).

Theories of Leadership Behavior

Although the practice of leadership has changed considerably over time, the need for leaders and leadership has not (Kouzes & Posner, 2007). Effective leaders are able to choose the most appropriate leadership style for each situation when making decisions. Changing environments that are complex require leaders to adapt to a myriad of challenges in organizational leadership (Yukl, 2008).

Nahavandi (2012) asserted that interactions between leaders and followers make leadership a complex phenomenon. Furthermore, the origins of leadership can be traced as far as the beginning of civilization in both study and practice (Stone & Patterson, 2005). Galton's (1869) *Hereditary Genius: An Inquiry into its Laws and Consequences* is one of the earliest studies of leadership. This work emphasized the basic concept that wealthy and successful individuals possessed characteristics that made them different from other individuals (Zaccaro, 2007). At the time, such characteristics or traits were considered innate. However, this theory did not consider the different circumstances that leaders and followers face.

Researchers in the field have since shifted their focus to leadership behaviors and their effect on organizations. Moreover, researchers have spent more time and resources on understanding the behavioral aspects of leadership more so than other facets (Holloway, 2012). The behavioral approach attempts to identify exactly what good leaders do on the job and then draws correlations between those behaviors and leadership effectiveness (Derue, Nahrgang, Wellman, & Humphrey, 2011). According to Davis and Luthans (1979), previous theories and research on leadership are built largely on normative preconceptions; however, they lack the capacity to predict or control performance. In the presence of behavioral theories, researchers can observe macro- and micro-contingencies that affect leader-subordinate behaviors. Thus, leaders' behaviors can cause specific follower behaviors. In turn, follower behaviors or actions cause the leader to interpret his or her own actions to reinforce or extinguish these behaviors.

The research supports two basic dimensions of leadership behavior: concern for the task and concern for people. Concern for the task emphasizes goal fulfillment. Task-oriented behaviors describe specific actions of the leader related to the ability to lead successfully (Yukl, O'Donnell, & Taber, 2009). Concern for people focuses on interpersonal relationships and involves a two-way method of communication to support employees and help them to feel better about their situations (Northouse, 2010).

Situational Leadership

From a teamwork perspective, situational leadership theory, developed in the late 1960s, is one of the most important (Hersey & Blanchard, 1993). Four leadership styles are possible with the situational leadership model. Based on a combination of tasks and people, these styles include telling, selling/coaching, participating, and delegating (Hersey, Blanchard, & Johnson, 2001). To determine which style to use in any given situation,

leaders must first identify their priorities and then consider the readiness level of their followers while analyzing group members' abilities and willingness.

Telling and directing are identified as the initial stage in situational leadership. Building comradery and rapport with subordinates is a key aspect of leadership. Leaders accomplish this through telling and assigning low-frequency tasks and other assignments with low focus on relationships and required level of commitment or ability (Hersey et al., 2001).

In cases where the follower is either unwilling or incapable, a more assertive role is assured with specific attention to the relationship (Hersey et al., 2001). The leader may provide a framework for task completion and controlling followers. As such, the leader may investigate a person's lack of motivation to determine if he or she has any limitations in ability to complete the task. Two related factors involve followers who are not confident or who experience denial, which could result in a lack of self-confidence.

If the leader focuses more on the relationship, followers may become confused over which tasks are required and which are optional. Therefore, the leader maintains a clear "do-this" position to make all requirements understandable and clear. Path-goal theory supports leadership through telling and presents four types of leadership: directive, supportive, participative, and achievement-oriented (Alanazi & Rasli, 2013; House & Mitchell, 1974). According to this theory, a good leader should know what type to employ in a given situation. Leaders who use this style are very directive, and they clearly explain what is expected of subordinates. These leaders also provide their followers with guidance to meet expectations and to ensure they are following proper protocol and rules for implementation.

The second leadership style is selling/coaching, which is another leader-driven strategy. Leaders exemplify this style when high-level tasks are involved (Hersey et al., 2001). In this situation, followers are experienced, capable, and have a variable level of commitment. Although the followers are incapable, they are willing. When followers can do the job to some extent, but are overconfident in their abilities, simply ordering them to do specific tasks could lead to resistance and demotivation. Thus, the leader may be better served to compel followers through charisma and positive interaction. Moreover, leaders who listen and guide can help followers by providing these characteristics as a coaching method. This leadership style is focused on getting the job done.

Communication with this leadership style is very much a two-way street. Leaders who employ this style make the final decisions but are open to their followers' thoughts and suggestions. In this case, leaders are both directive and supportive. They clearly explain the expectations and the steps necessary to meet those expectations; however, leaders also perform a supportive role and pay attention to subordinates' needs. With this style, leaders maintain a directive mindset and rally the team to meet goals while supporting members to ensure that all needs are met (Alanazi & Rasli, 2013).

Hersey and Blanchard (1993) presented a third style of leadership based on participating and supporting. This style is low-task and high relationship focused. Followers who are insecure and possibly unwilling may be best served by this approach.

Using this style, the leader can address causes for inaction by listening, praising, and making followers feel good when they show the necessary commitment. In this case, the directive leadership mindset functions at a low level and the supportive mindset functions on a very high level. Further, the leader no longer exhibits directive behavior; rather, he or she ensures that the environment meets the expectations for the follower to complete the task. The leader focuses on ensuring that motivations to perform well are enhanced because the subordinate already has the necessary skills (Alanazi & Rasli, 2013).

Fourth, leadership through delegation is a style identified for leaders who have little to no relationship with followers and the requirements for an assignment are low. Usually, this approach is warranted when followers understand the necessary skills but are unwilling to perform the task (Hersey et al., 2001). In this style, the leader engages in low directive or supportive behaviors because subordinates have both the skills and motivation (Alanazi & Rasli, 2013). Here, leadership is almost unnecessary because followers can take the reins completely and apply their own ideas and decisions without help from the leader. The leader's task in this case is simply to endorse followers' accomplishments. Leadership tasks employed here are minimal, but leaders still have some sort of control over followers' behaviors (e.g., scheduling and task deadlines). For the most part, this style allows followers run the show on their own.

Hersey et al.'s (2001) situational leadership supports the concept that no single definitive approach to leadership exists. The core of situational leadership is that a good leader should be able to match one the four leadership styles to the development levels of his or her followers. Situational leadership is hinged on the idea that no singular leadership style exists; rather, the situation will determine the best style, which will vary depending on the tasks and the people involved. Of course, this means that a good situational leader is versatile; that is, he or she is able to employ any of the four types of leadership depending on the situation. Additionally, a good situational leader is very keen and observant, as he or she has to know where followers are in the four developmental levels. These two skills are very important for the leader to match leadership style with developmental level properly. Combining leadership style with developmental level also suggests an inherent

participation of followers wherein their performance and behaviors are variables considered regarding how they are led. In this leadership style, focus is on the followers, even in the most directive telling style, because it is only employed based on followers' needs and developmental levels.

Transformational Leadership

Transformational leadership can be traced to Burns (1978), who defined this style as involving vision and leading others to share in creating and supporting that vision. Specifically, a transformational leader is "one who raises the followers' level of consciousness about the importance and value of desired outcomes and the methods of reaching those outcomes" (Burns, 1978. p. 141). This style takes a holistic approach to the organization, leads organizational members in new directions, or helps members identify and attain new goals. Transformational leadership is universally applicable (Bass, 1998). Therefore, transformational leaders can inspire stakeholders to care about, share in, and work toward the betterment of the organization even without a direct reward to themselves.

Chelladurai (2007) noted, "The transformational leader influences the situation and the members as well as subordinate leaders" in an effort to achieve desired outcomes" (p. 131). This style of leadership can accurately equip educational leaders to harness change in ways that positively affect student learning and outcomes. Leithwood (1994) stated that transformational leadership influences performance by grades and individual teachers by developing interpersonal relationships that encourage organizational commitment to invite positive change. This leadership style relies on teamwork to carry out change by empowering followers (Guthrie & Schuermann, 2010).

Kouzes and Posner (2007) provided insight into transformational leadership based on research conducted over 20 years. They noted that to achieve optimal directorship in this style, credibility is very important. Inspiring and sharing a vision is almost impossible if the messenger is not perceived as trustworthy. This leadership style promotes the value of empowerment to act toward continuous change and growth (Padykula & Wexell, 2013).

McCloskey (2009) stated that this leadership style is virtue-based because the virtue of the leader is a main factor in making the directorship effective and because the moral worthiness of the leader and his or her ideas are true driving forces. Consistent behaviors and high ethical and moral standards are important in transformational leadership because subordinates perceive leaders with these characteristics as better able to do the right thing in a given situation (Moorman & Grover, 2009). According to Bass (1990), this leadership style inspires more effort from constituents because better relationships are formed through a shared of vision and espoused values. A cornerstone of transformational leadership is altruism because true leaders who can inspire change must demonstrate that they do not use their power to assert control or for personal advancement. Rather, these leaders use their positions for the general good and gain of others. Moreover, sincere compassion for others and genuine interest in their well-being increases the effectiveness of transformational leaders (Engelbrecht, van Aswegen, & Theron 2005).

True transformational leaders must act as a stimulus for their followers to come up with new ideas, share knowledge, and take pride in their work (Fauji & Utami, 2013). Yıldız and Özcan (2014) indicated a close relationship between creativity and transformational leadership. Specifically, effective transformational leaders inspire followers to be innovative and to think outside the box. These leaders also increase their followers' intrinsic motivations through intellectual stimulation and encouragement. Good transformational leaders have the capacity for individual consideration, which is the ability to identify subordinates' needs to provide the proper support to and feedback for the team to meet organizational goals (Shadraconis, 2013).

Transformational leadership can be used in most situations. Followers in high-pressure and sensitive jobs call for transformational leaders who motivate and engage them individually (Hayati, Charkhabi, & Naami, 2014). According to Raja (2012), transformational leadership usually leads to higher levels of employee engagement. Genuine transformational leadership implies that the leader treats his or her employees fairly and fosters an ideal environment for change and improvement. Employees who are treated fairly, stimulated intellectually, and given proper individual attention engage in their jobs and are willing to exert more effort to help the organization meet its objectives.

Transformational leadership has become more important as technological advances arise. Aydogdu and Asikgil (2011) noted that organizations could only move forward with the full involvement of its members. True transformational leaders are good influences, advocate good virtues, and stimulate their followers intellectually. Therefore, they are good harbingers of change and growth.

Transactional Leadership

Transactional leaders are influential through goal setting, clarification, and providing feedback in exchange of accomplishments (Dvir, Eden, Avolio, & Shamir, 2002). These leaders use a negotiation process to motivate followers. The transactional model takes a more methodical approach to supervision (Alimo-Metcalfe & Alban-Metcalfe, 2004).

Goal-oriented individuals are drawn toward the transactional style of leadership as it supports a give-and-take relationship between leaders and followers where the end goal is motivation for the leader, while the recompense for achieving the goal is motivation for followers (Pastor & Mayo, 2008). Transactional leadership is sharp and clear-cut; followers have clear expectations and they understand the consequential rewards when requirements and expectations are met (Groves & LaRocca, 2011). The transactional leadership style is also very rational and it is goal and rewards oriented. Using this style, the leader's control over followers mainly hinges on his or her capacity to give incentives and payments continuously for the work performed (Naidu & van der Walt, 2005). Highly transactional leaders derive satisfaction from achieving goals well, and they continually move from one transaction to the next to achieve objectives (McCleskey, 2014).

Transformational leadership is also very closely related to transactional leadership. Many researchers have posited that transformational leadership theories augment transactional leadership theories, whereas others believe that transactional leadership is a subset of transformational leadership (Odumeru & Ifeanyi, 2013). Naidu and van der Walt (2005) supported this relationship, as they found that transactional leadership, wherein followers received rewards for their work, is necessary to mediate true transformation. Another aspect of transactional management, setting clear goals, empowers followers as it boosts their feelings of identification with their roles in the organization and their importance within the group (Zhu, Sosik, Riggio, & Yang, 2012). This identification again asserts its close ties to transformational management.

Aside from the fundamental factor of being rewards based, transactional leadership is also active in observing followers to ascertain mistakes and deviations from standards and taking corrective measures if necessary. This can also mean that the management style is somewhat docile as amendments and adjustments are applied only when followers fail to meet expectations (Bass & Avolio, 1997). Tengilimoğlu (2005) proposed that transactional leadership works as a conveyer belt that moves work onward, continues existing work, and pulls it toward the future. Transactional leadership is an effect model when a desire exists to hold fast to the traditional values and standards of an organization. This leadership style does not call for innovations or major adjustments; rather, it relies on external motivations (e.g., financial rewards) rather than on an intrinsic change to fulfill followers' most basic needs (Aarons, 2006).

Groves and LaRocca (2011) stated that transactional leadership is pragmatic and practical. The ethos enveloping this leadership style is very utilitarian with the belief that the best actions are those that benefit the most people. In a way, pragmatic transactional leaders judge the means of their followers by the ends—predicated upon the assumption that if the end results benefit the most number of people (i.e., organization, leaders, and followers), then the action must be morally upstanding and worthy of reward and commendation. In this sense, transactional leadership also focuses on an individualistic type of ideology wherein leaders and followers look out for their own self-interests and actively carry out tasks that help achieve their goals (Bass & Steidlmeier, 1999).

Authentic Leadership

Luthans and Avolio (2003) defined authentic leadership as "a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development" (p. 243). Authentic leadership is generally related to positive ethos. Proponents point to authentic leadership as a founding concept for most forms of leadership (Avolio & Gardner, 2005).

Transformational leadership, for one, is closely tied to the idea of authentic leadership. According to Shamir and Eilam (2005), authentic leaders are authentic and true to themselves, they are motivated by their own personal beliefs, they do not pursue things that are incongruent to their convictions even if doing so would lead to status and honor, and they do not conform to others' expectations. Most other types of leadership relate to these factors in the sense that the leader has to be credible and trustworthy to be effective.

Authentic leadership also proposes a concept of authentic followership wherein the developmental paths of the leader and followers are very similar to each other in achieving authenticity (Gardner, Avolio, Luthans, May, & Walumbwa, 2005). Core characteristics of authentic followers include authentic bonds with the leader and authentic motivations to follow (Shamir & Eilam, 2005). The relationship between leaders and followers is very important in authentic governance. Kellett, Humphrey, and Sleeth (2006) stated that an effective authentic leader fosters an accessible and truthful relationship with his or her followers.

Sustainability

Researchers have defined sustainability in a variety of ways. Birney and Reed (2009) highlighted the characteristics of sustainable reforms in schools as follows:

Sustainability is about the relationship between people, their purpose and their place. It is about engaging, learning and leading to create a positive, empowering future for our children and their children. Sustainability as both a goal and practical activity is by its nature life-giving for communities,

educators and the children and young people in their care; it brings life to learning and learning to life. (p. 3)

Hargreaves and Goodson (2006) suggested most educational change efforts do not exceed more than 4 or 5 years. However, PLCs are different from other change efforts because they create sustainability. RMC Research (2009) outlined the following key characteristics of sustainability:

1. Sustainability is possible when full implementation of an initiative has been achieved.
2. Sustainability is based in the right organizational culture and leadership.
3. Sustainability always includes identification of critical elements of the education reform in question.
4. Sustainability requires continuing adaptation—not freezing a program in time.
5. Sustainability must be approached from a systems perspective.
6. Sustainability can and should be planned for and evaluated, and this should begin as early in the program life as possible.
7. Sustainability is only partly contingent on replacing funding. (p. 4)

Professional Learning Communities

In the 1980s, research began to move away from focusing on individual workers to examining learning environments as corporate endeavors. The evolution of professional development continued in the following decades. The new focus of continuous learning became a requirement to produce a competitive and productive workplace. As an upshot, both educational and corporate leaders began fostering and sustaining learning communities to reform organizations and improve outcomes (Sergiovanni, 1996). For example, Rosenholtz and Simpson (1990) promoted the idea of employees working collaboratively, developing a shared vision, and engaging as teams to improve corporate outcomes.

The intellectual origins of PLCs emerged in the early 1990s based on Peter Senge's (1990) publication, *The Fifth Discipline*. Senge's restructuring involved changing business management strategies as a way to transform corporations into learning organizations. Researchers eventually changed the term *learning organization* to *learning community*. DuFour, Eaker, and DuFour (2005) popularized the term *professional learning communities*. Today, PLCs are used in K-12 education as well as higher education.

The broad usage of the term PLCs allows it to encompass various circumstances across the educational spectrum. Wong, Britton, and Ganser (2005) insisted that global attention on collaboration predated the growing enthusiasm in the United States. Furthermore, a common complaint from school teachers is isolation. These teachers want to be more involved and be a part of a group.

According to Hamos et al. (2009), PLCs exist as an operational approach to professional development to serve as a possible remedy for isolation among teachers. Professional leaning communities have various definitions; however, broad consensus suggests that a PLC is a group of individuals who continually collaborate to ensure constant improvement in how they meet organizational goals through supportive and shared leadership, shared curricular vision, collective innovation, and supportive conditions (Hughes & Kritsonis, 2006; Reichstetter, 2006). Each individual in a PLC collaborates with other group members to improve practice. Essentially, members of PLCs are dedicated to working toward improvement (DuFour, 2004). The research presented here on PLC is divided into the following sections: characteristics of PLCs, development of PLCs, and sustainability of PLCs. The examination of the research considers the purpose, question, information, concepts, assumptions, inferences, perspectives, and implications.

Cranston (2009) examined the perspectives of 12 Manitoba principals regarding attributes that influence PLCs. While Cranston found variances and limitations in their understandings of what constituted PLCs, the data revealed eight observable and dominant themes central to principals' conceptions of PLCs. The themes included in PLCs are processes with structural supports that enable development, trust, and relationships.

The first theme was that PLCs are a process, a journey, or a continuum. Participants indicated that the process did not have a specific destination and was not something one arrived at, but rather, was a transformation. Cranston (2009) stated that if schools were to be PLCs, they had to have a requirement for transformational change. The second theme was that structural supports enabled the development of PLCs. These structural supports required preconditions that supported the development of schools as PLCs. Cranston (2009) maintained, "As a result of providing structural supports in the form of formal organizational structures for engaging teachers in their work and engaging them with others, professional learning communities will grow and mature" (p. 10).

The third theme was that trust is the strongest facilitating feature for schools developing as PLCs. According to Cranston (2009), "Trust was seen as the social condition that acts as the foundation for the mature adult relationships necessary in professional learning communities" (p. 11). In other words, trust is the foundation of PLCs as it allows teachers to grow, develop, and feel less threatened by other teachers who enter their classrooms to offer support.

The fourth theme was that congenial relationships dominate conceptions of community. Participants reported that friendly relationships made it easier for everyone involved. Cranston (2009) indicated, "Participants illustrated teacher connections with examples in which collegiality was seen as a sharing and supporting of individual practice, but one in which very limited professional advice was offered, and only when specifically requested" (p. 12). In other words, teachers shared ideas of what they were doing successfully in their classes but did not attempt to tell other teachers what to do in their class. If other teachers liked an idea, then they could use it in their classes.

The fifth theme was learning is an individual activity. Cranston (2009) stated, "Principals regarded teacher learning as an individual activity and disposition in which individuals master new techniques, change behaviors, and display a commitment to learn throughout her/his career. Participants often referred to this as 'life-long learning'" (p. 13). Life-long learning, in brief, is the ongoing individual pursuit of knowledge to learn and become better. The sixth theme was that professional teaching is derived from attitudinal attributes. According to Cranston (2009), "Teachers were described as professionals in terms of their attitudinal attributes. The participants identified teachers as professionals based on individual knowledge about curriculum, instruction and pedagogy, appropriate dress, and respectful language" (p. 14).

The seventh theme was that teacher evaluation affects is how principals view learning in professional communities. Cranston (2009) stated, "Classroom visits, as part of the teacher evaluation procedures, were best seen as processes that provided principals with opportunities to identify common areas of teacher weaknesses for collective professional growth" (p. 15). The eighth theme was that teacher evaluations effect principal and teacher collaboration in PLCs. According to Cranston, "Teacher evaluation was regarded as a means to build relationships with, and between, teachers" (p. 16). Principals interacted with teachers during evaluations, which helped build a positive school climate and ensured that the PLC achieved district goals.

An important element in the characteristics of an effective PLC is the existence of a competent leader. According to Wallace Foundation (2012), the following five practices are critical to effective school leadership:

- Constructing a vision of student achievement for all students based on high standards;
- Developing an atmosphere conducive to teaching and learning;
- Cultivating leadership in the faculty to develop skills;
- Improving instruction to empower teachers to teach effectively allowing students the opportunity to learn;
- Data driven decision making to encourage school improvement. (p. 55)

A positive difference is created for students when school leaders employ these elements harmoniously (Wallace Foundation, 2012). Whether forming a vision or encouraging teachers, an effective principal is a conductor of progressive change for the welfare of the school and its students (Wallace Foundation, 2012).

Developing Professional Learning Communities

Ferguson (2013) reported struggles associated with starting a PLC without additional funds earmarked for implementation. The school administration that Ferguson observed created a Buddy Day system that allowed teachers common planning time to meet for PLCs. However, tensions among stakeholders, and unions arose because of the implementation.

The school administration believed that a PLC would benefit all teachers. The first decision administrators made toward implementing the PLC involved dividing teachers into two groups by grade level: primary (Kindergarten to Grade 3) and junior and intermediate (Grades 4 to 8). Next, the school administrators targeted the same improvement goals that the school board had encouraged, which focused on literacy. Administrators then developed two different types of PLCs (assessment and instructional) to address their dual purposes of teacher learning and improved student achievement.

The assessment PLCs were scheduled to meet every 2 weeks after school for 30 minutes. Each teacher was assigned dates to present student cases to the PLC group. Teachers were asked to identify a student or students who struggled with literacy in their classes and share concerns and student achievement data with the group. The group responded with ideas and suggestions to help improve achievement for the student presented. Ferguson (2013) indicated, "At the next assessment PLC two weeks later, the teacher shares how the student is doing, which strategies worked or did not work, and any further assessment data on that student" (p. 52).

While the PLCs appeared well planned, the district struggled to implement the assessment PLCs. Administrators were too busy with other work-related duties to attend all of the scheduled PLCs. Additionally, some teachers found that attending assessment PLCs after school was a burden because of their existing and extensive to-do lists. According to Ferguson (2013),

> As soon as the allotted time for the PLC is up, these teachers leave immediately. Other teachers stay behind and chat about student concerns and teaching issues after the formal PLC is over. A number of teachers feel that the assessment PLCs are too structured and forced, while others find it helpful for their teaching. (p. 52)

The instructional PLCs were scheduled once a month during the school day. These meetings were usually one and a half hours and were held during the last teaching block. The administrators worked together to create the PLC agenda. Ferguson (2013) noted that the primary purpose of the instructional PLC was to increase teacher knowledge. The campus literacy coach presented teachers with information, which was followed by group discussion on how they could use the information while teaching.

In a fashion similar to the assessment PLCs, the administrators struggled to attend all meetings because of other work-related duties. Additionally, the teachers in the instructional PLCs felt that part of their planning period was being taken away. Ferguson (2013) also found, "Some parents feel that it is a waste of time, believe that no curriculum is being taught, and have thus decided to keep their children home on Buddy Days" (Ferguson, 2013, p. 55). The union communicated concerns about the amount of teacher work and responsibility involved with Buddy Days. The administrators also become "frustrated with the union because the union wants all professional development to occur during the school day and the Buddy Day system, despite its flaws, does that" (Ferguson, 2013, pp. 54-55).

Jacobs and Yendol-Hoppey (2010) supported the use of PLC as outlet for professional development that centered on specific components of professional development. Learning communities seek to solve common problems by interacting in ongoing professional development to strengthen members' knowledge and expertise. Professional learning communities serve as contexts that are ripe for members to engage in transformation (Servage, 2008). In short, transformation is a process that occurs when change takes place regarding how people view the world.

According to Mezirow (1990), transformative learning requires a particular level of critical reflection because one's reassessment of previous suppositions on which beliefs and insights are based can transform his or her perspectives. Such transformation may involve corrections in previously distorted assumptions or support exploring alternative perspectives. Jacobs and Yendol-Hoppey (2010) studied PLC transformation and its key elements in the case of three field supervisors. They found that transformation occurred either abruptly after a major event or gradually over time.

Participants from the college of education at a southeastern research university were scheduled to supervise teachers during the semester and were asked attend eight 2-hour sessions over a 5-month period where they engaged in dialogue and built knowledge and skills related to equity issues and supervision (Jacobs & Yendol-Hoppey, 2010). Six supervisors agreed to participate; one was a retired teacher and adjunct professor and the other five were graduate students. The researchers focused only on three participants and their experiences within the learning community to illustrate the process of transformation (Jacobs & Yendol-Hoppey, 2010).

The three selected participants demonstrated different experiences and knowledge before the study, which changed throughout the study. During the first four 2-hour sessions, the participants engaged in activities that included role-play scenarios and reflective writing. After each activity and reading, the group engaged in discussion (Jacobs & Yendol-Hoppey, 2010). The facilitator continuously posed questions to push participants to think deeper. The supervisors also learned about the coaching for equity cycle (Jacobs, 2007), and used this cycle with one of their prospective teachers.

During the last four 2-hour sessions, supervisors focused on sharing their experiences and challenges related to working with prospective teachers. The facilitator's role also changed, as she did not need to dictate content while also providing structure and support for these discussions. This limited role allowed the facilitator to act as a participant, ask questions, and share advice (Jacobs & Yendol-Hoppey, 2010). The key elements that supported the transformation of each supervisor were the eight planned 2-hour sessions over the 5-month period wherein participants worked together, solved dilemmas, focused on prospective teacher learning, and developed trusting relationships.

Thompson, Gregg, and Niska (2004) insisted that schools work to develop PLCs in the hope of enhancing student learning based on collaboration among adults collectively conversing about teaching, learning, and improving student learning. Thompson et al. believed that a school should practice five elements of a learning organization to be a true PLC. Additionally, leadership plays a significant role in the overall success of a PLC.

The five disciplines of a learning organization are systems thinking, personal mastery, mental models, shared vision, and team learning (Senge et al., 2000). Systems thinking refers to a body of knowledge and tools that help one uncover patterns and determine how they can be changed (Thompson et al., 2004). Personal mastery is an individual's dedication to lifelong learning. Mental models are deep assumptions and general concepts that influence how one understands the world and takes action (Senge, 1990). Shared vision includes common goals that a group or organization want to accomplish. Team learning focuses on group interaction through dialogue and skillful discussion (Senge et al., 2000). Thompson et al. (2004) noted that to be a genuine PLC a school must understand and practice each of the aforementioned disciplines.

Hellner (2008) discussed the accelerating rate of change taking place in education over the previous 2 decades and noted multiple aspects of PLCs. With traditionally professional development, individual teacher

experience and growth cannot keep up with change. A PLC can help schools take advantage of change to secure benefits for teachers, and most importantly, students (Hellner, 2008). Further, collaboration and collegiality form the foundation to support interactive professionalism.

Hord (1997; 1998) suggested five characteristics of PLCs that supported Hipp and Huffman's (2010) components: (a) supportive and shared leadership; (b) shared values and vision; (c) collective learning and application; (d) shared personal practice; (e) supportive conditions. The first characteristic of a PLC is shared and supportive leadership, which can improve campus culture. Through an extensive analysis of interviews, Hipp and Huffman found that nurturing leadership among workers and shared power and responsibility are required attributes of shared leadership. The shared vision should be created collaboratively with emphasis placed on improving instruction and student learning. Professional learning communities are effective because they entail the integration of individual visions into one vision that all member embrace as the vision reflects a firm commitment to student growth (Hipp & Huffman, 2010). The dimension of shared values and vision constitutes championed values and standards, emphasis on student learning, high expectation, and a shared aim that drives student achievement (Hipp & Huffman, 2010). The next critical attribute is the practice of collective learning and collaboration in which teachers work together to solve problems. Collective learning and collaboration is an essential component of PLC because it creates opportunities for discussion and sharing (Hipp & Huffman, 2010). Inquiry developed through reflective conversation creates community, meaningful debates, and appreciation of others' work (Hipp & Huffman, 2010). Learning together also drives members of a PLC to build trusting relationships, which eventually forms an integral part of the school culture (Hipp & Huffman, 2010).

The fourth attribute emphasizes that teachers share personal practice. Individual and community improvement can be made when teachers observe classroom practices and offer feedback. Personal practice is a norm of PLCs and it includes continuous peer observations and constructive reflections as well as conversations about teaching. Interactions among colleagues provides opportunities for instructors to use best practices learned from peers, stay updated on the most recent research, and help one another (Hipp & Huffman, 2010). Moreover, shared personal practice offers coaching, mentoring, and feedback discussions that positively affect a teacher's performance (Hipp & Huffman, 2010). Specific to the first four attributes of a PLC is the fifth attribute of supportive conditions, which includes several key components (Hellner, 2008). Additionally, PLCs need good physical and human pools of support. Physical attributes include place, schedule, policies, and procedures, among others (Hipp & Huffman, 2010). Supportive human conditions pertain to good attitudes and abilities to acquire knowledge and skills essential to providing students with high-quality teaching (Hipp & Huffman, 2010).

Hord (2009) suggested that the following six conditions must be met for PLCs to be successful:

- Community membership. Regular meetings must be scheduled so teachers can discuss learning experience. Instructors can use these meetings to define goals and determine training needs to achieve these goals.
- Leadership. The principal's leadership is pivotal in defining the purpose of PLC meetings and their success with respect to attaining productive collaborative dialogue.
- Time for learning. Teachers' cooperation must be secured and time for meetings should be set aside. A school should explore various ways to make time for meetings.
- Space for learning. A space for learning should accommodate all faculty.
- Data use support. A foundation of PLCs is in reviewing and interpreting data and results, which helps school leaders make informed decisions.
- Distributed Leadership. When a principal willingly shares power and authority, teachers learn to use appropriate conversation and decision-making models, which increases professional growth.

Professional learning communities are well suited for the nature of adult learners. A PLC exposes learners to new knowledge and encourages teamwork where people share prior experiences (Hellner, 2008). The benefits of PLCs for teachers include better attendance at work and more responsibility for students. Measurable evaluations can help validate PLCs. Improving PLCs through evaluations is supported by indicators of strengths and weaknesses for administrators. The goal of evaluations should be to contribute to PLC development.

Hinman (2007) advised that leaders acknowledge rather than ignore initiative fatigue. He also recommended that leaders make long-term commitments to collect and use data to drive decisions for improvement. According to Hinman, leading educational researchers endorse the concept that PLCs are the best hope for school improvement. This leads to several questions such as "Now what? How do we take this concept and put it into practice?" and "How can we use this model in schools when change is so difficult?" While all school leaders must find their own solutions to these challenges and address them within the unique contexts of their schools, the experiences of others can shine light on these efforts.

Veteran educators are often skeptical of any proposed change. Therefore, educational leaders should acknowledge initiative fatigue, research the history of educational reform, and share their findings. Hinman (2007) maintained that four critical questions drive PLCs: (a) What is it we want students to learn?, (b) How will

we know students have learned?, (c) What will we do if students have not learned?, and (d) How can we enhance learning for students who have already mastered the basics?

One example of applying these questions can be found at San Clemente High School, located in Orange County, California. The teachers at this school could not find any fault with the four critical questions that drive a PLC. As a result, when they received a proposal to engage into collective inquiry, and they agreed to commit to using Hinman's (2007) questions as a foundation for the school improvement plan. The staff supported the proposal and, because the decision came from within rather than from an outside entity (e.g., district, state, federal); the initiative began with a modicum of good will (Hinman, 2007). The administrators maintained focus on these questions as a part of the multi-year effort to use the questions. This focus helped alleviated some skepticism among staff. While it took time to establish credibility, the skepticism of implementing the PLC transformed into passion, purpose, and commitment.

Collaboration and collective investigation are essential to the PLC concept when teachers remain concentrated on the right issues (Hinman, 2007). The principal at San Clemente began the collective inquiry process by presenting staff with data on how many students had failed one or more classes over the course of multiple years. This presentation upset the staff and caused several teachers to become angry for multiple reasons. The teachers responded with a barrage of questions that could not be answered immediately. Eventually, the principal redirected the staff's attention to the third question driving the PLC: What will we do if our students have not learned? A watershed moment occurred when the staff acknowledged that the failure rate was unacceptable and that they could and should take steps to reduce it.

The principal then organized groups according to subject area and made time during school for teachers to work together. First, each team created group expectations to guide their work. Next, the teachers created common assessments to monitor student learning regularly. Then, the teams stayed focused on the critical questions because of the structure and processes provided. The last step involved implementing a school-wide intervention to offer additional support for struggling students. Following this process and using the four critical questions to drive the PLC allowed the teachers to address the student failure issue effectively. These steps developed teachers' capacities to work in collaborative teams.

It is vital for leaders to recognize that significant change is difficult. The initial effort to implement PLCs can be challenging. However, once the process begins, it becomes less challenging over time. Success breeds success, and with success comes sustainability. The PLC process may start as an administrative initiative, but as the benefits become evident for teachers and students, it can become a school initiative.

Hamos et al. (2009) provided examples of PLCs engaged in projects funded by the National Science Foundation (NSF) through its Math and Science Partnership (MSP) program. The MSP considered the benefits of different aspects of the teaching and learning environment and offered professional development for teachers that had a direct effect on student achievement (Hamos et al., 2009). The MSP project regularly collected data to help investigators determine whether creating PLCs resulted in meaningful change among teachers or classroom practices to benefit students.

Explicated assessment of the effect of professional development on teachers and students requires well-developed tools that include piloting, revision, and field testing. These instruments are used to observe PLCs. The North Cascades and Olympic Science Partnership (NCOSP) developed a system with a PLC Observation Protocol that provided key elements of an effective PLC, including shared vision and ways of working, collaboration, and reflective dialogue (Hamos et al., 2009, p. 16). The protocol allowed members to develop a shared understanding and work effectively as a PLC to provide a meaningful tool to self-monitor the development of the PLC.

The Partnership for Reform in Science and Mathematics (PRISM), led by the University System of Georgia, identified a need to improve science, technology, engineering, and mathematics (STEM) achievement for P-12 pupils and improve readiness for college and the workforce. One strategy to accomplish these goals is engaging educators in PLCs. PRISM leaders reported a positive effect of PLCs on teaching and learning practices. To provide evidence concerning the impact of PLCs, "PRISM employed Inventory of Teaching and Learning (ITAL), which is a self-report survey that evaluators use to assess teachers' reported emphasis on reformed teaching and learning practices" (Ellett & Monsaas, 2007, p. 2).

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PROSPECTS FOR THE DEVELOPMENT OF TOURISM EDUCATION IN KAZAKHSTAN

Professor Dr. (PhD), D.B.A. Zakiryanov Baurzhan
Faculty of Tourism
Kazakh Academy of Sport and Tourism
Kazakhstan
baurzhan kazast@mail.ru

Professor Dr. (PhD) Imangulova Tatyana
Faculty of Tourism
Kazakh Academy of Sport and Tourism
Kazakhstan
tatyana ast@bk.ru

Professor Dr. (PhD) Prokofyeva Marina
Faculty of Tourism
Kazakh Academy of Sport and Tourism
Kazakhstan
marinastur@bk.ru

Assoc. Professor. Dr. (PhD) Rassulova Saodat
Faculty of Tourism
Kazakh Academy of Sport and Tourism
Kazakhstan
777resort@gmail.com

ABSTRACT: Today's reality is that with the development of universal mobility the requirement of society increases in highly skilled shots in area of tourism. A specialist must possess not only theoretical, scientific and practical knowledge but also to improve, have the opportunity to develop in new directions, able to use new interactive resources, create the new ideas, know - how and approaches. Quality of training of professional personnels, comparableness of level qualifications of different countries, becomes an important task, that assists the increase of effective mobility of human capital. To date such important tasks stand in modern industry of tourism, as there is upgrading of training of tourist personnels, producing of specialists in area of the services of new generation, highly sought at an international level.
Keywords: Tourism, Industry, Education, World, Quality, Personnel, Tours, Exhibition

INTRODUCTION

The modern sphere of tourism for the last decades became one of key socio-economic sectors of our time, providing 9% of GDP, every 11th workplace, and also 6% of world export. For the last period about 1.5 billion tourists made trips within one year that much more exceeds figure in 25 million tourists in 1950. Despite economic, natural and technogenic crises, the International tourism continues to develop, involving in the orbit more and more people from many countries.

According to forecasts of UNVTO, it is expected that this growth will continue on a fixed basis and will reach a point of 1,8 billion international tourists in the world by 2030.

According to the director of the World Tourist United Nations Organization (WTUNO) Zoltan Somogy: "Now Kazakhstan is developing a new trend of tourism associated with the Great Silk Road. Silk Road Corridor "Chang'an-Tianshan" length of five thousand kilometers on the territory of Kazakhstan, Kyrgyzstan and China has been entered in the List of the World heritage in June, 2014. This is the first of the many corridors of the Silk Road, which will be included in the World Heritage List, thus emphasizing the incredible potential for tourism and ensuring the protection of World Heritage sites. UNWTO and UNESCO work together to create a roadmap for the development of heritage corridors (International News Agency,2016).

The concept of development of the tourist industry of the Republic of Kazakhstan, based on a strategy "Kazakhstan-2030", tourism is considered one of the most important areas in social and economic development of the country. The industry of tourism can be a wide range of business and a major factor of the state and social and economic development ("Kazakhstan - 2030", 1997).

In the long term by the year 2020 with full support from the government, the development of Kazakhstan's tourism industry can provide employment over 100 thousand new workplaces (Concept of development, 2013).

The importance of human resource management as a special type of administrative activity in recent years is undergoing a real boom in the global tourism industry. As international experience shows, the most important factor for long-term success of enterprises of tourism and business industry is , first of all, qualified matching, preserving and development of human talent, intellectual and creative potential of their employees and specialists (Rassulova, 2014, p.611-613).

As United Nations specialized agency in the field of tourism, UNVTO is entrusted to promote responsible, steady and public tourism. The main objective of UNVTO - promotion of tourism as the key instrument of social and economic growth, all-round development and ecological stability of this or that country.

For achievement of this purpose, UNVTO studies and creates the market, advances policy and instruments of competitive tourism, supports education and training for this area - does everything that tourism has become an effective instrument of development in more than 100 countries around the world.

THE DEVELOPMENT OF NEW TYPES OF TOURISM PRODUCTS

Development in the Republic of Kazakhstan of new types of modern tourist products such as business tourism, city tourism, restaurant tourism, gastronomy, cultural and educational tourism, improving tourism, hunting and fishing, mountaineering, holding forums, international exhibitions and sports is promoted to attract and increase the flow of tourists into the country.

Conducting in Kazakhstan of such major events as the EXPO-2017, the Winter World University Games 2017, the international business - forum will help improve the national spirit, the pride and the country's image on the world stage as a tourist destination, but also bring many benefits, including - urban regeneration, creating new jobs, increasing the flow of tourists and foreign investment.

Currently, the modern tourist business in Kazakhstan includes 5 national clusters:
1. Astana- agglomeration with Borovoy, Korgalzhin and several adjacent regions;
2. Almaty and Almaty Region;
3. South Kazakhstan - the Silk Way;
4. East Kazakhstan Region(EKR);
5. Kengerli - development of beach tourism.

There are a further development of regional tourism - 20 miniprojects, especially with a guide on the development of domestic tourism. The demand for highly qualified personnel for the tourist of the industry will annually increase. Therefore it requires special preparation and training of specialists in accordance with international standards for quality work in the travel industry, aviation, visa services, hotel and restaurant services, in matters of transport infrastructure.

According to the data of Agency of Statistics of the Republic Kazakhstan, in the accounting period in the republic 1515 tourist firms perform the activities and the 127th individual entrepreneur, the number of enterprises of hotel economy constituted about 1055 units. The number of hotels increases. 10 years ago in Kazakhstan was only 871 hotels, and in 2016-2441. The volume of services rendered by hotels, amounted to 73 billion tenge in 2015 (5 years ago was 47 billion tenge).

Next year Kazakhstan travel agencies expect the flow of foreign visitors. Companies are already developing tourist routes. One of the main objects, which offer tourists to visit, will be "Astana EXPO - 2017" - planned specialized international exhibition recognized by the Bureau of International Exhibitions (BIE), which will be held in the Kazakhstan city Astana in 2017. The Republic of Kazakhstan is a full-fledged member of the International Bureau of Exhibitions since 1997 and since 2005 takes an active part in EXPO.

EXPO-2017 expects the participation of more than 100 countries and 17 international organizations, and about 5 million visitors. Ten countries have already confirmed participation in EXPO-2017. Also, for participation in EXPO-2017 applications were submitted already by more than 50 companies. 283 million euro are allocated for carrying out EXPO-2017 from the republican budget of Kazakhstan. The total cost will exceed 3 billion dollars. The area of the territory — 173,4 hectares. 79000 personnel, 283 million euro an expected profit.

The theme of the exhibition "Energy of the Future", will cover the topic - alternative energy sources. At the World specialized Fair 2017 member countries will show achievements and prospects in the sphere of use of renewable energy resources and their such benefits as ecological purity, low cost of operation and harmlessness to the environment. For Kazakhstan «EXPO-2017" will be a landmark event: never before the international exhibition of similar scales are not held in the countries of Central Asia region and the CIS.

There are two types of the international EXPO exhibitions. The World universal Fair held each 5 years (the last was in 2015 in Milan, following in 2020 in Dubai) and specialized international exhibition conducted between the main universal. EXPO 2017 is a specialized international exhibition. Besides scale and the importance of distinction also that in the World universal Fair of the country participants build constructions at own expense, and in specialized at the expense of host country (state). The exhibition will give also a powerful impulse of system diversification of economy and technological upgrade of production capacities and scientific base of the country. Preparation for so large-scale action will involve domestic small and medium business, including tourist business.

After holding an exhibition on the base of EXPO-2017 will be created the financial center "Astana" allocated with the special status . 250 million dollars are provided in the master plan for tourism development, construction of tourist objects and creation of new internal structure of Astana to EXPO-2017 ("Astana EXPO-2017" 2016).

Master plan of the development of Astana as tourist destination- is the creation of aquapark, transformation of the waterfront, the scientific and informative town, ethnocomplex "Steppe civilization", a covered market-gallery arcade. The following tourist zones are determined to: "Nursaya", Nurzhol, the promenade, the old town and museum center, the Pyramid, Palace of Peace and Reconciliation. Almaty, Alakol, Bukhtarma remain popular   destinations.

The national company carried out the complex analysis of the existing tourist routes on the basis of which is developed the general register of the routes including the visit "EXPO-2017". Routes will have the sign "Recommended by EXPO", and information on them will be posted on the website of the company.

Active negotiations are conducted with large tourist portals, such as tripadvisor.com and booking.com on promotion and sale of the tourist's packets which entered the register of "Recommended by EXPO".
It is planned that guests of an exhibition will visit not only Astana, but also other regions of Kazakhstan.

Currently, new tours are being developed in many regions of Kazakhstan and improve existing ones. Issues related to «Orient Express» class trains run along the Kazakh section of the Silk Road under the brand "EXPO-2017". Negotiations are conducted with "Air Astana" and foreign airlines on inclusion in airfare to Astana of the visit "EXPO-2017".

It is declared that the largest tour operator of the world - Touristic Union International Group also is interested in a cooperation with the NC "Astana EXPO-2017". At the moment the national company conducts negotiations on partnership which will allow to sell in the European markets tourist packets to Kazakhstan with a possibility of the visit "EXPO-2017". The German operator serves more than 30 million clients a year in 180 countries of the world. Only in Europe TUI Group has more than 1 800 travel agencies.

Considering the international experience such large-scale actions as the carrying out "EXPO-2017" and the Winter World University Games 2017, give an impulse to development not only a tourist industry, but also other fields of economy. Statistically, one tourist leaves about 1,5 thousand dollars in the visited country and provides about 6-12 people with work. Thus, during the exhibition various fields of economy and citizens of the country will receive additional earnings.

The XXVIII winter World Universiade held during the period from January 28 to February 8, 2017. According to preliminary data, over five thousand students from 50 countries entering into alliance FISU will take part in it. It is planned to involve about three thousand volunteers.
Almaty became the capital of the XXVIII winter Universiade of 2017 – for the first time in the post- Soviet space.

The objects constructed for holding the 7th winter Asian games of 2011 became infrastructure base for preparation of the megalopolis for an important sports event. In particular, it will be used the International Ski Jump Complex "Sunkar", Sports Palace of B.Sholak and Ski Biathlon Stadium in Almaty region.

Also sporting events will be held on a high-skating rink "Medeo" and the ski resort "Shymbulak". For needs of the Universiade the Ice arena, the Ice arena and the Athletic village are in addition built. Within the winter Universiade in Kazakhstan are planned competitions on 13 sports disciplines (8 obligatory and 5 additional) .

Obligatory type of sports: figure skating, short track, alpine skiing, snowboarding, biathlon, ski race, ice hockey, curling. Ski jumping, Nordic combined, freestyle, speed skating, bandy became additional sports which join according to the offer of host.

The student's national team of Kazakhstan has experience of participation in eight winter Universiades. During this time in moneybox of the national team of Kazakhstan were gathered 43 awards.

In total on the event, which was covered by 2000 foreign journalists watched more than 500 million viewers throughout the world. In general the VII Asian Games have once again shown the high level of the organization of sporting events in the country, have strengthened image of Kazakhstan on the international scene as hospitable country, stronghold of stability, peace and harmony, and also one of the leading sports powers of Asia and world.

Additional educational trajectories were developed for increase in competitiveness of education, development of a human capital by ensuring availability of quality education to a strong growth of economy by 2020 together with the partner entities to the educational program "Tourism" in the Republic of Kazakhstan in the Kazakh Academy of Sport and Tourism on the "Tourism" faculty: "The international tourism", "Sports and health - improving tourism".

ORGANIZATION AND DEVELOPMENT OF EDUCATIONAL PROGRAMS

On the basis of KAZAST is located Republican Educational and methodical Council for the specialty "Tourism" which controls all standard programs of this direction for all Universities of the Republic of Kazakhstan and is one of the best higher educational institutions on material and technical resources and equipment educational and methodical materials for specialty "Tourism".

Now at Faculty of tourism are used facultative parameters of Bologna Process, material and educational resources, a modular training system ; nonlinear trajectories of training of students, elective courses; electronic rates. They are of great importance in planning, the organization and forming of modular educational programs, educational process taking into account interests of employers and requests of society (100 Experiences of Modern Kazakhstan, 2016).

National strategies, regulatory and legal documents are the basic platform, and adhere to the following parameters of the Bologna Process:
- Development and implementation of educational programs in accordance with the requirements of the National Qualifications Framework, sectoral qualifications frameworks and professional standards;
 - Improvement of the mechanism of flexible response to labor market needs through the use of modular educational programs;
- The development of modular educational programs with the participation of employers;
- Preparation of highly qualified tourism personnel;
- Possession of scientific and practical knowledge in the field of modern innovation and entrepreneurship;
- Professional activities aimed at improving the tourism and hospitality industry;
-providing state regulation of the tourism industry;
-organizing and planning of prevention and search and rescue operations in tourist activities, as well as other spheres of human activity related to tourism;
- ownership: ethical and legal standards of conduct; system of practical knowledge and skills, providing acquisition, development, improvement and enhance mental and physical abilities and qualities, acquisition, retention and promotion of health, ability to work in team properly defend his point of view, to offer new solutions.

The educational activities of the Faculty of Tourism is characterized by the widespread introduction of e-learning technologies, including the use of the Internet, educational multimedia materials and other electronic resources for educational purposes.

Implementation of additional educational trajectories allowed:
 - To increase the attractiveness and competitiveness of the specialty "Tourism" in the labor market;

- To expand the interaction of the Kazakh Academy of Sports and Tourism with the enterprises in the implementation phase of the educational program;
- Create conditions for improving the quality of training in accordance with the requirements of employers;
- Provide 100% job placement.

The objectives of the educational program 5V090200 "Tourism" are:
- Improving the structure, content, tourism education technology;
- ensuring communication of system of tourist education with scientific and technological and innovative policy;
- forming of social and personal qualities of students: love to the profession, commitment, organization, diligence, responsibility, motivation, business and cultural skills;
- strengthening of methodical and methodological content of the tourist education allowing the graduate to have the universal, scientific and subject and specialized competences promoting his social mobility and stability in the labor market.
- advance and routine planning of tourist activities of RK and cooperation with republican, regional and foreign partners;
- development and promotion of new types of tourist services; the organization of accounting and control for the purpose of optimization of management process;
- quality management on rendering tourist services in various spheres of tourist business;
- carrying out the international marketing researches for the purpose of increase in effective tourist sales;
- organization of preventive actions for safety of tourist activities;
- innovative activities in the field of management of tourist movement;
- coordination and mutual adaptation of curricula and programs;
- completeness of education at each step;
- meeting the educational requests of students depending on capabilities, desires and opportunities;
- complexity of work on career guidance and professional training, studying of market demand of work.

FINDINGS
For the development of practice-oriented, modular training programs in the specialty "Tourism" need stable relations of regional enterprises with science and higher education. In this direction the faculty within the last three years has strong scientific and educational communications with the Kazakhstan tourist association, the Kazakhstan association of hotels and restaurants, the station of young tourists of Almaty, and other organizations connected with tourist activities in the Republic of Kazakhstan.

The development of international tourism business in Kazakhstan, as the prospect of opening new possibilities of entering into the world educational space, into a single global travel market.

The Kazakhstan education system for all the years of independence was subjected to radical changes, which resulted in the modification of the educational sphere paradigm. It was the fact that the education system has gained flexibility. Modern education system has expanded the boundaries of reality and educational services that meets the new requirements in terms of global competition. Quality of training of a professional personnel, a comparability of-level qualifications of the different countries became an important task that promotes increase in effective mobility of a human capital.

CONCLUSIONS
Today's reality is that with the development of the universal mobility increases society's need for highly qualified personnel in the field of tourism. The specialist must possess not only theoretical, scientific and practical knowledge, but also to improve, to be able to develop in new directions, to be able to use the new online resources, creating their own new ideas, know-how and approaches.

Quality of training of a professional personnel, comparability of level qualifications of the different countries becomes an important task that promotes increase in effective mobility of a human capital.

Today, in the modern industry of tourism there are such important tasks as improvement of quality of preparation of a tourist personnel, release of specialists in the field of the services of new generation demanded at the international level.

The future to which we aspire- it is a common occurrence in world educational space and the international recognition of educational programs on specialties in the field of tourist accommodation and service.

The higher education is a key to joint scientific research and the international mobility which is the central part

of participation in global economy of knowledge in the field of tourist services.

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STUDENT SATISFACTION IN ENGINEERING EDUCATION USING WLC AND GIS

Bülent BOSTANCI

Engineering Faculty, Geomatics Engineering

Erciyes University

bbostanci@erciyes.edu.tr

ABSTRACT

Computer and communication technologies have been developing very quickly from past to present. This provides access to information and makes sharing of information easier than ever. Universities are one of the places where information is produced and used extensively. The main activities of universities consist of producing knowledge, transferring knowledge to new generation, making them gain profession, and educating people who research and think. Knowledge transfer to students is possible through lectures given by instructors. Feedback mechanisms on lectures' effectiveness and education quality are used by most educational institutions in our country and around the world.

It is not possible to certainly limit the number of factors affecting education quality. However, a weighted average value can be generated from the combination of selected criteria and evaluator's answers. This value, called the suitability, is calculated for all alternatives, and then the alternative with the highest suitability is determined as the best choice.

The education quality survey questionnaire consists of 41 questions (criteria) regarding the subjects including instructors (teaching staff), teaching and learning services infrastructure, physical conditions, university services and activities, management and student affairs, preparation of the students for professional career life and their satisfaction with career opportunities. Criteria weights are determined by the Analytical Hierarchy Process (AHP) method, which is a multi-criteria decision-making technique. The questionnaire has been applied on 400 students who were studying at Erciyes University Faculty of Engineering, and the answers given to 41 questions were transformed into a single suitability using the Weighted Linear Combination (WLC) method. Finally, a Student Satisfaction Map was created in Geographic Information Systems (GIS) based engineering from the obtained results by using the Inverse Distance Weighting (IDW) interpolation method.

Keywords: *Student Satisfaction, Weighted Linear Combination, Geostatistical Analyst,*

1. INTRODUCTION

Today, there is an intense competition in the global market. It has become increasingly important to train students who can meet the expectations of the business world. If it is desired to have a workforce with certain knowledge and skills, the concept of quality should be addressed and discussed in educational institutions as well. Therefore good quality products and services are only possible with good education (Yıldız and Ardıç, 1999). While competition dominates all markets, the same effect is felt in all service branches. Universities are also one of the areas with intense competition. Service quality in universities is the reason for preference. Higher education institutions can also be considered as a service business. As a service business, they have a responsibility to improve the quality of services for individuals. In addition to this situation, unlike other establishments, higher education institutions have an advantage in terms of quality, because they have a mission of raising human resources that have a significant impact on social life and play a fundamental role in the development of countries. Higher education institutions should not limit their applications, which aim at realizing high quality services, only to the instant satisfaction of an individual who is being served, however, the applications should be addressed with a broader understanding that will ensure continuity and improvement of the satisfaction (Aygün, 2014).

Academic institutions have started to care about customer satisfaction in the new economic environment where science has begun to commercialize and entrepreneurial spirit has begun to dominate (Kelsey and Bond 2001). Different opinions are put forward regarding the place of academic institutions in this age and their adaptation to information and communication technologies. Placing the debate on one side, it is not possible for the society in general and the universities in particular to ignore the needs and satisfaction of the students (Ensari and Onur, 2003)

Improvement in education and training programs is important in terms of bringing a qualified, conscious and confident workforce in society, and thus developing and moving forward the society. In addition to increase in quantity of educational institutions, the quality also needs to increase. Achieving a desired level of education is

possible by focusing on the issues such as quality, satisfaction and performance. However, the unilateral design of the offered education and training services and the delivery of these services irrespective of the students' evaluations can lead to problems in achieving the desired degree of goodness. In planning the actions to prevent such problems, students' satisfaction with existing services can be regarded as an important precedent. Student satisfaction is considered to be a short-term attitude as a result of evaluating a student's educational experience. Student satisfaction occurs when his/her needs are meet (Elliot and Healy, 2008). Satisfaction does not just mean meeting the needs. At the same time, expectations must also be met (Zemke, 2000). However, service needs and expectations of students in higher education have a highly complex structure (Oldfield and Baron, 2000; Erdoğan and Bulut, 2015).

Many studies on student satisfaction have been found in the literature in terms of ensuring competitive developments in the education sector. Athiyaman (1997) found a high degree relation of student satisfaction and perceived quality with enrollment in university in his study conducted on student satisfaction and service quality perception in university education. By using Herzberg's two factor theory and comparing the satisfaction of business students, DeShields Jr *et al.* (2005) concluded that students with positive experiences in their colleges had higher satisfaction levels than those with negative experiences. Douglas *et al.* (2006) conducted a study in business and law faculty in the United Kingdom, and found that student satisfaction was related to learning and teaching quality rather than physical possibilities. Clemes *et al.* (2008) measured the overall student satisfaction in higher education according to the hierarchical model used to measure the service quality, and found that the high service quality perceptions of the students increased their satisfaction levels, and positively affected their future behavioral intentions. Elliot and Healy (2008) also examined the factors affecting student satisfaction, and found that factors such as student-centered approach, campus climate, and teaching effectiveness were the most powerful factors affecting the student's overall educational experience (Erdoğan and Bulut, 2015).

There are a variety of studies on this subject in our country. Some of these studies are as follows: a) Students' expectations on quality: The example of education faculties (Hoşcan and Ensari, 2003); Determination of nursing students' satisfaction levels in their education (Ulusoy *et.al.*, 2010); b) Evaluation of teacher candidates' satisfaction levels in higher education and their subjective well-being status: The example of Kafkas University (Osmanoğlu and Kaya, 2013); Determination of expectations and satisfaction levels of the Hacettepe University students in some academic services (Ekinci and Burgaz, 2007); Evaluation of student satisfaction for quality improvement in a department of high education associatıon (Kaya and Engin, 2004).

When the literature on decision making is examined; it is observed that the decision making is defined as the determination of the option or options that can give the most appropriate/optimal outcome as a result of the evaluation of all aspects of the problems that must be solved in any event or situation which is encountered at all levels of management (Toksarı and Toksarı, 2003). In cases where there are more than one variable (criterion) in decision making problems, various scientific methods have been introduced to find solutions to these problems. These solution methods are called multi-criteria decision making methods, and different approaches are used according to the situation that is encountered (Göksu and Güngör, 2008). The number of multi-criteria decision making techniques has been increasing day by day as a result of scientific researches and development of new techniques. Some of these techniques are as follows; AHP, ANP, ELECTRE, TOPSIS, PROMETHEE, SAW, VIKOR, DEMATEL, Gray Relational Analysis and so on (Şengül *et al.*, 2012).

Spatial decision support systems that combine the GIS and spatial decision making methods are also frequently used in the literature. Spatial decision support systems (SDSS) are computer-based systems that facilitate decision making on spatial problems, combining the data storage, synthesis and analysis features of the GIS in the solution of decision models, decision making methods, and optimization algorithms. These systems provide decision makers with the ability to determine the most appropriate option using multiple spatial criteria in the solution space where spatial and attribute information are combined. SDSS, which can be used to select the most suitable sites according to criteria including site selection, housing evaluation, facility location, land use and planning, and route selection, is often preferred in spatial scientific researches (Bostancı, 2016).

The study aims to measure student satisfaction in engineering education through questionnaires, calculate a general satisfaction value for each student by using the WLC method with AHP weights, and obtain a general GIS-based satisfaction map over the province/district where the student lives. The AHP method, WLC method and Geostatistical Analysis will be explained in the method section of the study.

2. METHODS
2.1. AHP Method

The AHP was initiated by Saaty (1980) and is a well-known multi-attribute weighting method for decision support (Brent *et al.* 2007). This process is a flexible multicriteria decision-making methodology that transforms a complex problem into a hierarchy with respect to one or more criteria (Mohajeri and Amin 2010; Bostancı *et al.,* 2015). The AHP is a framework of logic and problem-solving that covers consciousness by organizing perceptions, feelings, judgments and memories into a hierarchy of forces that influence decision results. The AHP is based on the innate human ability to use information and experience to estimate relative magnitudes through paired comparisons. These comparisons are used to construct ratio scales in a variety of dimensions. Arranging these dimensions in a hierarchical or network structure allows a systematic procedure to organize our basic reasoning and intuition by dividing a problem into its smaller constituent parts. The AHP, therefore, leads from simple pair-wise comparison judgments to the priorities in the hierarchy (Saaty, 2006).

A suitable measurement scale for the pair-wise comparisons arises when verbal judgments are expressed by the degree of preference: equally preferred = 1, moderately preferred = 3, strongly preferred = 5, very strongly preferred = 7 and extremely preferred = 9. The numbers 2, 4, 6 and 8 are used for similar alternatives (Brent *et al.,* 2007). AHP methodology is given below stage by stage.

Stage 1: An *A* pair-wise comparison matrix is created by comparing $C_1, C_2, C_3, \cdots, C_n$ criteria based on their levels of significance in the AHP method.

$$A = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \vdots & \vdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{bmatrix}$$

For example, if C_1 and C_1 criteria is compared, $a_{11} = 1$; if C_1 and C_2 criteria is compared a_{12} is calculated and always a_{21} is equal to $\dfrac{1}{a_{12}}$.

Stage 2: Each component of comparison matrix is subdivided to total of its column and standardized comparison matrix (*B*) is calculated.

Based on the formula of $b_{11} = \dfrac{a_{11}}{a_{11} + a_{21} + \cdots + a_{n1}}$,

$$B = \begin{bmatrix} b_{11} & b_{12} & \cdots & b_{1n} \\ b_{21} & b_{22} & \cdots & b_{2n} \\ \vdots & \vdots & \vdots & \vdots \\ b_{n1} & b_{n2} & \cdots & b_{nn} \end{bmatrix} \text{ matrix is calculated.} \tag{1}$$

Stage 3: Mean of each line in standardized comparison matrix is calculated. These mean values represent relative importance of criteria.

$$w_i = \frac{\sum_{j=1}^{n} b_{ij}}{n} \quad (i = 1, 2, \ldots, n) \tag{2}$$

$$W = \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix}$$

Stage 4: Validity of results of the AHP methodology is dependent on consistency of A matrix. Saaty (2006) uses Consistency Rate (CR) to evaluate the consistency. Calculation of the CR is below.

D (column vector) = A.W

$$D = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \vdots & \vdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{bmatrix} \cdot \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix} \rightarrow D = \begin{bmatrix} d_1 \\ d_2 \\ \vdots \\ dn \end{bmatrix} \tag{3}$$

Calculation of eigenvector (E) and eigenvalue (λ) are as follows:

$$E = \begin{bmatrix} \dfrac{d_1}{w_1} \\ \dfrac{d_2}{w_2} \\ \vdots \\ \dfrac{d_n}{w_n} \end{bmatrix} \text{ and } \lambda = \dfrac{\sum_{i=1}^{n} E_i}{n} \tag{4}$$

$$CI\,(Consistenc\,y\,Index) = \frac{\lambda - n}{n - 1} \tag{5}$$

CR is calculated by dividing CI with Random Index (RI) values given below (Saaty, 2006). For example, RI value used in a comparison having 4 criteria is 0.90.

Random Index values:

n	1	2	3	4	5	6	7	8	9	10	11	12	13
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56

$$CR\,(Consistency\,Rate) = \frac{CI}{RI} \tag{6}$$

If $CR \le 0.1,$ pair-wise comparison matrix is consistent; otherwise, a new matrix is solicited until $CR \le 0.1$ (Saaty, 2006).

2.2 Weighted Linear Combination
The weighted linear combination, or simple additive weighting, is based on the weighted average concept where the criteria are standardized in a common numerical range. The decision maker directly assigns the relatively important weights to a proper feature map layer. The total score of each alternative is derived from the sum of the significance weight value determined for the criteria and the score value products calculated within the scale for all the criteria. Suitability values are calculated for all alternatives and the alternative with the highest suitability is determined as the best choice. The method can be carried out using any GIS program with spatial analysis capabilities. These programs allow the layers created for each criterion to be combined to determine the composite map by assigning weights. The method can be applied to both raster and vector GIS environments (Drobne and Lisec, 2009). Some GIS systems such as Idrisi (Eastman, 2006) have built-in routines for the WLC method. In order to apply spatial multi-criteria decision making analysis in ArcGIS (ArcGIS, 2008; Boroushaki and Malczewski, 2008), a weight is applied to each criterion, of which the weighted linear combination score value was already determined, and then the sum of the criteria results is combined into a single layer to obtain a suitability map.

$$S = \sum Wi.Xi \tag{7}$$

Where,
S = suitability
Wi = criterion weight

Xi = score value

All of the GIS programs provide basic solution tools for the evaluation of such models (Drobne and Lisec, 2009).

2.3. Geostatistical Analysis

Spatial analysis has become one of the most important branches of statistics that has been increasingly growing in importance in recent years. Tobler (1970) noted that "all spaces are related, but the closest ones are more related to each other." This rule is particularly important when social and physical elements are examined. In the classical statistics, it is assumed that the selected representative points are independent of each other and the sampling average represents the population average in the best way. However, in the analysis of spatial data, the assumptions of classical statistics cannot be obtained when neighboring data are considered to be related to each other (Mardia and Marshal, 1984). In other words, it is natural that the points sampled close to each other are related and similar to each other (Başbozkurt *et al.,* 2013).

Geostatistical Analyst an additional module used in spatial data analysis and statistical interpolation surfaces creation on ArcGIS software. Geostatistical analysis is a cost-effective and logical solution for the analysis of various data sets, which requires large amount of cost and plenty of time to perform. It is a method to predict the variables, which do not have observations, by making an intermediate value determination according to the spatial positioning between the local variables that do not have observations with a certain structure in an observation area and the variables that have observations. The first and most important step of the geostatistical analysis is the semi-variogram analysis which reveals the spatial dependence structure within the observation area (Keskiner, 2008). It is the step that uses mostly computer resources and takes a long time. The intermediate value is used to calculate the values at other points with reference to the raw data received from specific points. There are many different methods of determining intermediate values: inverse distance weighting method, Kriging method, radial-based functions, global and local polynomials (Tural, 2011).

The Inverse Distance Weighting (IDW) method, which aims at calculating intermediate values by using the points with known locations, is an intermediate value detection technique used to determine cell values of the points that cannot be sampled with the help of known sample point values. The cell value is calculated by taking into consideration the various distances from the cell concerned (taking into account) and the increase in distance. The estimated values are a function of distance and magnitude of neighboring points, and the significance and influence of the estimated values on the cell to be estimated decreases with the increase in the distance. It is a deterministic method (Law and Collins, 2013).

Although several types of IDW method are known, one of the well-known is "Shaperd's Method". Number of scattered points on the surface is n, function and weight that defines the sample points and "Shaperd's equation" is as follows in Eq. (8) [Tural, 2011]:

$$f(x, y) = \sum_{i=1}^{n} w_i \cdot f_i \tag{8}$$

Weights are as follows in Eq. (9):

$$w_i = \frac{h_i^{-p}}{\sum_{j=1}^{n} h_j^{-p}} \tag{9}$$

p is "power parameter" and generally expresses a positive squared real number, hi describes the three dimensional spatial distance of (10) equation between the sample points and the point to be interpolated (Tural, 2011; Arslanoğlu and Özçelik, 2005):

$$h_i = \sqrt{(x - x_i)^2 + (y - y_i)^2 + (z - z_i)^2} \tag{10}$$

Good results are obtained from the IDW when the sampling is sufficiently dense compared to the local variation that we tried. If sampling of entry points is sparse or irregular, the results may not adequately represent the desired surface (Watson and Philip, 1985).

3. APPLICATION AND FINDINGS

The Student Satisfaction Survey questionnaire has been developed to include 7 main criteria and 41 sub-criteria from literature research and author evaluations from previous studies. The questionnaire has been implemented

on approximately 600 randomly selected students from 12.000 students studying at Erciyes University Faculty of Engineering and 400 of those students whose residence complies with the study were used as samples. The number of samples is 372, according to 95% confidence level, and 5% sample error. The student satisfaction survey questionnaire consists of 41 questions (criteria) regarding student satisfaction in the following fields:

A- Satisfaction with the instructors in the faculty (7 questions),

B- The infrastructure of education and training services in the faculty (6 questions),

C- Physical conditions of the faculty (8 questions),

D- Social-cultural services and activities within the university (7 questions),

E- School management (4 questions),

F- Students related to student affairs (5 questions)

G- Preparation of students for their careers and business life (4 questions)

The answers to the questionnaires were scored with 1 to 5 points on the Likert scale, and a location-based database was created on the ArcGIS software according to the student's residential location (Figure 1).
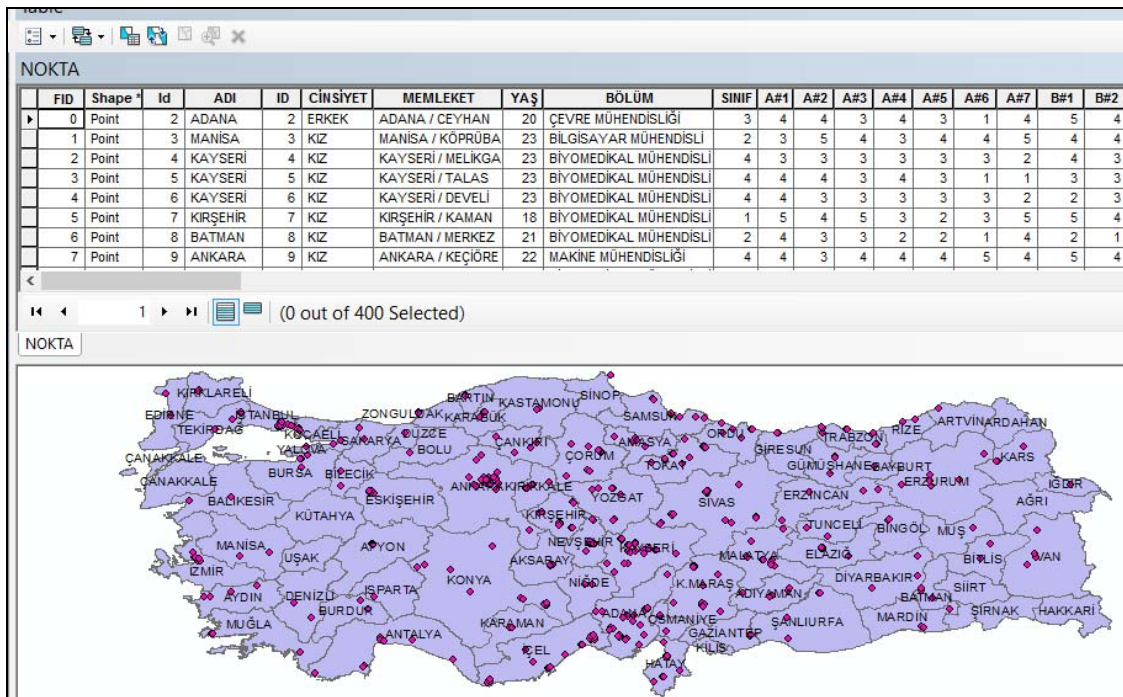
Figure 1. Input of the questions of the questionnaire to the database based on the province/district in which the student lives

The main criterion weights were obtained from the average of the dual comparison importance ratios that the 10 experts working at the Erciyes University has created using the AHP importance scale (Table 1).

Table1. The average main criteria coefficient matrix according to Saaty's AHP importance scale

Criterion	A	B	C	D	E	F	G
A	1.00	4.00	4.00	4.00	5.00	4.00	5.00
B	0.25	1.00	2.00	2.00	3.00	2.00	3.00
C	0.25	0.50	1.00	2.00	4.00	2.00	2.00
D	0.25	0.50	0.50	1.00	3.00	3.00	2.00
E	0.20	0.33	0.25	0.33	1.00	2.00	1.00
F	0.25	0.50	0.50	0.33	0.50	1.00	2.00
G	0.20	0.33	0.50	0.50	1.00	0.50	1.00
Total	2.40	7.17	8.75	10.17	17.50	14.50	16.00

Using Equation 1, the coefficients matrix was normalized and is represented by the C matrix.

C=

0.41667	0.55814	0.45714	0.39344	0.28571	0.27586	0.31250
0.10417	0.13953	0.22857	0.19672	0.17143	0.13793	0.18750
0.10417	0.06977	0.11429	0.19672	0.22857	0.13793	0.12500
0.10417	0.06977	0.05714	0.09836	0.17143	0.20690	0.12500
0.08333	0.04651	0.02857	0.03279	0.05714	0.13793	0.06250
0.10417	0.06977	0.05714	0.03279	0.02857	0.06897	0.12500
0.08333	0.04651	0.05714	0.04918	0.05714	0.03448	0.06250

Using Equation 2, the AHP weights were obtained (Table 2).

Table 2. Weights of the main criteria (W_i)

Main criteria	Wi	Order of importance
A	0.38564	1
B	0.16655	2
C	0.13949	3
D	0.11897	4
E	0.06411	6
F	0.06949	5
G	0.05576	7
Total	1.00000	

CR = 0.06 was calculated with the help of Equation (3-6) and is smaller than the 0.10 value. The matrix created for main criteria binary comparisons is consistent. The sub-criterion weights were obtained by dividing the main criteria weights by the number of sub-criteria.

In order to be able to calculate the suitability as a numerical value, it is necessary to convert the linguistic variables into numerical values. The WLC score values were generated by normalization process according to the Likert Scale values. Table 3 gives a normalization scale for the WLC criterion score values.

Table 3. WLC score values for criteria

Linguistic Variable	Likert scale value	WLC score value
I am very satisfied	5	1.00
I am satisfied	4	0.80
Middle	3	0.60
I am not satisfied	2	0.40
I am not satisfied at all	1	0.20

As shown in Equation 7, the overall satisfaction suitability of each student was found by multiplying each criterion weight with the score value of the criterion. This value will be in the range of 0-1. In the frame of this information, the S_i suitability of the student with ID number 2 is calculated as follows:

S_I= 0.60. $(W_A/7)$ + 0.80. $(W_A/7)$ + 0.60. $(W_A/7)$ +...+ 0.80. $(W_B/6)$ + 0.60. $(W_B/6)$ + 0.20. $(W_B/6)$ +...+ 0.40. $(W_C/4)$+ 0.20. $(W_C/4)$ + 0.60. $(W_C/4)$ +...+ 0.60. $(W_D/7)$ + 0.40. $(W_D/7)$ + 0.60. $(W_D/7)$ +...+ 0.80. $(W_E/8)$ + 0.80. $(W_E/8)$ + 0.20. $(W_E/8)$ +...+ 0.20. $(W_F/5)$ + 0.80. $(W_F/5)$ + 0.60. $(W_F/5)$ +...+ 0.60. $(W_G/4)$ + 0.60. $(W_G/4)$ + 0.40. $(W_G/4)$ + 0.40. $(W_G/4)$ =0.5892

The general satisfaction suitability of the other students were obtained in the same way. Figure 2 gives the overall satisfaction suitability of the first 40 students by ID number.

ID	A.1	A.2	A.3	A.4	A.5	A.6	A.7	B.1	B.2	B.3	B.4	B.5	B.6	C.1	C.2	C.3	C.4	D.1	D.2	D.3	D.4	D.5	D.6	D.7	E.1	E.2	E.3	E.4	E.5	E.6	E.7	E.8	F.1	F.2	F.3	F.4	F.5	G.1	G.2	G.3	G.4	Si
2	0.6	0.8	0.6	0.6	0.6	0.8	0.8	0.8	0.6	0.2	0.8	0.4	0.6	0.4	0.2	0.6	0.2	0.6	0.4	0.6	0.2	0.8	0.8	0.8	0.8	0.8	0.2	0.4	0.8	0.8	0.6	0.4	0.2	0.8	0.6	0.4	0.6	0.6	0.6	0.4	0.6	0.5892
3	0.8	0.8	0.6	0.8	0.6	0.2	0.8	1	0.8	0.6	0.6	0.8	0.8	1	0.8	1	0.6	1	0.8	0.8	0.6	0.6	1	1	1	1	0.8	1	1	0.8	1	1	0.8	1	1	0.6	0.6	0.6	0.6	0.2	0.2	0.7438
4	0.6	1	0.8	0.6	0.8	0.8	1	0.8	0.8	0.8	0.8	0.8	0.8	1	0.8	0.8	0.8	0.2	0.6	0.6	0.2	0.6	0.2	0.6	0.8	0.8	0.8	0.6	0.8	0.8	0.6	0.6	0.4	0.4	0.4	0.4	0.2	0.6	0.6	0.8	0.6	0.6957
5	0.6	0.6	0.6	0.6	0.6	0.6	0.4	0.8	0.6	0.4	0.4	0.2	0.2	0.4	0.4	0.4	0.6	0.6	0.4	0.4	0.4	0.4	0.8	0.6	0.4	0.2	0.4	0.8	0.6	0.6	0.4	0.8	0.6	0.6	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.5011
6	0.8	0.8	0.6	0.8	0.6	0.2	0.6	0.6	0.6	0.2	0.2	0.6	0.4	0.6	0.6	0.6	0.8	0.2	0.2	0.4	0.4	0.4	0.6	0.4	0.2	0.2	0.2	0.8	0.6	0.2	0.2	0.8	0.6	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.4771
7	0.8	0.6	0.6	0.6	0.6	0.6	0.4	0.4	0.6	0.2	0.2	0.6	0.4	0.8	0.6	0.4	0.4	0.6	0.4	0.6	0.6	0.4	0.8	0.8	0.2	0.4	0.6	0.6	0.4	0.2	0.6	0.6	0.6	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.5030
8	1	0.8	1	0.6	0.4	0.6	1	1	0.8	0.8	0.4	0.2	0.6	0.6	1	0.8	1	0.6	0.6	0.6	0.6	0.6	0.2	0.6	0.8	0.2	0.4	0.4	0.8	0.8	0.6	0.4	1	1	0.8	0.4	0.8	0.6	0.6	0.6	0.8	0.6767
9	0.8	0.6	0.6	0.4	0.4	0.2	0.8	0.4	0.2	0.2	0.2	0.4	0.2	0.6	0.8	0.6	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.6	0.4	0.2	0.8	0.8	0.2	0.2	0.2	0.2	0.6	0.2	0.8	0.2	0.2	0.2	0.8	0.4	0.4487
10	0.8	0.6	0.8	0.8	0.8	1	0.8	1	0.8	0.8	0.8	0.8	0.6	0.8	0.6	0.6	0.6	0.2	0.8	0.2	0.2	0.8	0.8	0.6	0.8	0.6	0.8	0.8	0.6	0.8	0.2	0.8	0.8	0.6	0.8	0.6	0.8	0.8	0.4	0.8	0.6	0.7076
11	0.8	0.8	0.8	0.6	0.6	0.4	0.6	0.6	0.8	0.4	0.6	0.6	0.6	0.6	0.8	0.6	0.6	0.4	0.4	0.6	0.4	0.6	0.8	0.8	0.8	0.8	0.4	0.2	0.8	0.8	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.4	0.6	0.6	0.6	0.6225
12	0.6	0.4	0.6	0.6	0.6	0.6	0.4	0.2	0.2	0.2	0.6	0.8	0.6	0.2	0.2	0.2	0.6	0.2	0.2	0.6	0.2	0.8	0.2	0.6	0.6	0.6	0.6	0.6	0.2	0.2	0.2	0.2	0.4	0.6	0.6	0.6	0.4	0.6	0.6	0.6	0.6	0.4660
13	0.8	0.8	0.8	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.7526
14	0.4	0.2	0.4	0.2	0.2	0.6	0.4	0.8	0.4	0.4	0.8	0.2	0.2	0.2	0.4	0.6	0.8	0.2	0.2	0.2	0.2	0.2	0.8	0.8	0.6	0.8	0.8	0.8	0.4	0.6	0.2	0.2	0.4	0.4	0.4	0.6	0.4	0.8	0.8	0.8	0.8	0.4276
15	0.8	0.8	0.6	0.6	0.8	0.4	0.2	0.6	0.8	0.8	0.6	0.8	0.6	0.6	0.8	0.8	1	0.4	0.4	0.4	0.2	0.6	0.6	0.2	0.8	0.6	0.4	0.4	0.8	0.8	0.2	0.4	0.6	0.8	0.8	0.8	0.8	0.6	0.4	0.4	0.4	0.5875
16	0.6	0.8	0.8	0.4	0.8	0.2	0.6	0.8	0.8	0.2	0.2	0.8	0.4	0.8	0.8	0.8	0.6	0.4	0.4	0.8	0.4	0.6	0.8	0.8	0.8	0.4	0.4	0.4	0.8	0.8	0.2	0.2	0.8	0.8	0.8	0.6	0.4	0.6	0.4	0.4	0.4	0.5734
17	0.8	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.8	0.4	0.4	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.2	0.8	0.8	0.4	0.2	0.4	0.4	0.2	0.8	0.8	0.2	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.6	0.6	0.6647
18	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.8	0.6	0.2	0.2	0.6	0.6	0.8	0.6	0.8	0.6	0.4	0.6	0.6	0.4	0.6	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.4	0.4	0.8	0.8	0.8	0.6	0.4	0.4	0.6	0.4	0.4	0.6116
19	0.8	0.8	0.8	0.4	0.6	0.4	0.8	0.8	0.8	0.2	0.2	0.8	0.6	0.8	0.8	0.8	0.6	0.4	0.8	0.6	0.6	0.8	0.8	1	0.8	0.8	0.4	0.2	0.4	0.6	0.6	0.4	0.8	0.8	0.8	0.6	0.6	0.8	0.8	0.8	0.6	0.6320
20	1	0.8	0.8	0.8	0.6	0.6	0.8	0.8	0.8	0.6	0.8	1	0.6	0.8	1	0.8	0.8	0.6	0.6	0.6	0.6	0.6	1	1	0.8	0.4	0.6	0.8	0.8	0.8	0.6	0.4	0.8	0.8	0.8	0.8	0.6	0.6	0.8	0.4	0.6	0.7276
21	0.8	0.8	0.8	0.6	0.8	0.4	0.6	0.8	0.8	0.6	0.8	0.8	0.4	0.6	0.6	0.8	0.6	0.4	0.4	0.4	0.4	0.6	0.8	0.8	0.6	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.8	0.8	0.6	0.8	0.8	0.6	0.6	0.8	0.6	0.6321
22	0.8	0.8	0.8	0.8	0.8	0.4	0.6	0.4	0.8	0.6	0.4	0.2	0.8	0.8	0.6	0.8	0.6	0.6	0.4	0.4	0.8	0.6	0.6	0.8	0.4	0.8	0.4	0.8	0.8	0.8	0.6	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.6	0.6457
23	0.4	0.6	0.4	0.6	0.4	0.6	0.6	0.8	0.8	0.4	0.4	0.4	0.4	0.6	0.6	0.4	0.4	0.2	0.6	0.4	0.6	0.8	0.8	0.8	0.8	0.6	0.8	0.6	0.8	0.4	0.2	0.8	0.8	0.6	0.8	0.6	0.4	0.4	0.4	0.4	0.4	0.5362
24	0.8	0.8	0.8	0.6	0.8	0.4	0.8	0.8	0.6	0.6	0.4	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	0.6	0.4	0.4	0.6	0.8	0.8	0.8	0.4	0.6	0.6	0.6	0.6	0.4	0.8	0.6	0.6	0.6736
25	0.8	0.6	0.4	0.6	0.4	0.4	0.8	1	0.6	0.2	0.4	1	0.8	0.6	0.2	0.4	0.8	0.4	0.2	0.4	0.2	0.6	0.8	0.8	1	0.8	0.4	0.6	0.6	0.6	0.8	0.4	0.8	0.8	0.6	0.8	0.6	0.2	0.6	0.4	0.4	0.5668
26	0.8	0.6	0.4	0.8	0.6	0.4	0.4	0.4	0.6	0.2	0.8	1	1	0.6	0.8	0.4	0.8	0.4	0.8	1	0.2	0.8	0.2	0.2	0.8	1	0.6	0.6	0.8	0.8	0.6	0.6	0.8	0.8	0.6	0.8	0.8	0.2	0.6	0.2	0.6	0.5965
27	0.8	0.4	0.6	0.2	0.4	0.8	0.6	0.8	0.8	0.6	0.4	0.8	0.2	0.2	0.2	0.4	0.8	0.6	0.6	0.4	0.6	0.8	1	0.8	0.8	0.8	0.6	0.8	0.6	0.8	0.6	0.2	0.8	0.8	0.6	0.6	0.6	0.4	0.6	0.6	0.6	0.5711
28	0.8	0.8	0.8	0.6	0.8	0.4	0.4	0.6	0.8	0.4	0.6	0.8	0.4	0.8	0.6	0.6	0.6	0.2	0.4	0.6	0.2	0.4	0.8	0.8	0.8	0.4	0.4	0.2	0.8	0.8	0.4	0.2	0.6	0.8	0.6	0.6	0.6	0.2	0.2	0.6	0.2	0.5698
29	0.8	0.4	0.6	0.4	0.6	0.4	0.4	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.8	0.6	0.6	0.6	0.4	0.4	0.4	0.6	0.4	0.2	0.8	0.4	0.8	0.2	0.4	0.8	0.2	0.2	0.8	0.8	0.4	0.6	0.6	0.6	0.2	0.4	0.4	0.4957
30	0.8	1	0.8	0.6	0.8	0.8	1	0.8	0.8	0.4	0.4	0.8	0.8	0.8	0.8	1	1	0.6	0.6	0.8	0.8	0.8	0.8	0.4	0.8	0.8	0.6	0.4	0.4	0.8	0.4	0.2	0.4	0.4	0.6	0.6	0.2	0.8	1	1	0.4	0.7078
31	0.8	0.8	0.8	0.6	0.6	0.6	0.8	0.8	0.6	0.4	0.6	0.6	0.6	0.8	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1	0.8	0.6	0.8	0.8	0.8	0.8	0.6	0.6	0.4	0.4	0.6828
32	0.8	0.6	0.8	0.8	0.8	0.6	0.6	0.8	0.8	0.6	0.4	0.8	0.6	0.6	0.8	0.8	0.6	0.4	0.8	0.4	0.6	0.6	0.8	0.8	0.8	0.6	0.6	0.8	0.8	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.6369
33	0.6	0.6	0.8	0.6	0.4	0.4	0.6	0.8	0.6	0.8	0.6	0.6	0.4	0.6	0.8	0.6	0.4	0.2	0.6	0.4	0.4	0.6	0.8	0.6	0.8	0.6	0.8	0.8	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.5565
34	0.8	0.8	0.8	1	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.8	0.2	0.8	0.8	0.6	0.8	0.4	0.4	0.6	0.8	0.8	0.8	0.6	0.8	0.8	0.8	0.6	0.7508
35	0.8	0.8	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.8	0.8	0.2	0.8	0.8	0.6	0.8	0.4	0.4	0.6	0.8	0.8	0.8	0.6	0.8	0.8	0.6	0.8	0.8	0.7387
36	0.8	0.8	1	1	1	1	0.8	1	1	0.6	1	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.4	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.6	0.2	0.8	0.8	0.8	0.8	0.8	0.7789
37	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.8	0.8	0.8	1	0.6	0.8	0.8	0.6	0.6	0.6	0.8	1	1	0.8	0.8	0.6	0.6	0.8	0.2	0.6	0.4	0.2	1	0.8	0.6	0.8	0.8	0.8	0.6	0.6	0.6	0.7304
38	0.4	0.4	0.8	1	0.8	0.8	0.8	1	0.8	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.6	0.8	0.2	0.8	0.6	0.8	0.8	1	0.8	0.8	0.6	0.8	0.8	0.8	0.6	0.6	0.8	0.8	0.8	0.8	0.2	0.8	0.6	0.6	0.8	0.7130
39	1	0.8	0.8	0.8	0.8	0.8	0.8	1	0.8	0.2	0.2	0.4	0.6	0.4	0.8	0.6	0.8	0.6	0.6	0.8	0.6	0.8	0.8	0.2	0.8	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.2	0.6	0.6	0.6	0.6	0.6989
40	0.8	0.6	1	0.6	0.6	0.4	0.8	0.8	0.6	0.4	0.4	0.8	0.4	0.8	0.6	0.8	0.8	0.4	0.8	0.6	0.4	0.4	0.4	0.6	0.2	0.2	0.4	0.6	0.8	0.8	0.2	0.8	0.4	1	0.8	0.8	0.8	0.4	0.2	0.2	0.2	0.6011
41	0.8	0.6	0.6	0.4	0.8	0.4	0.6	0.4	0.4	0.2	0.4	0.8	0.8	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.2	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.2	0.5603

Figure 2. The Si suitability scores of the first 40 students

The general satisfaction suitability are processed in ArcGIS database, and a suitability map is obtained for the students in Erciyes University Faculty of Engineering in Turkey by using IDW interpolation method of which mathematical background in Geostatistical Analysis module was given in Equation 8-10. The suitability close to 1 and 0 were considered as high and low satisfaction, respectively. The suitability were divided into 5 intervals in the map. According to this situation, it is assumed that the brown and red regions are satisfied, the light blue and blue color regions are dissatisfied and the yellow color regions are undecided (Figure 3).
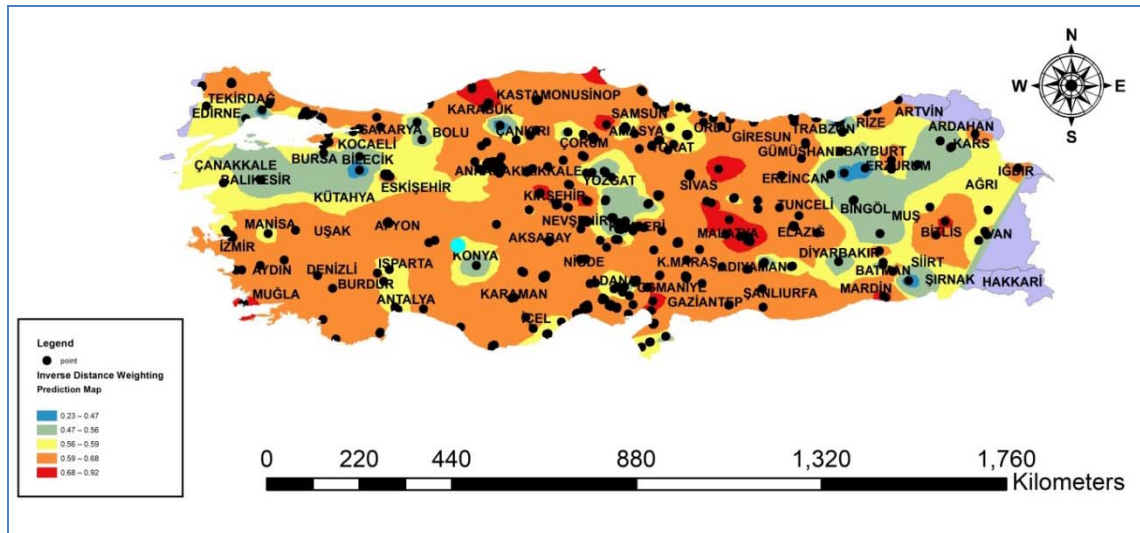

Figure 3. Student satisfaction map

4. CONCLUSIONS

The AHP and Weighted Linear Combination have been successfully applied in the GIS-based research on the Student Satisfaction in Engineering Education. The answers to 41 questions in the questionnaire was converted into a general satisfaction suitability using the AHP weighted WLC method. A general satisfaction map has been created with the suitability according to the province and district centers where the students live. It was observed that sampling could not be selected from every province center on the map. This situation was solved by calculating the general satisfaction suitability using the values in neighboring provinces. The reliability of the results in terms of the provincial center without sampling is still a matter of debate.

According to the map obtained by IDW Geostatistical Analysis method:
The engineering students in Marmara Region and Eastern Anatolia Region are generally not satisfied with the engineering education they have received. No administrative region is very satisfied with the engineering education. Also, the participants are classified as follows;

     10% undecided group (neither satisfied nor dissatisfied)
     15% unsatisfied group,
     70% satisfied group
     5% very satisfied group.

There are not too many regional differences in the student satisfaction map. Those students study in the regions where the provinces of Çanakkale, Bursa, Bilecik, Yozgat, Konya, Kayseri, Muş, Bingöl, Erzincan and Erzurum are located have general dissatisfaction in their engineering education.

Student satisfaction can be also determined with the WLC method using the criterion weights to be calculated from different decision making methods (Entropy, Dematel, and Analytic Network Process). GIS-based raster maps can be created using the suitability to be obtained from the WLC and intermediate value determination methods. In visual studies, it is necessary to increase the number of samples for more accurate and healthy mapping of the results.

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