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April 01, 2021
Prof. Dr. Aytekin ISMAN
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A REVIEW OF MEASUREMENT AND ASSESSMENT IN DISTANCE EDUCATION

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Abstract
This research aims to examine the functioning of the measurement and assessment process in distance education. Developments in education and communication technologies have enabled the development of distance education applications. Therefore, measurement and assessment methods are developing in parallel with these developments. This research was carried out with a compilation of qualitative research methods. The keywords determined for the purpose of the study were examined in the literature and the research findings were brought together. Alternative measurement and assessment methods that can be used within the scope of distance education include techniques such as portfolio, concept map, peer assessment, and performance evaluation. As a result of the research, it is seen that the use of process-oriented measurement and assessment methods within the scope of distance education enables the monitoring of the progress of the student and in this case, teachers can fulfill their guiding missions in distance education.
Keywords: distance education, measurement and assessment, alternative measurement and assessment

Introduction

The process of collecting quantitative and qualitative data from students and analyzing and interpreting the data collected in order to determine the effectiveness of the activities in the learning and teaching process in practice and to give feedback about their inputs and outputs is carried out within the scope of measurement and evaluation activities in education (Semerci, 2008). Measurement and assessment activities are the practices that teachers frequently take place in their lessons in order to control the educational processes, and in this context, measurement and evaluation activities are an important element and an integral part of the teaching process (Başol, 2013).

With the rapid development of information technologies in today's world, it is clearly seen that communication opportunities are expanding and accelerating. This situation eliminated the dependence on people, space and time. An important progress has been made in both accessing information and communicating with each other. These developments in technology have also reflected on the education sector and revealed the necessity of restructuring education systems. One of the education systems that emerged from this point is distance education. Distance education, which started by mail in 1728, has progressed with technology until today (Ak, Oral ve Topuz, 2018).

Traditional measurement and assessments are results-oriented rather than process evaluations made to determine the extent to which students have achieved their goals (Alkharusi et al., 2014). Traditional measurement and assessment practices; While it has advantages such as gaining time, being economical and easy to apply, it has limitations such as being inadequate in measuring high-level skills and focusing on the result rather than the process (Banks, 2012).

Distance Education

Distance education; it is a discipline that teaches, learns and tries to eliminate the limitations of learning resources and the problems created by these limitations, and uses existing technologies while doing so (Bozkurt, 2017). Distance education in general; It can be described as a stable, complex, hierarchical and nonlinear education system. Most importantly, distance education is a learning process carried out in a planned way and supported by up-to-date technologies (Özarslan, 2008).

Distance Education is an educational technology system used when the educator and the educated are not in the same environment. Broadly speaking, it is a form of education in which the educator and the educated are in different environments and the interaction between them is provided by electronic communication media or online materials (Reiser and Dempsey, 2012). Distance Education is the realization of education with the separation of students and teachers in terms of time and place (Cabı and Ersoy, 2017).

Measurement and Evaluation in Distance Education

In distance education, objective and subjective measurement tools and techniques are used in the assessment of formatting and level determination used in the assessment of students (Simonson, Smaldino, Albright ve Zvacek, 2012). However, tools and techniques to be used in formative assessment should be designed in a way that enables both the teacher and the students to monitor their progress throughout the learning process and enrich their learning experiences through continuous feedback.

Considering the diversification and widespread use of internet technologies in distance education systems, it has been found that the subject of measurement and assessment in distance education is defined as online measurement and assessment in the literature. Since online teaching includes different approaches than traditional education and training models, measurement and assessment also differ. Continuous evaluation in online education is important in three dimensions (Balta ve Türel, 2013):

1- Feedback

2- Control of the learning situation that differs from student to student

3- The learning quality to be achieved as a result of the evaluation processes

It is necessary to carry out continuous measurement and assessment studies in online education in order to prevent the specified issues and quality of education. When we look at measurement and evaluation methods, evaluation methods; it can be grouped under two headings as traditional methods and alternative methods (Balta ve Türel, 2013). Although traditional methods are performed with oral, written and multiple choice tests, alternative assessment methods differ.

Alternative measurement and assessment are all types of assessment other than traditional measurement and assessment, including multiple choice tests with only one correct answer. Alternative measurement and assessment, according to the constructivist understanding of the student at the center, is an approach that provides students with the opportunity to evaluate them in multiple ways, not only the result but also the process (Korkmaz, 2004).

The difference between alternative measurement and assessment and traditional measurement and assessment; in traditional measurement and assessment, the aim is to classify the student according to the level of knowledge the student has, while in alternative measurement and assessment, the student is at the stage of the process (Çepni, 2008). Alternative measurement and assessment aims to develop high-level skills such as problem solving, alternative creation, research, cooperative learning, critical thinking and creativity (Bates, 2014).

By using alternative assessment and evaluation approaches, all three developments in students' cognitive, affective and psycho-motor skills can be examined. For these reasons, it has limitations such as its preparation and application being time consuming and causing subjectivity in scoring (Miller, Linn, & Gronlund, 2009). Some of the alternative measurement and evaluation methods are;

- Performance tasks
- Peer Review
- Student product file (portfolio)
- Self-assessment
- Concept map
- Crossword
- Structured grid
- Ranked scoring key
- Diagnostic branched tree
- Control List
- Word association
- Concept caricature
- Project
- Comment card
- Poster
- V diagram
- Group evaluation

The assessment process is important in determining how much the student has learned at the end of the education, as well as for schools and students. This process provides important feedback for both students and educators (Chaudhary & Dey, 2013). Using the correct measurement and evaluation methods for the education given is especially important for students (Ravasco, 2012). In order to increase the effectiveness of distance education assessment activities, different tools should be used as an alternative to traditional measurement tools (Dali, 2008). For this purpose, new assessment methods such as constructive learning, performance assessment and real life assessment should be used (Simonson et al., 2012).

Conclusion

Unlike traditional education, distance education is a student-centered education model. It is a form of education that allows the student to access information himself and does not restrict it in time and place. It enables students to increase their technological competence and to become individuals who research, access and use information correctly. The teacher acts as a guide in the distance education process. It shows the student the way and follows his progress.

The role and importance of measurement and evaluation activities have been clearly demonstrated in the learning process, whether traditional or distance education is provided. However, today, with the development of information and communication technology, measurement and evaluation methods are changing rapidly. In fact, although this century has brought important innovations to the distance education system, it also requires constant changes in measurement and evaluation methods. Therefore, traditional measurement and evaluation techniques cannot be used in distance education. In distance education, alternative measurement and evaluation methods that are process-oriented and monitor the student's development should be used.

In this process, it is necessary to provide in-service trainings for alternative measurements and evaluations that can be used by educators. It is important that individuals raised in line with the requirements of the age and the needs of the society are effectively and efficiently evaluated in this process.

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PROVISION OF QUALITY SERVICE IN ETHIOPIAN PUBLIC UNIVERSITIES AND STUDENTS' SATISFACTION: INSIGHTS FROM ARBA MINCH UNIVERSITY

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ABSTRACT
The present study examines the link between service quality and students' satisfaction at Arba Minch University (hereinafter AMU). To this end, the study used quantitative correlational design with adapted questionnaire as the main data gathering tool. The collected data were analyzed using descriptive statistics and inferential statistics. The findings reveal that there is a statistically significant, moderate and positive correlation between educational service quality and students' satisfaction (r=.623) and five dimensions of service quality explained 41% percent of the variations in students' satisfaction. The quantitative data further uncovered that among five facets of service quality, viz., core educational quality, support facilities and transformative quality make strongest effect on students' satisfaction. Whist administrative quality and physical environment make moderate effect on students' satisfaction. Finally, based these findings, recommendations were forwarded to improve students' learning.
Keywords: Higher Education; Quality Education; Service Quality; Satisfaction; Performance

1. INTRODUCTION

Higher education institution (HEI) is a decisive factor to determine socio-economic growth and development of a given nation (Hasbullah &Yusoff, 2017; Đonlagić & Fazlić, 2015; Annamdevula & Bellamkonda, 2012; Teshome, 2004). Thus, most countries mainly invest in higher education to build a stronger society, end extreme poverty and boost shared prosperity (World Bank, 2017). Although Ethiopia possesses a 1,700-year tradition of elite education that linked to the Orthodox Church, secular higher education was initiated in 1950 (Saint, 2004). Yet, in the last fifteen years, there have been a significant expansion in the number of universities in different parts of the country (Kedir, 2009; Mulu, 2012). Currently, there are 49 government (including Ethiopian Civil Service University, Kotebe Metropolitan University and Oromia State University) and 128 accredited non-government HEIs (MoE, 2018).

The rapid expansion of higher education in the country has brought improved access to a significant number of students to pursue their education via extension, summer and private programs and diversified fields of the study (Kedir, 2009; Teshome, 2007). This expansion, however, characterized by great opportunities and significant challenges (Alemayehu & Solomon, 2017). One of the major challenges in Ethiopian higher education is the quality of its education. In connection to this, Teshome (2003) indicates that "the question of quality in education in developing countries has been neglected for the last few decades, particularly in Ethiopia" (p.5). Saint (2004) additionally points out that Ethiopian HEIs face a number of problems that related to the quality, relevance of programs and shortage and inefficient utilization of resources.Nonetheless, one of important determinants of national competitiveness is the quality of higher education. In addition, as indicated by Malik, Danish & Usman (2010) quality of education is an important factor to attract and retain the students who want to get higher education. This quality comes from the combination of excellent learning process and stakeholders' satisfaction on the service delivered (Hanaysha, Abdullah & Warokka, 2011).

Students' satisfaction in higher education can be seen and defined in different ways based on the nature of research and focus because the formation of student satisfaction is multi-dimensional process that influenced by many factors (Hanssen & Solvoll, n.d). In this study, students' satisfaction was examined from educational service quality. Weerasinghe & Fernando (2017) defined students' satisfaction as a short-term attitude resulting from an evaluation of students' educational experience, services and facilities.

In higher education sector, the research that has been conducted with regard to service quality is new as compared to commercial or business sector (Sultan & Wong, 2012) because of the complexity of defining quality service. Even though defining and measuring the quality service in HEIs is complex and debatable issue (Kontic, 2014; Khodayari & Khodayari, 2011; Đonlagić & Fazlić, 2015), it is well recognized that "universities are increasingly finding themselves in an environment that is conducive to understanding the role and importance of service quality" (Shank et al., 1995, p. 72 as cited Brochado, 2009). Therefore, HEIs need to concentrate their attention on what the students feel is important in delivering the service (Diedericks, 2012).

In the literature, many past studies have been conducted on the issues related to quality service (e.g., Al-dulaimi, 2017; Cerri, 2012; Adinegara &Putra, 2016; Donglagic &Fazlic, 2015) and ways of measuring service quality (e.g., Abdullah, 2006; Annamdevula & Bellamkonda, 2012; Teeroovengadum, Kamalanbhan & Seedbaluk, 2015) in higher education context. On the other hand, large of amount of studies have been conducted to investigate the link between higher education service quality and customer satisfaction by considering students as a primary customer or stakeholders of educational organization. For example, the study conducted by Baniya (2016) in Nepal; Hanaysha, Abdullah &Warokka (2011) in Malaysia; Kara, Tanui &Kalai (2016) in Kenya and Kundi, Khan, Quereshi, Khan &Akhatar (2014) in Pakistan found significant and positive correlation between facets of service quality and students' satisfaction. However, most of these studies are conducted in abroad even though there are substantial amount of local studies have been conducted on quality education in Ethiopian higher education. This paper is; therefore, aimed to examine the relationship between provision of quality service and students' satisfaction at Arba Minch University (AMU).

2. PROBLEM STATEMENT

Nowadays, higher education is considered as a service industry and highly influenced by globalization, internationalization, massification and privatization. This has increased competition among HEIs to adopt market-oriented strategies to differentiate their products (i.e. academic and administrative services) from their competitors and attract competent students from both domestic and foreign countries by delivering superior and student oriented services (Truong, 2016; Chandra, Ng, Chandra & Priyono, 2018; Weerasinghe & Fernando, 2017; Temizer & Turkyilmaz 2012). Hence, to remain successful and competitive in a global world, provision of quality service is key to the satisfaction of customers and success of an institution because the future HEI is highly depend on their ability to attract and retain students, increase recognition and prestige (Diedericks, 2012; Chui, Ahmad, Bassimc & Zaimid, 2016; Min& Khoon, 2013; Fatima &Odete, 2012).

In the educational institutions, there are many stakeholders that ranging from internal to external to the organization like students, parents, employers, employees, government, public sector, wider community and so forth. Among these, students are considered as one of the most important primary stakeholders or customers of educational institution and direct recipients of the service provided and involve in the educational process (Khan, et al., 2011; Brochado, 2009). Furthermore, students are also bridge the relationship between academic institutions and other stakeholders like parents, employers, society and satisfaction of all these stakeholders is dependent on the satisfaction of students (Khan, et al., 2011). And hence, students' needs, demands and interests play an important role in evaluation of provision of educational quality service in higher education (Annamdevula & Bellamkonda, 2012).

Even though service quality has attracted considerable attention within the tertiary education sector, little work has been concentrated on identifying its determinants from the standpoint of students being the primary customers (Abdullah, 2006a). Since the perceived quality service by students changes rapidly due to new technologies, techniques, skills and knowledge needed in the field of studies, HEIs should need to know students' needs and expectations to pinpoint their strengths and identify areas for improvement (Chui, et al., 2015; Onditi &Wechuli, 2017; MoAE, 2003). Furthermore, defining and measuring service quality is vital to establish clear customer-oriented standards and creating benchmarks for comparing service quality in both public and private universities (Cerri, 2012).

As stated in Teshome (2004**)** and Saint (2004) Ethiopian higher education is not well developed and faces many challenges that associated with the quality and relevance of programs, equity, resource constraints and inefficient resource utilization. In recognizing these challenges, various quality improvement initiatives and reform programs (for example, establishment of Higher Education Relevance and Quality Agency (HERQA) , Higher Education Strategic Centre (HESC), Educational Quality Improvement Program (EQUIP), implementation of BPR (Business Process Re-engineering, introducing new courses and curricula, making new funding arrangements, acquiring student contributions by means of cost sharing, building the necessary infrastructure, recruiting new staff, developing and procuring teaching materials) have been implemented (Ayalew, Dawit, Tesfaye & Yalew, 2009; Saint, 2004; Teshome, 2003).

According to recent studies (for example, the empirical study conducted by ministry of education in collaboration with educational professionals) , however, confirmed that the activities carried out to improve Ethiopian quality education have brought little positive impact on the quality of HEIs core educational processes or teaching and learning(MoE, 2018). The study further indicated that most Ethiopian universities are confronted with insufficient supplies of text and reference books, laboratory and workshops equipment; and access to ICT facilities (p.49). Additionally, Solomon (2012) pointed out that the rapid expansion of HEIs with

severely limited resources has affected the overall quality of educational activities. Likewise, the study conducted by Alemayehu & Solomon (2017) found that the expansion of higher education was challenged with educational service quality like absence of adequate classrooms, laboratories, dormitories, dining rooms and other facilities.

Institutions that release well-suited students into the job market assumed better quality than those that do not. Hence, success in students' learning is associated with provision of better-quality service (Alotaibi, 2010). The work of Ahmed et al. (2010) also found that students' satisfaction and motivation on provision of better-quality service positively is coupled with students' learning outcomes. Moreover, highly satisfied students on quality service are expected to spread a positive word of mouth about the institutions, retain or persist in the university and graduate, reenroll for more courses, loyal to the chosen institutions and attract new applicants with lower marketing costs (Hanaysha et al., 2012; Ong, 2013; Al-sheeb, Hamouda &Abdella, 2018). But students who are dissatisfied on service delivery may cut back on the number of courses, withdraw or drop out from institution, re-enroll at another university and pass negative comments to their friends or relatives that affect the university's enrolment and retention of students (Ong, 2013).

In the literature, a substantial amount of studies have been conducted on service quality and customer satisfaction in service organizations like banks, hotels (eg., Dawit &Adem, 2018; Aftab, Sarwar, Sultan & Qadeer, 2016) and educational organizations (eg., Kara, Tanui & Kalai, 2016; Soni, 2015). However, most Ethiopian studies focused on stakeholders' perception on service quality (eg.,Solomon,2012; Solomon, Niekerk & Jansen,2014), determinants of higher education students' satisfaction by focusing on delivery of service quality (e.g, Dawit &Nesredin,2017; Dawit, Getachew &Ashenafi, 2017) and the other related studies investigated the issue of quality and quality assurance in Ethiopian higher institutions (eg., Mulu, 2017; Abebe, 2015; Tesfaye &Kassahun, 2009; Tesfaye, n.d; Tefera, 2014). Thus, little attention has been given to provision of service quality and students' satisfaction in Ethiopian HEIs. The main purpose of this study is to fill this research gaps in examining the relationship between provision of quality service and students' satisfaction at AMU. The intention of this study is to seek answer for the following four basic research questions.

1. What is the relationship between provision of quality service and students' satisfaction?
2. Which dimensions of quality service is highly correlated with students' satisfaction?
3. To what extent do provision facets of quality service affect students' satisfaction?

3. PURPOSE OF THE STUDY

The main purpose of this study is to examine the nexus between provision of quality service and students' satisfaction at AMU and the specific objectives are to address the basic research questions that included in the study.

4. RESEARCH DESIGN AND METHODOLOGY

4.1 Research Design

In the study, quantitative correlational design was used to determine whether and to what degree relation exists between provision of service quality and students' satisfaction and to make predictions based on existing relations (Gay &Mills, 2012). In addition, prior studies, for example, exploring a related research problem in higher education in Pakistan (Khan, Ahmed & Nawaz, 2011), Zambia (Mwiya, et al., 2017) and Portugal (Brochado, 2009) have used similar approach were successful.

4.2 Total Population and Sampling Techniques

Both purposive and random sampling technique was employed. Purposive sampling technique was employed to collect qualitative data from students, instructors, department heads and college deans who believed have rich information with regard to the study. However, to gather quantitative data from students, random sampling technique was employed.
In the AMU, there are a total population of 18,071 (11,400 male and 6,671 female) undergraduate regular students in the five colleges, two institutes and three schools. Among these regular undergraduate students, third year regular students were targeted because they had been at the university for more than 2 years and assumed that they had more experience with the quality of various services provided by the university. Additionally, most third year students are awaiting for graduation forces them to consider whether to start looking for employment or pursue further studies and at which university except medicine, technology and law students.

Therefore, from the total of 4,227 (2,611 male and 1,616 female) third year regular students, the minimum required representative sample size students were selected randomly at confidence level of 95% and margin of error of 5% based on Yamane's (1967) formula: $\mathbf{n} = \frac{\mathbf{N}}{[1+N\,(e)^2]}$. Where, n=sample size, N= total population, e=level of precision. Thus, $\mathbf{n} = \frac{4227}{[1+4227\ (0.05)^2]}$=365. Of these, 227 were male students and the remaining 138 were female ones.

In addition, to take again a representative sample from each college, department and sex proportionate stratified sampling technique was employed that used to classify the population depending upon their known characteristics and randomly take the sample from each stratum (Haque, n.d).

4.3 Data Gathering Instruments

The data for the study was collected via standardized questionnaire. Two sets of standardized questionnaires were adapted to survey service quality and students' satisfaction. The service quality of the university was assessed using adapted higher education service quality (HESQUAL) questionnaire that developed in the higher education context by Teeroovengadum, Kamalanabhan, & Seebaluck (2016). However, minimum word adaptations were made to adjust sentence structure. It consists five major and nine sub dimensions of service quality and included a total of 48 items. On the other hand, students' satisfaction was examined by using three dimensions questionnaire (overall students' satisfaction, the behavioral intentions of loyalty and the likelihood of spreading positive word of mouth about the institution) that adapted from Mwiya, et al. (2017) study.

The questionnaire has three sections. The first part of the questionnaire assesses respondents' demographics. The second and third part of the questionnaire survey provision of quality service and students' satisfaction. Both service quality and students' satisfaction items' response options were gauged in a five-point Likert scale that ranging from 1=strongly disagree to 5=strongly agree.

Before formal dissemination of the questionnaire, the instrument's reliability and validity was checked. To check the face validity of the questionnaire, I invited three colleagues from AMU, School of Pedagogical and Behavioral Sciences (SPBS), who did their M.A Degree in Educational Measurement and Evaluation and other related fields. They reviewed the face validity of the questionnaire separately and jointly and reported the questionnaire as valid.

Moreover, to check whether the questionnaire is reliable, I conducted pilot study on forty (40) non-sampled third regular students at AMU, Sawla Campus. Then, major dimensions of the HESQUAL such as administrative quality, physical environment quality, core educational quality, support facilities and transformative quality and the total reliability indices were computed at Cronbach's alpha. In addition, the total of six students' overall satisfaction items were also computed at Cronbach's alpha. The reliability results of HESQUAL and students' satisfaction were judged according to George & Mallery (2003) rules of digit: > 0.90 = Excellent, 0.80 - 0.89 = Good, 0.70 - 0.79 = Acceptable, 0.60 - 0.69 = Questionable, 0.50 - 0.59 = Poor, < 0.50 = Unacceptable. The following table 4.3.1& 4.3.2 summarizes the reliability results of the main facets of the HESQUAL and students' overall satisfaction.

Table 4.3.1 Reliability Results of Higher Education Service Quality (N=40)

Major Dimensions	N0. of Items	Deleted Items	Cronbach's \Alpha Result	Leveled as George & Mallery
Administrative Quality	7	None	.823	Excellent
Physical Environment Quality	10	None	.839	Excellent
Core Educational Quality	17	None	.922	Excellent
Support Facilities	6	None	.808	Excellent
Transformative Quality	8	None	.836	Excellent
Total Number of Items	**48**	None	-	-
Total Alpha Result	**-**	None	.954	Excellent
Overall Satisfaction	**6**	None	.731	Acceptable

Note: Cronbach's alpha result of five major service quality variables

The above table 4.3.1 shows Cronbach's alpha result of five service quality questionnaire constructs. As we can see from the table, all HESQUAL constructs including total alpha result yielded excellent Cronbach's alpha result. Thus, the result indicates the instrument as reliable. On the other hand, the computed reliability results of students' overall satisfaction is .731 and which indicates the instrument as acceptable.

4.4 Data Gathering Procedures

Permission to conduct the data was sought from the academic vice president of AMU. Afterwards, data gathering process was conducted turn by turn with study participants. With the help of university instructors and class representatives, the questionnaire was administered to 365 randomly selected third year regular students in their classrooms in five colleges, two institutes and three schools. Before administering the questionnaire, clear orientation was given on the purpose of the study, how to fill the questionnaire and other related issues. Then, all administered questionnaire was properly filled and collected by me and additional facilitators of the study.

4.5 Data Analysis Method

In the study, both quantitative and qualitative data analysis was employed. With the help of SPSS v.20, descriptive and inferential statistics was employed to analyze the quantitative data. Descriptive statistics such as frequency and percentage was used to describe respondents' demographic characteristics and Pearson's correlation coefficient was used to examine the relation between provision of quality service and students' satisfaction. The strength and direction of correlation coefficient or r value was judged according to Gay's & Mills's (2012) range: between +0.35 and -0.35 = weak or none, between +0.35 and +0.65 or between -0.35 and -0.65= moderate, between +0.65 and +1.00 or between -1.00 and -0.65= strong. Finally, multiple linear regression was employed to predict their relationship.

5. ANALYSIS AND DISCUSSION OF RESULTS

5.1 Respondents' Demographic Characteristics

In the first part of questionnaire, the respondents were asked about their general background information. This information includes sex, age, program division, year of entry, college/institute/school, department, university choice, whether they are transferred from another institution or whether they are planning to transfer to another institution and current semester cumulative grade point average (CGPA). The following table 5.1.1 indicates the response obtained from the study subjects.

Regarding study participants' program division and year of entry, all of them 365 (100%) were third year regular undergraduate students and enrolled in the university since 2009E.C. Among five colleges, two institutes and three schools, many participants were from 78 (21.1%) AMIT, 63(17%) CBE, 60(16.2%) CNCS, 48(13%) CSSH and followed by 42(11.4%) AWIT and few of them were from 5(1.4%) SL, 7(1.9) SM, 8(2.2) SPBS, 24(6.5%) CMHS and 30 (8.1%) CAS. From this information we can notice that, there were technology, medicine and law faculty students who complete their undergraduate education in more than three consecutive years.

With regard to university choice, from the total of 365 randomly sampled students, AMU was third or lower choice for 167(45.1%), first choice 124(33.5%) and second choice 74(20%). This information indicates that AMU university was third or lower choice for many study participants. On the other hand, majority of participants 331(89.5%) were not transferred from another institution, whereas very few of them 34(9.2%) were transferred from another institution.

Concerning participants' plan to transfer to another institution, many participants 224(65.9%) were not want to transfer to another institution and the remaining 121 (32.7%) were planning to transfer to another institution. This information reveals that some study participants have planned to transfer to another institution though many subjects have no intention to transfer to another institution. Finally, regarding study subjects' current semester CGPA, majority 126(34.1%) were in between 2.5-2.99, 114(30.8) were in between 3.00-3.49 and followed by 76(20.6%) were in between 2.00-2.49 and few of them 49 (13.2%) were in between 3.5 and above. From this information, we can understand that students' academic performance is good even though top achiever students are minimal in number.

Table 5.1.1 Respondents' Demographic Characteristics (N=365)

Demographic	Category	(F)	(%)	Valid (%)	Cumulative (%)
Sex	Male	227	61.4	62.2	62.2
	Female	138	37.3	37.8	100
	Total	365	98.6	100	
Age	25 & below	325	87.8	89	89
	26-30	40	10.8	11	100
	Total	365	98.6	100	
Program Division	Regular	365	98.6	100	100
	Total	365	98.6	100	
Year of Entry	2009E.C	357	96.5	97.8	97.8
	2008E.C or lower	8	2.2	2.2	100
	Total	365	98.6	100	
College/Institute/ School	AWIT	42	11.4	11.5	11.5
	AMIT	78	21.1	21.4	32.9
	CAS	30	8.1	8.2	41.1
	CMHS	24	6.5	6.6	47.7
	CNCS	60	16.2	16.4	64.1
	CSSH	48	13	13.2	77.3
	CBE	63	17	17.3	94.5
	SL	5	1.4	1.4	95.9
	SM	7	1.9	1.9	97.8
	SPBS	8	2.2	2.2	100
	Total	365	98.6	100	
When I entered this institution, it was my:	First Choice	124	33.5	34	34
	Second Choice	74	20	20.3	54.2
	Third Choice	167	45.1	45.8	100
	Total	365	98.6	100	
Did you transfer to this institution from another institution?	Yes	34	9.2	9.3	9.3
	No	331	89.5	90.7	100
	Total	365	98.6	100	
Did you plan to transfer to another institution?	Yes	121	32.7	33.2	33.2
	No	244	65.9	66.8	100
	Total	365	98.6	100	
Current Semester CGPA	2.00-2.49	76	20.6	20.8	20.11
	2.5-2.99	126	34.1	34.5	55.3
	3.00-3.49	114	30.8	31.2	86.6
	3.5 and above	49	13.2	13.4	100
	Total	365	98.6	100	

Note: AWIT=Arba Minch Water Institute Technology; AMIT=Arba Minch Institute of Technology; CAS=College of Agricultural Sciences; CMHS=College of Medicine and Health Sciences; CNCS=College of Natural and Computational Sciences; CSSH=College of Social Sciences and Humanities; CBE=College of Business and Economics; SL=School of Law; SM=School of Medicine; SPBS=School of Pedagogical and Behavioral Sciences

The result of the above table 5.1.1 presents the demographic characteristics of respondents. There were 227 (64.1%) male respondents and the rest 138 (37.3%) were female participants. Concerning subjects' age composition, majority of them were in between 25 and below years old 325 (87.8%) and few of them were in between 26-30 years old 40 (10.8%). This finding reveals that many study participants were adults and matured enough to fill the questionnaire.

5. 2 Correlation Between Overall Service Quality and Students' Satisfaction

This part is intended to answer the first research question that describes the major purpose of this study and read as " what is the relationship between provision of quality service and students' satisfaction?". The following table 5.2.1 summarizes correlation coefficient (r) value of overall service quality and students' satisfaction.

Table 5.2.1: Correlation Between Overall Service Quality and Students' Satisfaction (N=365)

		Overall Service Quality	Overall Students' Satisfaction
Service Quality	Pearson Correlation	1	.623**
	Sig. (2-tailed)		.000
	N		365
Students' Satisfaction	Pearson Correlation	.623**	1
	Sig. (2-tailed)	.000	
	N	365	365

*Note: **Correlation is significant at the 0.01 level (2-tailed)*

The above table 5.2.1 shows the correlation between an overall service quality and students' satisfaction. As it can be seen from the table, there is a statistically significant, moderate and positive correlation between service quality and students' satisfaction (r=.623). This finding is consistent with many other researcher's findings (e.g., Baniya, 2016; Hanaysha, Abdullah &Warokka, 2011; Kara, Tanui &Kalai, 2016 and Kundi, Khan, Quereshi, Khan &Akhatar,2014) examined the correlation between service quality and students' satisfaction and found a significant and positive correlation between service quality and students' satisfaction.

5.3. Correlation Between Variables of Service Quality and Overall Students' Satisfaction

The intention of this part is to answer the second research question. The following table 5.3.1 shows the correlation between variables of service quality and overall students' satisfaction.

Table 5.3.1 Correlation Between Facets of HESQUAL & Overall Students' Satisfaction (N=365)

Facets of HESQUAL		Admin. Quality	Students' Satisfaction
Administrative Quality	Pearson Correlation	1	.478**
	Sig.(2-tailed)		.000
	N	365	365
Students' Satisfaction	Pearson Correlation	.478**	1
	Sig.(2-tailed)	.000	
	N	365	365
		Physical Env't.	Students' Satisfaction
Physical Environment	Pearson Correlation	1	.478**
	Sig.(2-tailed)		.000
	N	365	365
Students' Satisfaction	Pearson Correlation	.478**	1
	Sig.(2-tailed)	.000	
	N	365	365
		Educ. Quality	Students' Satisfaction
Core Educational Quality	Pearson Correlation	1	.687**
	Sig.(2-tailed)		.000
	N	365	365
Students' Satisfaction	Pearson Correlation	.687**	1
	Sig.(2-tailed)	.000	
	N	365	365
		Support Facilities	
Support Facilities	Pearson Correlation	1	.671**
	Sig.(2-tailed)		.000
	N	365	365
Students' Satisfaction	Pearson Correlation	.671**	1
	Sig.(2-tailed)	.000	
	N	365	365
		Transf. Quality	
Transformative Quality	Pearson Correlation	1	.672**
	Sig.(2-tailed)		.000

	N	365	365
Students' Satisfaction	Pearson Correlation	.672**	1
	Sig.(2-tailed)	.000	
	N	365	365

** *Correlation is significant at the 0.01 level (2-tailed)*

The above table 5.3.1 depicts the correlation between dimensions of service quality and students' satisfaction. As we can see from the table, all service quality variables have a positive correlation with students' satisfaction. Nevertheless, core educational quality (r=.687, p=.000), support facilities (r=.671, p=.000) and transformative quality (r=.672, p=.000) have strong and positive correlation with students' satisfaction than other variables. On the other hand, administrative quality (r=.478, p=.000) and physical environment (r=.478, p=.000) were moderately associated with students' satisfaction. This result suggests that the university should focus in all aspects of service quality with special attention on academic dimensions to satisfy students in their learning.

5.4 Effects of Service Quality on Students' Satisfaction

The main purpose of the section is to answer the third research objective that read as " to what extent do facets of service quality affect students' satisfaction?".

Table 5.4.3.1 Model Summary of Service Quality and Students' Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.642	.412	.404	4.69086
a. Predictors: (Constant), Administrative Quality (AQ), Physical Environment (PE), Educational Quality (EQ), Support Facilities (SF) and Transformative Quality (TQ) b. Dependent Variable: Students' Satisfaction (SS)				

The above table 5.4.3.1 shows model summary of service quality and students' satisfaction. This tells how much of the variance in the dependent variable (students' satisfaction) is explained by the model (which includes the variables of service quality). In this case, the coefficient of determination (R^2) was .412. This means that the five dimensions of service quality explained 41% percent of the variations in students' satisfaction. In other words, 59 % of the variation in students' satisfaction cannot be explained by these five independent variables of service quality. So, there must be other factors that are not incorporated in the model to explain students' satisfaction.

Table 5.4.3.2 ANNOVA of Service Quality and Students' Satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5541.609	5	1108.322	50.369	.000[b]
	Residual	7899.503	359	22.004		
	Total	13441.112	364			
a. Dependent Variable: Students' Satisfaction b. Predictors: (Constant), Administrative Quality (AQ), Physical Environment (PE), Educational Quality (EQ), Support Facilities (SF) and Transformative Quality (TQ)						

The above table 5.4.3.2 shows the ANOVA of service quality and students' satisfaction. It is used to assess the statistical significance of the result. The analysis revealed that the F-value=50.369 and the p = .000. The model is; therefore, significant because p <.05. It was concluded that the dimensions of service quality in the model had a significant combined effect on students' satisfaction.

Table 5.4.3.3 Coefficients of Service Quality and Students' Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std.Error	β		
1	(Constant)	3.770	1.090		3.560	.000
	Administrative Quality	.123	.059	.487	2.078	.000
	Physical Environment	.032	.043	.487	.737	.000
	Core Educational Quality	.043	.030	.687	1.452	.000
	Support Facilities	.282	.059	.671	4.745	.000
	Transformative Quality	.187	.044	.672	4.274	.000

a. Dependent Variable: Students' Satisfaction

In the above table 5.4.3.3 shows coefficients of service quality and students' satisfaction. As we can notice from the table, the largest beta coefficient for (AQ, =.478), (PE, =.478), (EQ, =.687), (SF, =.671) and (TQ, =.672). Hence, among the facets of service quality, core educational quality, support facilities and transformative quality make strongest effect on students' satisfaction. Whist administrative quality and physical environment make moderate effect on students' satisfaction. In sum, the dimensions of service quality (independent variables) in this case make unique contribution to the explaining dependent variable (students' satisfaction).

6. CONCLUSIONS AND IMPLICATIONS

6.1 Conclusions

Based on results and discussions of data, the following conclusions remarks are drawn:

As the finding of the overall service quality and students' satisfaction showed that there is a positive link between service quality and students' satisfaction. Among five dimensions of service quality, three variables such as core educational quality, support facilities and transformative quality are strongly and positively correlated with students' satisfaction and have strong effect on students' satisfaction. However, administrative and physical environment are moderately associated with students' satisfaction and have moderate effect on students' satisfaction. In addition, the facets of service quality make unique contribution to explaining dependent variable (students' satisfaction) as the findings from multiple linear regression analysis indicate.

6.2 Implications For AMU

There is a statistically positive link between service quality and students' satisfaction according to the findings of quantitative data indicates. In addition, provision of quality service in academic as well as administrative aspect affects students' satisfaction including their learning. Hence, the university leaders should give critical attention in provision of both academic and administrative service quality with special emphasis on academic service quality to improve students' satisfaction and learning as primary customers of educational organization.

6.3 Implications for Further Research

This study was confined to the AMU and the findings may not be generalizable to other Ethiopian public universities. Thus, further studies can focus on the link between service quality and students' satisfaction by taking a representative sample from Ethiopian Public Universities. In addition, it may also be worthwhile to look into the relationship among educational service quality, students' satisfaction and learning outcomes to better understand the role of service quality to improve students' learning in the university.

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TEACHER QUALITY: EPICENTRE OF THE LEARNING PROCESS AT HIGHER EDUCATION

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ABSTRACT

With the increasing importance attached to teacher quality, lecturers at higher education institutions are increasingly expected to know not only subject knowledge, but also pedagogical knowledge, which entails many different aspects of teaching and learning processes and practices. The purpose of this qualitative study is to report on a research project aiming to improve the university lecturers' classroom teaching performance. There is a detailed description of the in-service training program offered to university lecturers, and an analysis of the main set of data from the feedback collected from the participant lecturers, leading to more general implications for university lecturers' pedagogical skills in higher education institutions.

The teacher is at the epicentre of the learning process...learning, therefore, depends first and foremost on the quality of the teacher. (Schwille et al, 2007:15)

INTRODUCTION

Due to the recent developments in the field of education, as well as the growing competitiveness in the world regarding quality of learning, teacher quality has become a key concern in the academic arenas. As pointed out by Henard and Roseveare (2012:3) "higher education institutions are complex organisations where the institution-wide vision and strategy needs to be well-aligned with bottom-up practices and innovations in teaching and learning". Therefore, universities are now required to continuously review the quality of teaching and learning they provide and seek ways of improving teaching. This, in a general sense, means increasing knowledge about processes and practices of teaching and learning, classroom management, lesson plan development and evaluation, student evaluation; and in a deeper sense, increasing knowledge about how students construct knowledge and acquire skills. The critical question is "how far do university lecturers possess this kind of pedagogical knowledge?"

Rationale

A growing body of research conducted in higher education settings both in Turkey and abroad has foregrounded the need to address lecturers' lack of pedagogical competencies (Taylor, 1990; Green, 1994; Rice, 1996; Gül, 2010). This issue originates from the lack of any requirement for university lecturers to undergo a pedagogical training, and thus, subject area knowledge is seen as sufficient for effective teaching at university level. In other words, "knowledge of subject matter" is given priority in the selection of university lecturers. In addition, the requirements for being a lecturer are purely based on academic productivity, which generally refers to research, publications, and conference presentations. As such, the pedagogical skills of lecturers are de-emphasized. This applies to higher education institutions in Turkey. When National Qualifications Framework for Higher Education is examined, it can be seen that none of the Framework criteria of "knowledge", "skills" and "competencies", relate directly to pedagogical competencies. Studies by Hativa (1997) and Korkut (1999) pointed out a gap between lecturers' teaching objectives and actual student learning, emphasising the lecturers' need for pedagogical training to improve their teaching.

Students, the direct beneficiaries of instruction, also voice issues that concern the quality of instruction and provide valuable feedback, spending a great deal of time with lecturers (Northedge, 2003). Many studies conducted on student evaluations of teaching/lecturers also support the view that there is a need for pedagogical knowledge in lecturers (Allan, Clarke and Jopling, 2009; Delaney et al.2010). Research by Üstünlüoğlu (2016) suggests that more work is needed to meet the high expectations for teaching quality in higher education, through well-designed in-service training programs offering professional development activities with particular emphasis on reflective practice, improvement of teaching skills, as well as innovative teaching methods.

Considering all these concerns, it appears that there is a clear need for research identifying areas for improvement in lecturers' pedagogical knowledge and addressing these within a structured in-service training program. The study at hand describes an in-service training program for university lecturers aimed at increasing the effectiveness of their classroom teaching and measuring the impact of the program on the participants' perceptions and practices.

The Research Project

The training program in focus is part of a scientific research project carried out at a foundation university in Turkey. The project was entitled "Increasing the Effectiveness of Classroom Teaching in Higher Education based on Lecturers' Pedagogical Competencies", which had the following aims:

-identifying the university lecturers' perceptions of their own level of pedagogical competencies,
-identifying students' perceptions of their lecturers' level of pedagogical competencies,
-identifying differences between the perceptions of lecturers and students,
-identifying the areas for improvement in terms of pedagogical competencies,
-setting up an in-service training program based on the identified needs of lecturers,
-conducting and evaluating the effectiveness of the training.

The ultimate aim was to foster teaching quality and student learning in higher education through an in-service training program focusing on university lecturers' identified pedagogical needs. This project was initiated and carried out by three researchers from the fields of English Language Teaching and Educational Sciences.

Three domains were included in this research study: Delivery, Communication, Assessment. The data was collected through the questionnaires, focus group meetings with both students and lecturers, as well as classroom observations carried out by the researchers. The questionnaire was distributed to 1651 students and 170 lecturers at the institution which was the site of the study.

The analysis of questionnaires suggested a significant difference between the perceptions of students and lecturers in terms of all three dimensions identified.

According to the overall results of the focus group meetings, there was a clear need for a greater variety of teaching methods and techniques in the courses, which were mainly delivered in a traditional teacher-fronted manner.

Regarding the communication aspect, there was again a mismatch between perspectives. The students suggested that they did not feel valued and respected, despite lecturers' claims that they attached importance to these issues.

In contrast, there were no major discrepancies between the students and the lecturers related to the assessment aspect of the study.

According to the analysis of the classroom observations carried out by the three researchers, the lecturers did not in fact exhibit the desired behaviours related to the delivery and communication aspects of teaching, in contrast to their claims in the questionnaire. All these findings suggest a mismatch among the results of the questionnaires, focus groups and observations; and this indicates a noticeable discrepancy between students' and lecturers' the perceptions, in particular, in the dimensions of delivery and communications.

THE IN-SERVICE TRAINING PROGRAM FOR UNIVERSITY LECTURERS

Pre-Training Phase

As stated in the summary above, a significant component of the research was to design a training program. The purpose of the training was to guide lecturers on the pedagogical needs identified through the questionnaires, focus groups and class observations. Among the three domains, only delivery and communication were focused on in the training program; assessment was not identified as a major need during the focus groups and was therefore excluded.

The training program was announced through the university's intranet e-mailing system. A total of 27 volunteer lecturers signed up, of which 16 attended regularly. The profile of the participants was as follows:

2 Professors

1 Associate Professor

5 Assistant Professors

2 Doctors

5 Lecturers

1 Research Assistant

Before the training program, an informative meeting was held, in which the researchers shared the details of the training program with the participants. In the meeting, the lecturers were given an opportunity to state in writing their expectations from the upcoming training program.

The expectations survey revealed participants' priorities for improving their teaching which were as follows:

1- Student participation (n=4)

2- Improving their teaching skills (n=4)

3- Creating a positive classroom atmosphere (n=3)

4- Learning how to teach generation Y (n=3)

5- Lesson Planning (n=3)

6- Using the existing in-house technology more effectively (n=2)

7- Reflective Teaching (n=2)

8- Increasing their pedagogical knowledge (n=1)

9- Learning about effective teaching methods/techniques (n=1)

10- Learning about adult education theories (n=1)

11-Increasing teacher-student interaction (n=1)

12- Suggestions for creative teaching (n=1)

13- Student evaluation (n=1)

14- Motivating students (n=1)

15- Being a good teacher (n=1)

The Training Phase

The design of the training program was based on the Reflective Practice paradigm, one of the most widely used approaches worldwide, and very commonly used in teacher training and teacher education programs (Farrell, 2008). Upon the identification of the focal areas, the sessions were planned; the main premise was to encourage the participant lecturers' critical inquiry into their teaching practice by the interpretation of collected data (Bailey 2006, Gün, 2011), leading to improvement of their classroom teaching performance.

The identified areas for improvement were as follows:

- Increasing variety of interaction patterns, and how to engage students
- Course planning and organization
- Teaching techniques and technology
- Giving clear instructions and feedback
- How to put theory into practice
- Focus on learners/ the next generation
- Creating a positive classroom atmosphere

Based on these areas, eight 2-hour sessions were organized, over a four-week period. These training sessions were notable in that the trainers in each session deliberately used the techniques that they were recommending to the participants during the delivery of their respective sessions. That is, the participant teachers were given the opportunity to directly experience the live applications of the recommended approaches, methods and techniques in the training sessions.

The aims and a brief content description of the sessions as presented to the participants can be found in the Appendix.

Post-Training Phase

Once the training was completed, feedback on the effectiveness of the training program was collected via a form consisting of open-ended questions.

The three questions on the form were as follows:

1- To what extend have your expectations of this training program been met? Please exemplify.

2- Considering the techniques/methods/ideas presented during the sessions; which ones would you use in your own classes? Please exemplify.

3- Do you think this form of in-service training program should continue in the future?

The aim of the first question was to find out whether expectations were met, and 13 out of 16 participants were positive. They reported that the training helped them to improve their professional behaviour, specifically in the areas of peer-observation, reflective practice, student involvement, use of technology, and creating a positive classroom atmosphere.

The second question was about how much of their learning could be transferred to their own teaching practices. Their answers were as follows:

1. Use of technology (n=9)
2. Creating a positive classroom atmosphere (n=5)
3. Reflective Teaching (n=5)
4. Increasing classroom interaction (n=4)
5. Giving feedback on students' work (n=4)
6. Pair/group work activities (n=3)
7. Giving instructions (n=2)
8. Increasing student participation (n=1)
9. Lesson Planning (n=1)
10. Teacher Research (n=1)

The last question was about the continuation of the training. 12 participants agreed that such training programs should continue, and made the following suggestions for improvement:

1. Enriching the sessions on new generation learning
2. Including illustrations of effective and ineffective lessons
3. Focusing more on classroom interaction patterns
4. Adding sessions on assessment and evaluation

The following are extracts from the teachers' feedback responses from covering all three questions:

> "Most of my expectation have been met. The methods the trainers used in the sessions were so good. I learnt so much"
>
> "I strongly believe that the courses of this kind should continue with the involvement of more lecturers"
>
> "This course helped me improve my teaching techniques. Most importantly, though, I learnt how to reflect on my teaching performance. I came to realize that some of the things that I thought were correct were actually not correct"
>
> "I will definitely use all the things we learnt in the technology sessions"
>
> "I had been waiting for such an in-service training course for 12 years! It was so useful. Thank you!
>
> "I saw that my colleagues were also having similar problems that I have been having. About students, timing, classroom management. It is good for me to know I am not alone".

CONCLUSION AND IMPLICATIONS

The main aim of this study was to determine the effectiveness of in-service training programs for university lecturers in Higher Education institutions. Conducting and evaluating the in-service program was a part of a larger research project originating from the perceived need to increase lecturers' pedagogical competencies, as concluded in many studies both within and outside Turkey (Gül, 2010; Green, 1994; Rice, 1996; Taylor, 1990).

The results indicate clear evidence of a considerable impact on the beliefs and practices of the participant teachers, and that such training programs are effective in improving the quality of HE. As also mentioned in Yürekli's (2016) study, regardless of status, all university faculty staff can benefit from pedagogical training to improve the quality of classroom instruction. While the majority of university instructors have well-developed research skills, unfortunately, they do not necessarily have an equal level of skill in conducting effective classes. Therefore, it is important to create a more even balance between being a productive researcher and being an effective classroom instructor. It is apparent that these are two separate professional skills and should be treated as such.

The study showed that "delivery" and "communication" are the major areas for improvement. Thus, special emphasis should be placed on these when designing an in-service training program specific to HE. This study also highlighted the importance of reflection in professional development. Involvement in professional talk and sharing experiences both contribute to lecturers' increased awareness of their teaching performances. Therefore, reflective practice should be a major component in the design of training programs, highlighting the need to understand the importance of examining beliefs about teaching.

Language teachers collaborate with colleagues on the basic assumption that this will be more effective than reflecting alone, and after participating in development groups, teachers can adjust their thinking about their work and become more confident (Richards and Farrell, 2005) Ashraf and Rarieya (2008) also pointed out the value of reflective conversations in enhancing the teachers' professional development.

Teaching the new generation learners requires updating teaching skills, approaches and methods, thus, continuous professional development in HE seems to be inevitable. Biggs and Tang (2011) note that quality in education needs to be reconsidered, taking into account the current learning environment and students' changing needs, which require ongoing training and development. Therefore, for sustainability purposes, regular in-service training programs should be offered to university lecturers. Experts in educational sciences working through University teaching-learning centres, should be responsible for planning, implementing, and evaluating such training programs. As Borg (2011) suggests, these kind of in-service training programs have strong, long-term impacts on teachers' professional practices.

Providing the university lecturers with continuous training on effective classroom delivery might have implications for recruitment, as well as institutional performance evaluation systems. This study highlights the importance of effective pedagogical classroom teaching skills for candidates applying to be university lecturers. The requirement to present a demo class could be integrated into the recruitment process. Those who need to improve their skills could be offered an in-service training program prior to hiring. In many performance evaluation systems at tertiary level, little or almost no emphasis is currently placed on the effectiveness of classroom instruction. Administrators could therefore consider putting greater emphasis on this aspect in revised performance evaluation systems.

Based on the conclusions drawn from the study, as well as the implications made, it is apparent that, to improve the quality of education at tertiary level, there is a strong need for more attention to both the design of similar in-service training programs for the lecturers, and to further studies exploring the effectiveness of such programs.

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APPENDIX

1- CREATING POSITIVE CLASSROOM ATMOSPHERE

- OBJECTIVES:

By the end of this session, the participants will be better informed about the basics and importance of creating a positive learning environment and its relation to teacher skills and motivation.

- CONTENT:

The content of the session covers educational psychology, stress, active listening principles, factors involved in composing effective messages during teaching, factors involved in student motivation, and general teacher characteristics that either hinder or promote positive atmosphere in the classroom.

2- LEARNERS AND NEXT GENERATION LEARNING-I

- OBJECTIVES:

By the end of the session, the participants will be better informed about ways to deal with fundamental changes in technology, how these affect teaching and learning, and the next generation as a whole.

- CONTENT:

The content of the session covers changes brought about by technology that affect our everyday lives, those that affect learner behaviour in class, and those that affect the entire teaching-learning process. The session also focuses on the definition of “knowledge” in the 21st century, the relationship between “know what, know why, know how”, and the elements of creativity, critical thinking, collaboration and effective communication within the new 21st century teaching learning setting.

3- LEARNERS AND NEXT GENERATION LEARNING II

- OBJECTIVES:

By the end of the session, the participants be better informed about ways to deal with fundamental changes in technology, the potential future effects of technology on teaching and learning, and how this affects the next generation as a whole.

- CONTENT:

The content of the session is a follow up to “learners and next generation learning-I”, and covers examples of classroom practice, and suggestions for dealing with the changes brought about by technology that affect our everyday lives, those that affect learner behaviour in class, and those that affect the entire teaching-learning process.

4- VARIETY OF INTERACTION PATTERNS AND HOW TO ENGAGE STUDENTS

- OBJECTIVES:

By the end of the session, the participants will be better informed about different types of interaction patterns in the classroom, along with the assumptions, values and beliefs concerning student-teacher roles.

- CONTENT:

The content of the session covers different interaction patterns that can be employed during teaching, the theories? of learning, and how these relates to curriculum, syllabus and classroom practice, the use of different teaching tools to promote different interaction types, the effect of emotions on learning, the ways students understand and retain new information, and the extent to which it is related to different teaching techniques and interaction patterns.

5-6- USE OF TECHNOLOGY IN THE CLASSROOM I&II

- OBJECTIVES:

By the end of these sessions, the participants will be better informed about the technology in the classroom from past to present; will have increased awareness of the role of technology in teaching and learning; and will be able to use ready-made applicable technological tools.

- CONTENT:

The content of the sessions covers: “Frequently-used technological tools and programmes”, “Teachers’ attitudes toward using technology in the classroom”, “PollEv: a student response system for surveys and data collection”, “Kahoot: an online service for classroom response which creates an engaging learning environment through a game-based digital pedagogy”, “TodaysMeet: a backchannel helping teachers conduct online discussions and many other activities, while channelling the results onto a web page or an Interactive White Board”, “*Google Forms:* a fast way to create an online questionnaire /survey, with responses collected in an online spreadsheet”, “Video Recording: how to record and upload a video immediately on YouTube”, “MeetingWords: a text editing program for the web which is intended for real-time collaboration between people”.

7- ENGAGING STUDENTS AND INTERACTION PATTERNS

- OBJECTIVES:

The session aims at familiarizing the participants with two models of learning – Bloom’s Taxonomy of Learning Domains, and The Unified Learning Model – and evaluating how these models apply to our teaching practices, and their implications for engaging students and interaction patterns.

- CONTENT:

Presentation of Bloom’s Taxonomy of Learning Domains, with specific reference to the cognitive learning domain, and the pyramidal hierarchy of the cognitive processing required to move from lower to higher order thinking skills: from knowledge (memory), comprehension, application, analysis, synthesis, to evaluation. Participants will discuss these domains in groups and share their experiences and practices with reference to course planning, syllabus design, teaching and assessment.

8- REFLECTIVE TEACHING AND LEARNING

- OBJECTIVES:

This session aims at raising the course participants' awareness of 'Reflective Practice' and becoming familiar with ways of being a 'reflective practitioner' for their professional development.

- CONTENT:

The content of the session covers the definition of “Reflection”; What is Reflective Practice? the need for Reflection Training, and how to become “reflective practitioners”. This is done with the help of videos and tasks. It further covers topics such as “From Teacher Learning Action Plan (TLAP) to Teacher Research” and encouraging the participants to reflect on their practice.

TEACHING DIGITAL LITERATURE: AN APPLIANCE OF DISTANT READING & TOPIC MODELING TO THE TEACHING SCENARIO

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Abstract
The current article tries to provide practical arguments to support the appliance of the digital methods and tools into the teaching literature curriculum in favor of distant reading of going beyond the limitations of canon and time. In this regard, a teaching literature scenario is presented to facilitate and fasten reading literature by making students familiar with the computer application in their literature studies through analyzing the resulted data from a project done by Dr. Rachel Sagner Buurma, on Victorian Literature. The chosen application is Topic Modeling, performed by the popular topic modeling tool, MALLET. The paper develops a practical three-phased scenario to be implemented in literature classroom and elaborates on the way to work with the meaning and the usages of the resulted topics and patterns. Finally, the article explores the positive and negative aspects of the presented scenario and concludes that the digital tool is not a substitute for the existing teaching material, but a supportive method to open the new perspectives in literary studies which is an adjusting method to students of the age of technology. Moreover, further research is suggested focusing on the Teaching Literature materials of curriculum targeting especially the history of literature or discovering specific new dimensions above from the accustomed theories.
Keywords: digital methods and tools, teaching literature, Topic Modeling, Distant Reading

Introduction

Teaching Digital Literature

The 21st generation of students have obviously high interest of companionship with the digital world which necessitates a reform in the conventional teaching methods and techniques. This opens up an arena for the teachers and syllabus designers to take the advantage of this opportunity to motivate the literature students to work with the literary data and being able to access, navigate, manipulate and process them. (Simanovwski, Schäfer & gendolla, 2010, p. 231). Likewise, Dene Griger (2009) states:

If indeed students spend 10 times more of their energy with fingers on a keyboard instead of a nose in a book, then it stands to reason that we should rethink our notion of literacy and advocate electronic literature as not only viable but also compelling art form for teaching. All aspects of reading, writing and communicating. (p. 233)

Therefore, with respect to the new appealing capacities of the students of the age of technology, applying the digital methods and tools into the teaching literature curriculum seems to be an obligation.

Coupled with Dene Griger's statement, Maria Goicoechea adjoins the factor of "pleasure" into another advantage of this appliance as "new reading pleasures at finding unexpected effects". (Simanovwski, Schäfer & gendolla, 2010, p. 345) This is to say, although dealing with the interest and pleasure of the students is an inevitable aspect to be taken into consideration, more promising aspects still exist.

Another argument in favor of the necessity of implementing digital tools and techniques in teaching literature can be referred to the providing competence of a better and different understanding in this interdisciplinary approach. Noah Wardrip-Fruin, UC Santa Cruz professor and Expressive Intelligence Studio co-director, puts forward the view that the appliance of Digital Literature into the academic world enables us to deal with the existing situations surrounded by technology and moreover, a better understanding of art and literate of the present-day. (Simanovwski, Schäfer & gendolla, 2010)

Furthermore, the final argument is explicitly defined in the two keywords-advantage of John Zuern statement about Teaching Digital Literature in the example of the didactic scenarios. He declares that, this new model of teaching

arouses the motivation of collecting the evidences and importantly, perusing the hints and clues by use of technology. These two important aspects make a more practical approach in the learning process and the independent learning experience. (Simanovwski, Schäfer & gendolla, 2010)

The interdisciplinary approach of teaching digital literature does not mean that the previous background literary knowledge or strategy should be abandoned, but it is supposed to make the scholars and students familiar with a new understanding on the basis of previous acknowledgment. Regarding the aim of the present article on proposing a scenario on implementing a digital literature tool in teaching literature, some rudimentary notions should be clarified and defined.

The pedagogy of digital literature can be categorized into three fields; including, the maintenance and edition of the literary texts used in the canon by the use of digital medium, the evolution of the generic characteristics of digital literature and finally the changing of teaching literature methodology by the appliance of the computer as a supportive or, sometimes, as substituted learning tools. The final aspect has attained the attention in this article. (Simanovwski, Schäfer & gendolla, 2010, p. 345) Using computer tools in teaching literature enables the students to perceive the intertextual relations of the different literary texts, which is not achievable while reading a text with an aim of enjoying or criticism.

To elaborate the main objective of the preset study, the notions of distant reading and topic modeling and their relationship and appliance into a scenario of teaching literature are elaborated. At last, an evaluation of the teaching digital literature scenario is presented by mentioning some pro and con arguments for and against it.

Distant Reading

Close reading known as the familiar type of reading, is mostly considered as what the American poet, literary theorist John Crown Ransom in his essay "Criticism, Inc." refers as “Dense Reading” which means the detailed analysis of words, syntactic connections and semantic ambiguities sentence by sentence, paragraph by paragraph. (Lauer, 2009) By all means, the literary scholars and students are also familiar with the different types of reading skills such as skimming, scanning or study reading, but what is discussed here is the “state-of-art” method in this field.

The Stanford Professor, Franco Moretti terms the understanding of literature by aggregating and analyzing big amount of data, distant reading. (Schulz, 2011) He has pioneered this new practice in the literature studies and recommends it as a way to reach the interesting recognitions that students or literary scholars are not able to do unaided.

The challenging theory of distant reading proposes a new practice in teaching literature which involves informing the student to understand the different kinds of reading and being able to apply it to the different fields of their literary studies as Martin Müller (2015) emphasizes the importance of being trained “How to not read” as well as “How to read”.

Distant reading introduces a technical way of analyzing literature by using the patterns and objective data of many works calculated by the computer tools. The computer tools are programmed to look for the patterns and measurable components of hundreds or thousands works of literature and give us the ability to compare and analyze the resulted data and above all, to uncover new aspects in the literary text. This procedure, without computer aid, is really a hard task and specifically in the limited time of academic scenarios, unpractical and impossible. In the other words, distant reading and the accompanied methods and computer tools can make the students readier to face the 21st century’s huge data existence and world literature as Moretti conjectures.

Distant reading is not only considered as an alternative for depending always on small canons in teaching literature, but also, as Moretti describes, a method for reading beyond the canon. He believes that the students are too much focused on the canonical device and it is the time to discover the non-canonical universe. (Fitzpatrick, Galloway & English, 2013) In the following section, a brief overview on topic modeling as a computer tool suggested for distant reading is presented.

Topic Modeling

Topic modeling is a form of text mining. Different definitions for topic modeling suggest that topic modeling is a way of looking for patterns. These patterns are clusters of words in a corpus. (Brett, 2012). It is also necessary here, to avoid the misunderstanding about the surface meaning of the word 'Topic'. In the analyzing phase of topic modeling results, a topic should not be investigated as the direct subjects of the text, but the recurring pattern of co-occurring words. (Brett, 2012)

When topic modeling is being defined to the students, it is important to be careful as much as the definition of the phrase, data mining. The word, mining is not actually what the people in this field do. It should not be expected that the people in this filed discover new factoids in their inventory databases. Otherwise, the goal of data mining is to find the trends and patterns in very large data set usually of the purpose of decision making. (Mitkov, 2004)

Elijah Meeks and Scott B. Weingart (2012) referred to topic modeling as synecdoche of digital humanities. They even believe that the two subjects of topic modeling and distant reading overlap each other from their totalized concept of looking at the text and considering the text as collections of tokens and finally producing results as topics. In this case, using the topic modeling tool help us to instantiate the topic modeling and distant reading models.

From the wide application of topic modeling in different domains, Latent Dirichlet Allocation (LDA) approach, has been the most popular approach to topic modeling in the subject of humanities and specifically literature. The underground issue behind the LDA approach, as explained by its creator, David Blei, is a field of the probabilistic modeling, and exploration of this model as a tool for finding and expressing meaning. In the other words, the comparison of occurrence of topics in a document to how a word has been assigned in other documents in order to find the best match, is the underlying mathematical model of topic modeling, latent dirichlet allocation, or LDA. (Brett, 2012)

Considering the notion of distant reading, the statistically significant distributions of words in the Topic Modeling Techniques give us the ability of distantly reading a massive body of text and greater understanding of literary texts and finally generating new questions. (London, 2016)

Relying on the last part of the definition of David Blei, applying a tool for a better or different understanding of literature and its usage, teaching literature is taken into the consideration in the proposed teaching scenario throughout the article.

The significance of the study

Literary studies and teaching literature are considered to be inevitably associated with reading; however, each subject of teaching literature requires a different way of reading. Considering both the traditional and classical types of reading, the domain of literary subjects, planned to be taught in the teaching scenarios, is determined under the limitations of time and the expected purpose of the curricula.

As an example, when the purpose of teaching a literary subject is to conclude and analyze hundreds of novels or large volumes of texts, students are not expected to stick around every word in the text. On the other hand, when the target of a teaching scenario is about all the novels published in America during the civil war during 1851 to 1875 or Victorian Literature, it is not practical nor achievable to expect the students to read them all and conclude a whole picture of all these works in the limited time of study plan. What happens in practice is the adjustment of the materials to the existing limitations. This way, the necessity of doing research on digital literature and its implementation in teaching practice seems inevitable.

It is not only an obstacle in the didactic and teaching field, but also an existing limitation on the way of literary studies in general. Nobody can explore the whole exceeding quantity of books. Literary scholars of world literature or history of literature should read millions of books to keep up with the state of research which is not an optimal solution. (Lauer, 2009) Respectively, the literary scholars and students need to get familiar with the other methods to be able to access the other aspects and natures of literature and perhaps it is no longer effective for them being asked to read and read. (Schulz, 2011) That said, even if the materials or the corpus needed to be worked on, are

not really huge data, close reading keeps the scholars and students always under the limitations and traditional analytic theories. At this point considering Franco Moretti's innovative practice seems to be a savior alternative!

The objectives of the study

Based on the above-mentioned points considering the necessity of a reformation in the viewpoint regarding the act of reading a bulk of literary text, an attempt is made in this article to suggest a teaching scenario implementing a computer tool, specifically topic modeling to boost students' capabilities to practically conduct distant reading. Secondly, the merits and demerits of the proposed scenario is evaluated critically.

The Proposed Teaching scenario

The characteristics and requirements of the teaching scenario is presented in the following table.

Table 1: Scenario characteristics and requirements

Target Group	Bachelor Students of English Literature Studies
Subject of the Course	Victorian Literature
Prerequisite for participation	little orientation about English Literature, general understanding of Victorian Novel characteristics offered in the previous sessions of this course
Duration of the class	One hour and 20 min
The hour plan	The launching Phase, Student Exploration, Summarization and reflection

1. The launching phase, circa 15 minutes

In the first step, the teacher starts the class by preparing the students to face most probably for the first time the interface between Literature and the digital tools and methodology. The adjustment phase, make student lose their anxiety to new methodology in literature curricula. (Simanovwski, Schäfer & gendolla, 2010, p. 349).

The teacher starts asking the following questions to give the student the idea why it is necessary to learn this new subject. These questions help the students to get ready for the specific objective that they will be expected to attain.

- What would they do, if they be interested to find out the themes of all novels published in America during the Civil war, 1851 to 1875?
- How much time probably they need?
- Can any of them guess, how much is the number of the books in the world? Do you know that the estimations support 50 to 60 million of books?
- How much reading is enough to be able to keep up with the state of research in Literature?
- What if they have been asked to analyze a text without reading it?

In the second step of the first phase, the students are being expressed, what they will be learning and why they will be learning these topics in relation to the underlying concept of Victorian Literature. At this part the essential terms which are going to be explored during the class, are addressed and written on the white board, such as Distant Reading, Topic Modeling and MALLET.

The teacher explains the notion of distant reading. The teacher declares that the students are already familiar with Close Reading. The teacher introduces Franco Moretti's method of Distant Reading and emphasizes the aspect of going beyond the canon. The teacher presents the computer application of Text Mining and then shifts it to the subcategory of Topic Modeling. At this time, the teacher emphasizes the importance of the right understanding of the Term Topic in the analysis of Topic Modeling results. The teacher briefly introduces MALLET and the LDA algorithm behind it.

2. Student Exploration, circa 50 minutes

In this phase, the students interact with the MALLET. The teacher analyses the results together with the students and at the same time the students work with other students sharing and discussing the results and assisting each other. During this time, all the student work with their own computer and are able to explore the shared output files and go through the Topics.

Following the main subject of the course, Victorian Novel and its Characteristics, an example of applying a Topic Modeling Tool, MALLET, on the works of Victorian novelist Anthony Trollope's Barsetshire series, is presented. All the students are able to access the results of the project on their own computers.

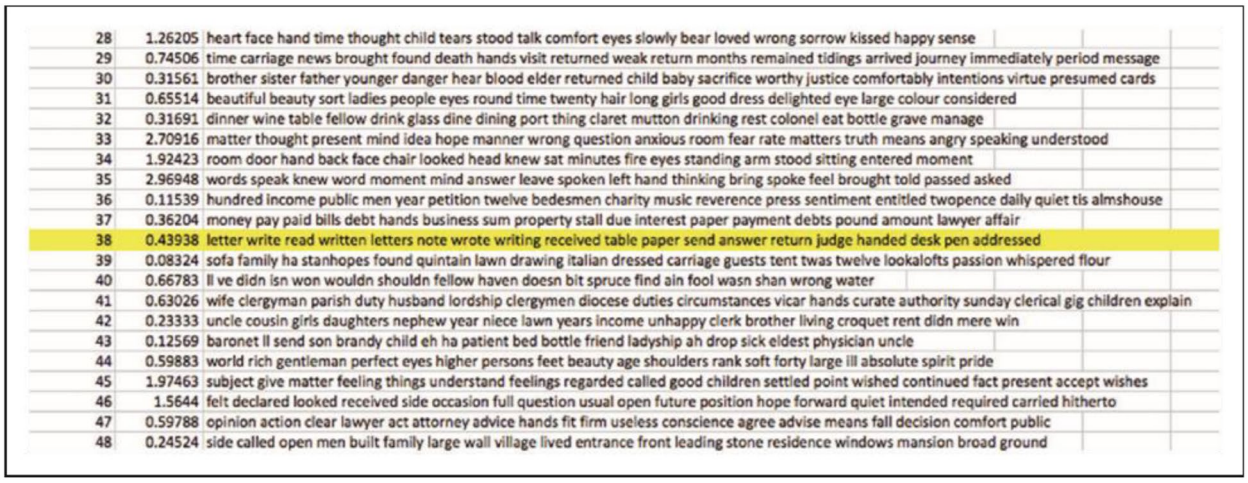
An overall description of the Output files is explained to the students: After running MALLET on the corpus including the Barsetshire series, they should expect two folders of outputs: get two folders (output_csv and output_html).

The output_csv folder contains the following files: DocsinTopics.csv, which provides you a list of topics and shows you which documents they're likely to appear in, Topics_Words.csv, which offers you a numbered list of topics and TopicsinDocs.csv, which provides a list of documents, along with the topics that appear most prominently in each. The html output of the results is useful for the students to freely analyze than the csv files as the html version allows you to interactively pivot and zoom through different layers of analysis. (Handel, 2014) These information is explained by the teacher at the same time that the students explore the files on their screens.

At this time, they are ready to explore the analysis of the resulted data by going through Topic to Documents and Documents to Topics. (Wallace, 2012)

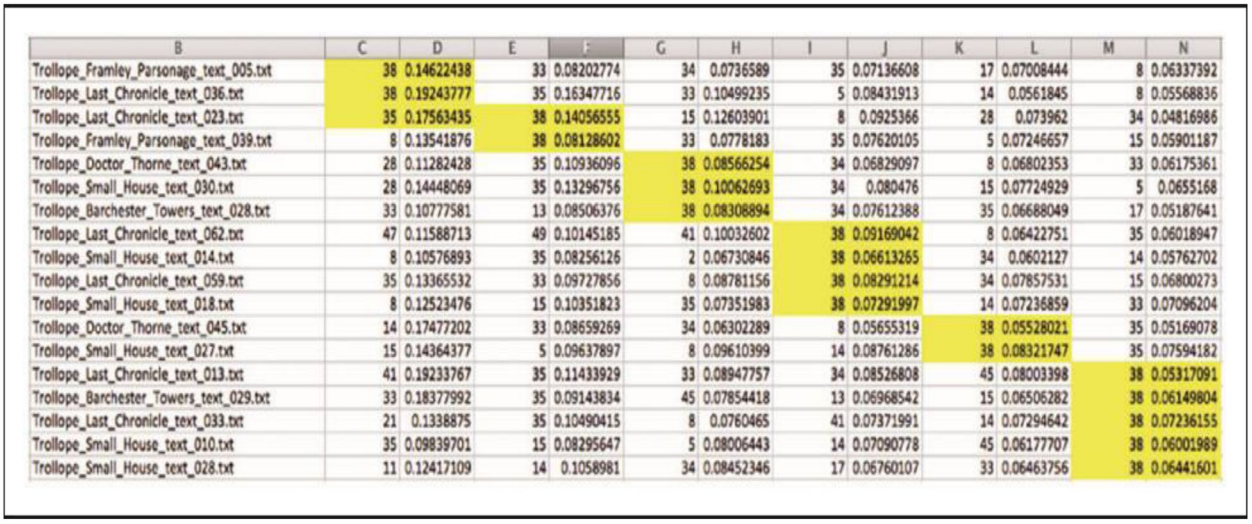
Pointing out one of the resulted topic, the topic number 38 as it is illustrated in figure 1, the students are being encountered the suggesting hints of Epistolary Novel Genre: letter, write, read, written, letters, note, wrote, writing, received, table, paper, send, answer, return, judge, handed, desk, pen, addressed.

The students have already had the subject of the Analysis of Barsetshire series as one of the most popular novelistic forms during the middle of the 18th century in the previous sessions. They have not encountered Epistolary Novel Genre in their discussion of Victorian Novel's characteristics because this Genre had fallen out of favor by the century's end. In the other words, by the mid-Victorian moment of the Barchester novels it was a distant—but, as this model helps them to see the persistent memory. The students are being told that the topic can only suggest that letter exchange and correspondence is a recurring topic or theme. (Burra, 2015)



28	1.26205	heart face hand time thought child tears stood talk comfort eyes slowly bear loved wrong sorrow kissed happy sense
29	0.74506	time carriage news brought found death hands visit returned weak return months remained tidings arrived journey immediately period message
30	0.31561	brother sister father younger danger hear blood elder returned child baby sacrifice worthy justice comfortably intentions virtue presumed cards
31	0.65514	beautiful beauty sort ladies people eyes round time twenty hair long girls good dress delighted eye large colour considered
32	0.31691	dinner wine table fellow drink glass dine dining port thing claret mutton drinking rest colonel eat bottle grave manage
33	2.70916	matter thought present mind idea hope manner wrong question anxious room fear rate matters truth means angry speaking understood
34	1.92423	room door hand back face chair looked head knew sat minutes fire eyes standing arm stood sitting entered moment
35	2.96948	words speak knew word moment mind answer leave spoken left hand thinking bring spoke feel brought told passed asked
36	0.11539	hundred income public men year petition twelve bedesmen charity music reverence press sentiment entitled twopence daily quiet tis almshouse
37	0.36204	money pay paid bills debt hands business sum property stall due interest paper payment debts pound amount lawyer affair
38	0.43938	letter write read written letters note wrote writing received table paper send answer return judge handed desk pen addressed
39	0.08324	sofa family ha stanhopes found quintain lawn drawing italian dressed carriage guests tent twas twelve lookalofts passion whispered flour
40	0.66783	ll ve didn isn won wouldn shouldn fellow haven doesn bit spruce find ain fool wasn shan wrong water
41	0.63026	wife clergyman parish duty husband lordship clergymen diocese duties circumstances vicar hands curate authority sunday clerical gig children explain
42	0.23333	uncle cousin girls daughters nephew year niece lawn years income unhappy clerk brother living croquet rent didn mere win
43	0.12569	baronet ll send son brandy child eh ha patient bed bottle friend ladyship ah drop sick eldest physician uncle
44	0.59883	world rich gentleman perfect eyes higher persons feet beauty age shoulders rank soft forty large ill absolute spirit pride
45	1.97463	subject give matter feeling things understand feelings regarded called good children settled point wished continued fact present accept wishes
46	1.5644	felt declared looked received side occasion full question usual open future position hope forward quiet intended required carried hitherto
47	0.59788	opinion action clear lawyer act attorney advice hands fit firm useless conscience agree advise means fall decision comfort public
48	0.24524	side called open men built family large wall village lived entrance front leading stone residence windows mansion broad ground

Figure 1. Topic key for 50 topics, topic 38 highlighted. (Burra, 2015)



B	C	D	E	F	G	H	I	J	K	L	M	N
Trollope_Framley_Parsonage_text_005.txt	38	0.14622438	33	0.08202774	34	0.0736589	35	0.07136608	17	0.07008444	8	0.06337392
Trollope_Last_Chronicle_text_036.txt	38	0.19243777	35	0.16347716	33	0.10499235	5	0.08431913	14	0.0561845	8	0.05568836
Trollope_Last_Chronicle_text_023.txt	35	0.17563435	38	0.14056555	15	0.12603901	8	0.0925366	28	0.073962	34	0.04816986
Trollope_Framley_Parsonage_text_039.txt	8	0.13541876	38	0.08128602	33	0.0778183	35	0.07620105	5	0.07246657	15	0.05901187
Trollope_Doctor_Thorne_text_043.txt	28	0.11282428	35	0.10936096	38	0.08566254	34	0.06829097	8	0.06802353	33	0.06175361
Trollope_Small_House_text_030.txt	28	0.14448069	35	0.13296756	38	0.10062693	34	0.080476	15	0.07724929	5	0.0655168
Trollope_Barchester_Towers_text_028.txt	33	0.10777581	13	0.08506376	38	0.08308894	34	0.07612388	35	0.06688049	17	0.05187641
Trollope_Last_Chronicle_text_062.txt	47	0.11588713	49	0.10145185	41	0.10032602	38	0.09169042	8	0.06422751	35	0.06018947
Trollope_Small_House_text_014.txt	8	0.10576893	35	0.08256126	2	0.06730846	38	0.06613265	34	0.0602127	14	0.05762702
Trollope_Last_Chronicle_text_059.txt	35	0.13365532	33	0.09727856	8	0.08781156	38	0.08291214	34	0.07857531	15	0.06800273
Trollope_Small_House_text_018.txt	8	0.12523476	15	0.10351823	35	0.07351983	38	0.07291997	14	0.07236859	33	0.07096204
Trollope_Doctor_Thorne_text_045.txt	14	0.17477202	33	0.08659269	34	0.06302289	8	0.05655319	38	0.05528021	35	0.05169078
Trollope_Small_House_text_027.txt	15	0.14364377	5	0.09637897	8	0.09610399	14	0.08761286	38	0.08321747	35	0.07594182
Trollope_Last_Chronicle_text_013.txt	41	0.19233767	35	0.11433929	33	0.08947757	34	0.08526808	45	0.08003398	38	0.05317091
Trollope_Barchester_Towers_text_029.txt	33	0.18377992	35	0.09143834	45	0.07854418	13	0.06968542	15	0.06506282	38	0.06149804
Trollope_Last_Chronicle_text_033.txt	21	0.1338875	35	0.10490415	8	0.0760465	41	0.07371991	14	0.07294642	38	0.07236155
Trollope_Small_House_text_010.txt	35	0.09839701	15	0.08295647	5	0.08006443	14	0.07090778	45	0.06177707	38	0.06001989
Trollope_Small_House_text_028.txt	11	0.12417109	14	0.1058981	34	0.08452346	17	0.06760107	33	0.06463756	38	0.06441601

Figure 2. Lines from topics in documents MALLET output showing chapters with relatively high percentages of topic 38. (Burra, 2015)

It is only the time when they explore ‘‘topics in documents’’ output, they realize that the chapters in which characters exchange letters and worry about unsent notes gesture to that earlier genre and even proffer an alternative configuration for the novel. The topics in documents output even points to one chapter in which the narrator announces that for the moment he will regress to the genre of the epistolary novel for the length of the chapter. (Burra, 2015)

The students are being told that this example was a project done by Rachel Sagner Buurma, associate professor in the Department of English Literature at Swarthmore College. They are referred directly to the article for further studies in detail.’

3. Summarization and reflection, circa 15 minutes

The teacher engages the student to summarize what they learned or discovered during their exploration in the output files. It is the time that the students express how they interpret the data. During this discussion, the students are being clarified about the notion of Topics in their literary analysis. It is actually the most important part of the designed scenario which is, to avoid misinterpretation about the topics.

Accordingly, in the final phase of the scenario, the students are being clarified that the topics, alone, are only the co-occurring of the words, which is for the computer strings of tokens, together more than it is expected and some particular documents are composed of a certain number words with comparably high probability of belonging to this topic.

Dr. Buurma (2015) suggests, the topics can connote in a simple way as author‘s notes toward his novel to open us new windows to look at the novel. This author is nobody rather than the content itself. Moreover Dr. Buurma (2015) proposes to look at Topic Models of literary corpuses can be considered as hints to forms and versions which even fell out of use at the time or still underlying form of the new reformations. Topic modeling is not a mean of propelling to an objective target, but a stimulant step which is needed to be investigated and evaluated again and again.

Teaching Scenario analysis

To work with topic modeling, we require some prior conditions, which all correspond to the assumed Teaching Scenario. First of all, to have an acceptable outcome of the LDA model and to make a right decision about using the Topic Modeling Tool, we have to consider the size of the data set. In the case of small number of documents, Topic Modeling Tool is not useful and simple frequency counting Tools are suggested. This criterion applies to the notion of Distant Reading and its appliance into our experimental Teaching Scenario, we assume relatively a

big collection of literary texts. In other words, the notion of Distant Reading is not applicable to small teaching material which requires the classical Close Reading style. (Brett, 2012)

Secondly, it is advisable that the target group has already a general familiarity to the subject of the chosen corpus. It is expected that in the following teaching scenario, students of the major English Literature, have most probably this perquisite. In this case, the subject of the course is Victorian Literature and the students have already had the lectures about the Victorian Novels and its characteristics.

Thirdly, the teachers should decide about the digital tool according to the expectations and target of the Literature course. Different tools are available in Topic Modeling. MALLET is a favorite tool being used by humanities scholars. The graphical user interface or "GUI" of MALLET, is a useful alternative to introduce MALLET to the students and to ask them to investigate the output files.

Although the chosen tool and method brings a lot of challenges with itself, it is assumed that MALLET is the most appropriate tool to be introduced for the appliance of Topic Modeling.

There are other suggesting tools and methodologies to be applied to the teaching scenarios. The visualization tools such as Voyant and word trees or word clouds can be used to investigate the patterns in words and in sentence structure in especially smaller corpus. Visualization technologies can illuminate more than patterns in sentences: they can also provoke new insights about geography in texts. Using Word cloud is absolutely easy. word clouds are visualizations of word frequency in texts, in which words are larger the more times they appear Word Trees, a more sophisticated level than a word cloud allows, so they switched to “word trees,” which, as Wattenberg and Viégas (2008) have explained, are graphical versions of the traditional keyword-in-context method that enable rapid querying and exploration of bodies of text. Word trees provide a more granular display of sentence construction and patterns by showing how particular words appear in context. (Swafford, 2016)

Other Tools that which have been developed for the purpose of quantitative text analysis such as the tool AntConc from the Waseda University in Tokyo, “Voyant” from the Canadian universities of McGill and Alberta, or “CAT-MA” from the University of Hamburg have the sufficient popularity and success. (weitin, 2015)

Finally, in applying LDA in Topic Modeling, to get an optimal setting for parameters, it is suggested to run the MALLET with different parameter to observe the cohesion of the results. One of the important parameter is the number of Topics that the algorithm uses in computing the documents. The second important parameter is the iteration number, which as default, it is possible to follow the following formula:

For T<100 default iterations = 200

For T>500 default iterations = 1000

*Else default iterations = 2*T*

The suggested value for the topic proportion threshold parameter is 5% which is recommended to be increased for shorter documents. (Google Code Archive) These explanation depending on the type of is not explained in the planned design but is available and addressed to the students.

Discussion: Pros and Cons

Weighing up the Teaching Scenario, it is observable that the presented example is implicitly a good evidence for what Noah Wardrip-Fruin refers as a better understanding of art and literature as it is referred before. This practically means, it is expected that such scenarios provide the chance for the students to think above the limitations in the classic ways of looking at learning literature. (Simanovwski, Schäfer & gendolla, 2010)

Firstly, the totalization vision attained in this example implies the notion of Distant Reading of going beyond limitations and expectations. This notion is brought to existence from the investigations on the resulted data which suggest the students a different model of looking at the novel, consistent or in consistent with the theoretical ideas which already exist.

Moreover, each group of the students are able to manipulate the topics and compares it to the neighbor group, although the general setting is designed and fixed. In case of this scenario, as the numbers and adjustments are calculated before, all the groups should find similarities in the resulted topics. In the other words, this claim is put forward that Topic Modeling with MALLET and the input adjustment should be tested and performed before by the teacher or who makes the teaching plan in order to avoid to let the student face directly a variety of unrelated result and be distracted from the goal of the teaching subject. The main premise behind this scenario is that if the student run the MALLET themselves for the first time, they will not have the convincing results which motivates them to relate it to the subject of the course. Most probably, they hardly find any relations in the suggested topics and moreover, it is a time consuming process which does not fit the limited time of a subject plan.

All thing considered, it seems reasonable to assume that a fulfilled project of Topic Modeling should be introduced for the first time to the students to make them able to achieve the understanding of the advantages of the new adventure using a digital tool in their literacy curricula.

It is possible to design this scenario in another way. This is, the case that the teacher does the whole procedure of Topic Modeling with MALLET together with the students. In this case, while, there is no certain variable for the number of topics or iteration number, the “best” comes by trying altering variables and making a list of resulted data to find an acceptable variable. VERY BASIC STRATEGIES This activity is practically what Zuern considers it as a positive aspect of Digital Literature, as the students have to concentrate to gather evidences, follow up the hints, and evaluate different interpretations. (Simanovwski, Schäfer & gendolla, 2010, p. 234) However, considering the significant deviation from the target of this scenario and the barriers in the actual Teaching scenarios, as it will be mentioned in the following, the first design is preferred here.

In conclusion, both designs of scenario share three important achievements: Firstly, this structure ensures that students receive both theoretical and practical experience with each methodology and can see first-hand its strengths and weaknesses.

Secondly, the students get ready to read the computational process through an interpretive perspective. (Simanovwski, Schäfer & gendolla, 2010, 240) This ability corresponds to the educational objective of Critical Thinking in the teaching scenario. If the students are expected to think in a critical way, the teacher has to make the didactic structure in a way that it activates their mental process to consider all the details and they be able to gather the relevant information, have a careful and skeptical analysis, make judgements and think in a metacognitive way to be able to have higher order planning. (Li, 2012)

Thirdly, from a general point of view, the teacher in such scenarios turns the students’ role to researchers which are able to develop their own thoughts, views and insights about literature. (Simanovwski, Schäfer & gendolla, 2010, 282)

Despite the significant positive consequences, rebuttal aspects can be argued here. Most students find digital technology intimidating, as they are aware of the limits of their knowledge and are afraid to experiment enough to figure out how programs work.The teacher’s role to overcome these difficulties is really important. The teacher should give the students access to the detailed instructions, both written and verbal, for every lab day. (Swafford, 2016)

At this point, the teachers and the students face another challenge: The teachers are not often distinctly more informed about the digital aspect in their Teaching scenario compared to the students. It is even more likely that the students are more prepared to face the digital world, although the teacher is still supposed to be enough informed about contextualization of Digital Literature. Although the necessity to have educated teacher in this field is undeniable, still there is the probability that in this case the student encounter situations that they know more than the teacher.

Other critique refers to a more fundamental aspect of this scenario. The notion of Distant Reading has skeptical critics among the literary historian and scholars. There are still hesitations whether Moretti and other digital pioneers will be capable of demonstrating, to those who are more skeptical of the relations between materials, data, evidence, and facts that such a massive upheaval is worth the effort. (Fitzpatrick, Galloway & English, 2013)

In the light of these kinds of critiques, is it convincing to practice such new notions in the didactic realm and make the fragile generation of the students encounter it at all?

The integrative concept of "Scalable Reading" is deserved to be mentioned here as an alternative perspective to the whole scenario analysis especially considering the implicit presence of both qualitative methods of hermeneutics and quantitative methods of statistics in the presented scenario. Martin Müller proposes the notion of Scalable Reading, which indicates that Close Reading and Distant Reading mutually inform one another methodologically. This concept can be considered as a fundamental systematic advantage that make it more possible to understand the continuous existing sequence of qualitative and quantitative methods in the research projects. (weitin, 2015)

Conclusions and Implications

In the offered scenario, it is tried to support the premise that using Topic Modeling and MALLET tool follows the notion of Distant Reading in looking different at the texts of literature. Teaching Digital Literature is not an easy, completely developed field. The task of designing curricula and related canons is a new demand under developing. In this respect, new-born challenges should be expected in the related scenarios. Further research in this area may include preparing projects on the determined materials of teaching literature, using the appliance Topic Modeling, especially in the courses of the History of Literature.

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THE INTROVERTED STUDENTS IN THE MODERN ESL/EFL CLASSROOM

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Abstract
As ESL/EFL studies become more focused on group-work and pair-work, introverted students remain in the background of the modern classrooms. With the majority of the newer student textbooks focusing on team building and joint activities, introverted students cannot step out of the extroverts' shadow. Research even suggests that teachers prefer the extroverted students who happily participate in class discussions and group activities over the quiet, inward-oriented introverts.
Many regard the introverted students as shy, but introversion is not limited to shyness. This paper will discuss the ways in which introverts can improve their participation in class and improve their skills for working as a part of a group.
Small but meaningful changes to the ways we teach ESL/EFL can influence the teaching process for the introverts greatly.
Keywords: Introverts, extroverts, ESL, EFL

Introduction

As the educational systems throughout the world develop to accommodate different students' needs, one area is oftentimes neglected: the shy, quiet, or introverted students continue to be frowned upon and neglected in the everyday teaching process as more and more attention is given to the extroverts and their abilities to work better in groups, voice out their opinions, participate in class and accomplish more in the activities now considered "standard" in the modern ESL/EFL classroom.

The introverted students, more times than not, are perceived as students that have certain learning difficulties and their "shyness", as oftentimes introversion is confused with general shyness, is considered a problem that is to be addressed and somehow, cured.

The modern ESL/EFL coursebooks are another pillar of this on-going problem. The majority of the books' activities now focus on team-work and group-work and individual activities, like the ones introverted students actually prefer, are overshadowed.

To top it all off, ESL/EFL teachers generally tend to put a lot of emphasis on class participation, since speaking skills are essential when it comes to language learning. However, such participation is something introverts have a hard time dealing with.

Luckily, there are numerous methods that can be employed and certain techniques that can be implemented in order to make the ESL/EFL classroom a welcoming learning area for both introverts and extroverts. Even some small, well-thought adjustments can have excellent results in improving introverts' class participation and team-working skills.

Methodology

This review paper aims to describe, in a qualitative manner and assess, the classroom activities and techniques used when working with a large group of students with unique educational needs.

Ultimatellty, the goal is to provide better understanding of the benefits that small, but meaningful changes can bring in the modern ESL/EFL classroom – changes that could aid the teaching process and make classes more fitted to the educational needs not only to the outspoken extroverts, but also to the more contemplative and quiet introverts.

The notion of Introversion and Extroversion

The theory of human personality was first introduced by the psychologist Carl Jung in the early 1920s. Upon introducing the said theory, Jung introduced and defined the term Psychological Type. According to him, this term was to refer to the level to which individuals show inclination to multitude of what he referred to as extraverted and introverted behavioral patterns. Carl Jung elucidated these two notions in regards to the way individuals derive

personal energy. Upon defining extraversion, Jung stated that extraverted individuals are outwardly oriented i.e. they derive energy from their surroundings and the people in their proximity. Introverted individuals, according to him, are inner oriented i.e. they derive energy in an inward mannar from inner psychological activities. According to Jung's theoretical claims, extroverts are the individuals who focus primarily on ventures and undertakings in the world around while introverts focus on self-reflection. Furthermore, Jung claims, introverts find ventures and activities in the outer word rather draining energetically. Rather than replenished, like in the case of extraverts, their energy levels decline after exchanges in large groups of individuals. (Jung, C. 1971)

In the psychological literature, the notion of extroversion and introversion (also known as extraversion and introversion) is considered an extremely important dimension of an individual's personality – a dimension that has influence, and can impose a variety of physiological limits on who one is and how one acts. One individual's level of said extroversion or introversion is said to influence greatly a vast number of aspects: in what ways does a particular person think, how does he feel and how he interacts with the world at large (Wilt, J. and Revelle, W. 2009)

As the theory became more popular, numerous tests have been developed in the past decades in order to determine whether one tends to be more on the introverted or on the extroverted side, and to what extent. The most commonly conducted tests of such types are the psychometric tests, the Meyers-Briggs Type Indicator (MBTI) and theRevised Five Factor Inventory (NEO-FFI).

Ever since emerging, Jung's theory has been rather controversial. As a result, numerous psychologists and theorists have discussed it, and in some cases, have even disputed it in a noteworthy manner. One such instance is Isobel Myers (Myers, I.B. and Briggs, P. 1980), who developed the aforementioned MBTI test. Myers conceptualized the concepts of extraversion and introversion as polar opposites on a continuum unlike Jung's theoretical basis. Another such instance is the case with McCrae and Costa.(McCrae, R.R. and Costa, P.T. 1990)These theorists have included the notion of extroversion in their *Five Factor* (openness, conscientiousness, extroversion, anxiety and neuroticism) model of human personality. They have also defined introversion as a noteworthy lack of amiability as well as self-confidence and self-assurance, and not just an inner-directedness energy-wise.

It is important to note that although introversion can sometimes result in a shyness characterised by a quiet and unforthcoming manner, the main distinction between the notions of extroversion and introversion, is to do with the operating of the brain lies and goes further than simple interaction patterns.

Although introverts do struggle with what nowadays is considered sociable and assertive, modern research suggests that with the right guidance, introverts can become more comfortable with working with larger or smaller groups and can improve their public speaking skills.

Introversion vs. shyness

Although oftentimes wrongfully used interchangeably, shyness and introversion are not the same thing and are not to be used as synonyms, despite the fact that these two notions share some characteristics and can sometimes even look the same. The main difference is: introverts find joy in time spent on their own and they feel drained emotionally when they spend time with a large group of individuals.. Individuals who are shy, on the other hand, more often than not, want to spend time with peers and friends, although they feel discomfort when they are to interact with them. Hence, one can conclude that there are many introverts who are not shy. Many have outstanding people skills and communication skills. But, after spending time with a large group of people, interacting and taking part in different things, introverts get emotionally drained and crave solitude time to replenish and "recharge" their emotional batteries. (C. Bainbridge, 2018)

Understanding this can lead to better understanding of the students and their individual needs. For illustration, consider two students. Let us assume that one of them is introverted and the other is shy. During the class, has put together an activity for each and every one of the students in her class. An introverted student would love it if he could remain seated,write and/or work alone, or reflect on the given assignment. The introverted student is simply more comfortable working on his own and finds working with peers energy-draining. A shy student, on the other hand, would want to engage in the activities, even the group ones, alongside other students, but would eventually remain seated, working alone if given the chance, simply because he is apprehensive about the interaction or anxious about what his peers may think of him.

Another thing to note is that shyness can be helped to eventually overcome. Introversion, on the other hand is not something that is to be helped –though certain skills can be improved with careful planning, the concept of energy-draining is as much a part of a person as is one's hair or eye colour.

Learning styles of introverts

Generally speaking, introverted students prefer working on school assignments on their own. They enjoy the solitary and prefer it to group work and joint assignments. They enjoy brainstorming and they appreciate the logical theory behind the things they learn. They tend to prefer to ponder a problem and carefully assess their options before raising their hands and providing an answer. The most widely used term to do with introverts' learning style is *reflective*.

According to Mecchia, in large classroom, the introverted students

- prefer to work on their own,
- prefer to be allowed to observe
- get uncomfortable when they are called out or pressured to answer or speak publicly,
- need to participate in class in a meaningful manner; if not, they will become rather absent minded,
- are influenced by different changes of pace and this requires a lot of readjustment time for them (Mecchia, 2017)

Their learning style, however, ought not to be confused with passive for reflecting and pondering is a rather active process, just as active as speaking in class (The Master Educator, 2007) Introverts learn in a unique manner and to do so, different internal processes must be employed, for, as stated, introverts are inner-oriented. Extroverts, however, improve significantly when given the chance to show what they have learned outwardly, via speaking.

The most important thing to note is that teachers should understand introverted students and their needs, and try to be a bit more patient with them: Introverted studentc might take a few minutes longer to answer, when called upon during class. This is because these students ponder and think carefully before answering. They evaluate their answer before speaking out, and this process takes time. By allowing enough time to evaluate their answers and think, without interrupting them or assigning other students to answer, teachers can help introverts become more confident or assertive. This can also encourage their way of logical thinking.

In the end of the day, incorporating activities addressing the educational needs of both introverts and extroverts is the key to having a classroom where real learning happens every single class.

Curricula designed around extroverts

The problem with the ESL/EFL classes nowadays and with the other subjects really, is that they focus excessively on extroverts and their learning style. Our own research, upon conducting this paper revealed that the majority of ESL/EFL coursebooks and the state's official curricula rely on numerous group-work assignments that are ideal for extroverts, but not for their introverted classmates.

Furthermore, the grade a student gets is influenced heavily on class participation. More times than not, in order to promote learning, teachers encourage their students to be actively involved in class discussions by asking and answering questions. Even if the teacher does not explicitly include class participation in the overall grades, students' behavior in class undoubtfully influence the teacher's perception of the student's abilities. This perception is especially important if the student's grade in the particular class is on the borderline or if the student asks for a letter of recommendation.

In fact extroverted students are and have been considered "ideal", which just adds to the issue. A recent study that 91 teachers proves this exact point. In the study, these teachers were asked to distinguish their 'ideal student'. The Murphy Meisgeier Type Indicator for Children (MMTIC) and the Myers Briggs Type Indicator (MBTI) were both employed and the results proved the initial hypothesis – teachers preferred extroverted students. 76% of the teachers chose the extrovert as the 'ideal student' type that they would enjoy teaching and having in class (Meisgeier, 1994).

All of this adds to the fact that lessons and classes are truly designed with extroverts in mind, and not exactly introverts. In today's learning environment, however, where the process of learning is student-centered, such practices are to be changed in order to promote inclusion and inspire learning by all.

Lessons fit to introverts

Understanding introverts and how their mind is wired is crucial to finding activities that introverts will find enjoyable. One sure way is to encourage asynchronous communication(e.g. writing). This is ideal for introverts because it gives them the chance to have a private space where they can get in touch with their inner selves and express their thoughts and ideas in their own way, at their own pace.

Class participation of introverts can be improved by directly asking the student to respond rather than waiting for him to raise his hand. Rotations can also help. These rotations in which all students, in a particular order, are asked to take part in class, could encourage introverts to feel like they belong. This would also potentially alleviate the pressure of public speaking. Another strategy that can be employed is assigning students with questions (and corresponding answers) to do with the material that is to be learned on the following class.

What could also be beneficial, as advised by Cain (Cain,2012) is changing the mindset and expectations going into the classroom: the concept of class participation is to be changed by classroom engagement. If participation ends up rewarded, some students will raise their hands just for the sake of talking. But engagement, on the other hand, recognizes that there are a lot of different ways to engage with the material and with your peers. Engagement rewards quality over quantity: an introverted student who listens carefully and then proceeds to give one well-thoughtout answer should be valued equally, if not more than the extroverted student who's always raising his hand.

Using certain applications that could provide students with the chance to contribute to in-class discussions, anonymously or not can also help class engagement and class participation for introverts. Introverted students will most probably find it more appealing to engage in an online activity via Moodle or Kahoot, anonymous or not since such participation brings less pressure and can be done individually.

Group assignments that work for introverts

Although introverts do prefer to work independently, they may perform well in small groups. As long as the group is not too large and each and every member knows their own role, introverts can perform well. Assigning different roles to each member is the key element in such activity for otherwise introverts are almost certainly going to be outshined by the loud, expressive extroverts in the group. Shy introverts can help by taking notes, keeping the time etc. Such activities will not make them excessively anxious about being in a group and the assignment will not be as energy-draining.

Another useful strategy is the "think-pair-share" one. When the teacher poses a question, talk to their partner. In this way, they only have to share their answers with one peer, rather than the whole class. The teacher can further implement a *journal time* where students put down their notes. This would also give them a chance to work in solitude.

Speaking and presenting in class

One thing that introverts and shy students seem to have in common is that they are both uncomfortable and anxious when called upon in class. Public speaking is simply not their strong suit, especially full-class discussions where topics often change quickly – quicker that the introverts can switch their attention and focus.As mentioned above, working in parts or in a rather small group discussion is preferable for introverted students, especially if they are familiar with the topic and their classmates. It is important to note that forced participation will have nothing but a negative effect on introverted students.

One quote by Robert J. Coplan, a shyness researcher from Ottawa, Canada, as noted in Cain (Cain, 2012) wonderfully sums up the plight of the shy and introverted students in modern schools: "*Whoever designed the context of the modern class-room was certainly not thinking of the shy or quiet students. With often-crowded, high-stimulation rooms and a focus on oral performance—the modern classroom is the quiet student's worst nightmare—if a teacher asks a question and the student doesn't answer right away, the most common thing is the teacher doesn't have time to sit and wait, but has to go on to someone else, and in the back of their head might think that student is not as intelligent or didn't do the homework*."

Making small but significant changes in the way group assignments and presenting in class are thought-out can bring introverts and extroverts closer together and encourage them to shine in their own unique way. If nothing else, simply having their introversion and/or shyness noted, known and accepted as normal by a teacher, and seeing effort of using appropriate mechanisms can help introverts feel appreciated in the classroom

Conclusion

Being a teacher nowadays is more challenging than ever, and considering the unique educational needs of both extroverts and introverts is just another challenge in the list of ongoing educational challenges for teachers all over the world. But, however challenging, teachers should strive to harness each student's unique talent and work around their difficulties and needs.

Recognizing introverts and their learning style and making small but significant changes in the class dynamic can benefit those students greatly. Tailoring group assignments, for instance and assigning each member individual tasks can do wonders! Knowing how their brain works and what kind of assignments they find challenging can be a step towards understanding them and their learning path; understanding their unique needs and taking them into consideration when making specific lesson plans can help introverted students feel appreciated and included.

Teaching is not and should not be a one-size-fits-all matter, and the sooner teachers realize that, the sooner important changes can be made – changes that will mean a pleasant working environment for all, and not just for the ones who are not afraid to raise their hand over and over again.

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THE ROLE OF LEARNING MOTIVATION IN MEDIATING LEARNING OUTCOMES

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Abstrack

Education is an effort to realize the ideals of the nation. To achieve good education, learning facilities, teacher teaching skills, interest in learning and learning motivation are needed. Learning facilities are needed by schools to be right on target and effective in their use. The effectiveness of the provision of learning facilities can improve the quality of learning. Besides that, in creating fun, effective, and innovative learning, a teacher needs a skill. If students have an interest in the teaching material being studied, they will study seriously and can obtain optimal learning outcomes because they like it and will feel satisfied when their wishes have been fulfilled. Respondents in this study were 80 student teacher candidates. The study used a path analysis design. The results of the study of learning motivation mediate learning facilities, teacher teaching skills and learning interest on learning outcomes.
Keywords : Learning facilities, interest in learning, motivation to learn

Introduction

Education has an important role as a means of creating quality and superior human resources, because quality and superior human resources are able to compete in the free market era. An effective teaching and learning process can optimize educational outcomes. Optimal educational outcomes can be seen from the learning outcomes of students.

Learning outcomes are said to be optimal if students are able to understand the material, have skills and positive behavior after they have finished following the learning process as expected by the implementation of education. Learning outcomes will be obtained when students have completed the learning process. The success of the learning outcomes achieved by these students is influenced by various factors, namely factors from within oneself (internal) and factors from outside oneself (external). Internal factors include abilities, interests, learning motivation, study habits, persistence, psychological and physical factors. Meanwhile, external factors include the quality of teaching. The quality of teaching is whether or not a learning process is effective in achieving learning objectives (Boudreaux et al, 2016).

The quality of teaching is closely related to teachers and learning facilities in schools. Facilities are complementary learning support (Koca, 2016). The availability of learning facilities is expected to provide assistance and encouragement to students. Students who are motivated to carry out learning activities will be able to achieve optimal learning outcomes. Research conducted (Ball et al, 2009) concluded that there is an influence between learning facilities on learning outcomes. However, research conducted by Singh et al (2018) states that learning facilities have no effect on learning outcomes.

In addition to learning facilities, teacher factors also affect student learning outcomes. The teacher is a director as well as an actor in creating and planning teaching and learning activities that will be implemented in the classroom. Therefore, a teacher in teaching must have skills. Teacher teaching skills are absolute skills that must be possessed by teachers in creating the effectiveness of the learning process. Competent and professional teachers will be able to maximize their role in managing the class. Good classroom management is expected to be able to encourage and help students achieve optimal learning outcomes. Interest is one of the internal factors that can affect the learning outcomes of students. Interest is a feeling of liking and being attracted to something or activity (Vibulphol, 2016).

This feeling of love and attraction arises without coercion from others. So that someone who has an interest in learning about something will continue to pay attention and remember the activity with a sense of liking without being forced. Students who have an interest in the learning process are able to improve the learning outcomes achieved than students who have no interest. According to Vibulphol (2016) motivation is a change in energy in a person which is marked by the emergence of feelings which are preceded by a response to goals. According to Vainikainena et al (2015) motivation can be divided into 2 (two) types, namely intrinsic motivation and extrinsic motivation. The extrinsic motivation of students is a condition from outside themselves that encourages students to carry out learning activities. The availability of learning facilities at schools and the teaching skills of teachers during the learning process are things or conditions that come from outside the students which are thought to cause learning motivation, so that it will affect learning outcomes. Students' intrinsic motivation can be a feeling of liking the material and the need for the material.

Literature review

Learning outcomes

Learning is a process that is carried out by a person to obtain a change in behavior based on the experience he has. In general, there are 3 (three) learning theories, namely the theory of psychology, Gestalt psychology, and association psychology (Paolini, 2015). According to Krapp (1999) there are several theories about learning, namely the theory of Gestalt, Bruner, Piaget, Gagne, Bandura, Ausubel, and purposeful learning. The theory of learning the psychology of power states that humans have various kinds of power that are trained according to their functions. According to this theory, the important thing in learning is not the handling of matter or matter, but the result of the formation of these forces.

Gestalt theory states that learning the whole is more important than the parts or elements. Because the existence of the whole comes first. Gestalt theory explains that the learning process is carried out by students connecting a subject with other subjects as much as possible, experiencing development due to interaction with the environment, the teacher not only teaches science but also forms the student's personality, and students can adapt themselves to the subject matter. learned, in order to obtain an ability. Environmental interactions carried out intellectually, physically, emotionally, and socially will provide an experience for students. In addition to experience, learning can be more successful when it is related to the interests, desires and goals of students, and learning takes place continuously.

According to Paolini (2015) student learning outcomes are influenced by internal factors, in the form of students' abilities, learning motivation, interest and attention, learning attitudes and habits, persistence, socioeconomic, physical and psychological factors. Also external factors that are very dominant in influencing learning outcomes in schools, namely the quality of teaching.

Learning Facilities

According to Lee (2010), a tool for realizing effective and efficient educational goals through the fields of education is called education management. One of the scopes of education management is the management of facilities and infrastructure. Management of facilities and infrastructure is an activity of how to organize and manage educational facilities and infrastructure in order to achieve predetermined goals including planning, procurement, supervision, inventory storage, deletion and arrangement. The learning facilities available in schools require good management so that the procurement of these facilities and infrastructure is right on target and effective in their use. Because planning for the procurement of school education facilities and infrastructure is an effort to improve the quality of the teaching and learning process. Learning facilities are completeness of supporting learning for students (Singh et al, 2017). completeness of learning facilities consisting of learning media, equipment, books and other learning resources, and learning spaces. Learning space for accounting and finance expertise programs, including classrooms, library rooms, laboratory rooms, computers and languages.

Teaching Skills

The teaching and learning process which is implemented effectively can optimize learning outcomes. Teaching is the process of regulating, organizing the environment around students so that they can grow and encourage students

to carry out the learning process (Kahu et al, 2017). Teachers in creating a conducive, effective, creative, innovative, and fun learning atmosphere require a variety of skills including teacher teaching skills. According to Ball (2009) skill is the ability to carry out various complex and neatly structured behavior patterns with circumstances to achieve a certain result.

Lee (2010) revealed that there are eight teacher teaching skills that play a major role and determine the quality of teaching, namely the skills to ask questions, provide reinforcement, conduct variations, explain, open and close lessons, guide small group discussions, manage classes, and teach small groups and individually.

Interest to learn

According to Vibulphol (2016) interest is a tendency and high enthusiasm or a great desire for something. Lee (2010) argues that interest is defined as the tendency of a person's soul to something accompanied by feelings of pleasure because he feels there is an interest in that something. Interest is the tendency to pay attention continuously and reminisce about some of these activities accompanied by feelings of pleasure. Interest has a difference with attention, if attention is temporary and not necessarily followed by liking, while interest is always followed by liking and its nature is permanent, so that satisfaction is obtained. Interest comes from yourself without coercion from others. Based on this explanation, it can be concluded that the meaning of interest in learning is the tendency to stay in paying attention and reminiscing about learning activities continuously followed by a feeling of liking without coercion from others with the need to learn about it.

Learning is very much influenced by interest, because if students have an interest in the subject matter being studied, they will study seriously because there is an attraction. Teaching materials that are of interest to students are easier to learn and store, because interest can add to learning activities. Teaching materials that are not interested by students will rarely be studied, so that the content of the teaching materials is less mastered by students. As a result, the learning outcomes obtained are not optimal (Paolini, 2015).

Motivation to learn

Motivation is the driving force to encourage living things to do something (Vibulphol, 2016). Motivation to learn is a desire or urge to learn, where a person knows what is going to be learned and understands why to learn it. Kahu (2017) also argues that the notion of motivation is a change in energy experienced by a person characterized by the emergence of feelings and preceded by a response to a goal. If there are students who do not do something that should be done, then as a teacher they must find the cause. The cause of this is usually because he may not feel happy, sick, hungry, there are personal problems, and so on. As a result, the student does not change energy because he does not have a learning goal or need. Students who do not have the motivation to learn, teaching and learning activities will be difficult to succeed. Motivation is related to someone's experience and interest in something or activity.

Someone who is not interested in the activities they do, they will not get meaningful experiences. Because they are not motivated, as a result, there will not be a good learning process for them. Therefore, as a teacher, it should be able to encourage students or in other words provide stimulation to want to do the work that should be done, namely learning. In learning activities, motivation is used as a driving force in students to generate learning activities, ensure the continuity of learning activities, and direct these learning activities. Motivation has an influence on learning. Learning outcomes will be optimal if there is the right motivation for students. Motivation arises because there are motives and needs in the individual.

Method

This type of research is quantitative research. Quantitative research procedures include collecting data using research instruments and then statistical data analysis in order to test the predetermined hypothesis. The research design can be described as follows:

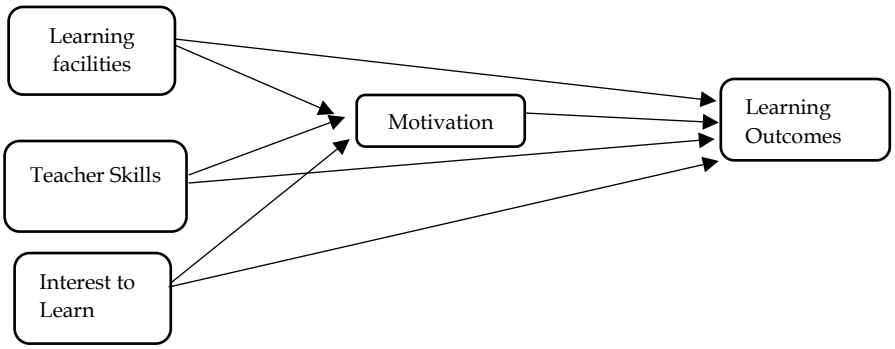

Figure 1. Research design

The target population used in this study were students in vocational schools, amounting to 80 student teacher candidates. In this study, samples were taken using simple random sampling technique. Simple random sampling is a technique of taking members of the sample from a population that is done randomly without paying attention to the strata in the population. The questionnaire was used to obtain data on learning facilities, teacher teaching skills, interest in learning, and learning motivation. The questionnaire assessment used the Likert scale guideline. The Likert scale is used to measure the attitudes, opinions and perceptions of a person or group of people regarding the research variables that have been determined by the researcher. The measured variable will be translated into a variable indicator. The answers to each instrument item range from very positive to very negative. The data analysis technique used in this study is the classical assumption test, path analysis, single test and partial determination coefficient.

Result

The path coefficient can be calculated by creating a regression model equation according to the hypothesized relationship. The Equation of Learning Facility Regression Analysis, Teacher Teaching Skills, and Learning Interest in Learning Motivation. The regression analysis equation is used to predict how far the influence of learning facilities, teacher teaching skills and interest in learning on learning motivation can be seen in the following table:

Tabel 1. Standardized Coefficients Beta

Model	Std. Error	Standardized Coefficients Beta
Learnfact-learnout	0,073	0,767
Learnfact-mov	0,074	0,723
Teachskill-learnout	1,000	0,667
Teachskill-mov	1,040	0,567
Interest-learnout	0,075	0,843
Interest-mov	0,083	0,775
Mov-learnout	0,073	0,795

The results of the calculation of the path analysis pattern can be seen in the following figure:

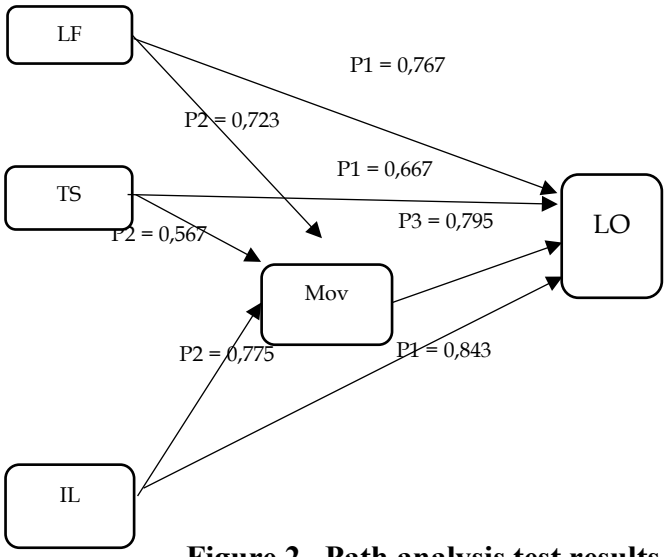

Figure 2. Path analysis test results

Based on Figure 2 it can be seen that the influence of the dependent variable can be direct or indirect on the independent variable through the intervening or mediation variables in this study as follows: Based on the calculation of the results of the beta value above, it shows that the direct effect of learning facilities on learning outcomes is 0.767 while the indirect effect amounting to 0.575. which is the product of the beta value of learning facilities with motivation and motivation with learning outcomes. So that the greater the value of the direct effect. Furthermore, based on the above calculations, it shows that the direct effect of teacher teaching skills is 0.667 while the indirect effect is 0.451. So, it can be concluded that the direct effect is greater than the indirect effect. Then based on the above calculations, it shows that the direct effect of interest in learning is 0.843 while the indirect effect is 0.616. Thus, from the results of the path analysis it can be calculated that the value of the indirect effect is smaller than the direct effect, but overall motivation is able to mediate learning facilities, teacher teaching skills and interest in learning on learning outcomes.

After testing the hypothesis, the results of the analysis show that the learning facility variable shows the regression coefficient is positive. The positive sign on the coefficient value indicates a unidirectional relationship between learning facilities and basic accounting learning outcomes. Thus, if the learning facility has increased or decreased, it will cause an increase or decrease in basic accounting learning outcomes. This shows that learning facilities have an influence on students in vocational schools in relation to basic accounting learning outcomes. Facilities are completeness to support activities, learning facilities that are available in full at school can provide convenience for students in learning activities. Learning facilities that are well managed by the school can be used according to their function and can last a long time. The achievement of management objectives for facilities and infrastructure in schools is an effort to improve the quality of teaching. Good teaching quality will be able to improve student learning outcomes. This shows that the respondent agrees that the school has carried out management of facilities and infrastructure properly, so that it can support learning activities at school. Learning facilities that are complete, on target, and effective in use can improve the quality of learning. The quality of learning that increases will improve learning outcomes. Thus it can be concluded that learning facilities have a positive and significant effect on basic accounting learning outcomes. After testing the hypothesis, the results of the analysis show that the teacher teaching skills variable shows the value of the regression coefficient is positive. The positive sign on the coefficient value indicates a unidirectional relationship between teacher teaching skills and basic accounting learning outcomes. So, if the teacher's teaching skills have increased or decreased, it will cause an increase or decrease in learning outcomes. This means that teacher teaching skills affect student learning outcomes in vocational schools. This shows that teacher teaching skills have an influence on students in relation to learning outcomes.

In creating fun, effective, and innovative learning, teacher teaching skills are needed. The teaching skills of the teacher consist of questioning skills, reinforcement skills, variation skills, explanation skills, opening and closing

lessons, small group discussion guiding skills, class management skills, and small group and individual teaching skills. Professional teachers will be able to maximize their role properly. The teacher is a director as well as an actor in creating and planning learning activities that will be applied in the classroom. Teachers who can apply teaching skills well will be able to help students achieve maximum learning outcomes. This shows that the respondents agree that the teacher has implemented the eight teacher teaching skills well. The teaching skills of the teacher are applied properly, so that a conducive, effective, creative, innovative, and fun learning atmosphere is created. Effective learning will improve learning outcomes. After testing the hypothesis, the results of the analysis show that the interest in learning variable shows the value of the regression coefficient is positive. The positive sign on the coefficient value indicates a unidirectional relationship between interest in learning and learning outcomes of basic accounting. So, if interest in learning has increased or decreased, it will cause an increase or decrease in basic accounting learning outcomes. This means that interest in learning affects learning outcomes. This shows that interest in learning has an influence on students.

Interest is a lack of attention that is carried out continuously and remembers some of these activities accompanied by a feeling of pleasure without any external coercion. Learning interest is very important in learning activities, if students have an interest in the teaching material being studied, they will study seriously. This shows that the respondent agrees if the respondent has an interest in learning basic accounting subjects. Subjects that are of interest to students will be studied in earnest, so that it will be easier to learn and remember. This means that it can achieve better learning outcomes.

Learning facilities are complementary to support students' learning activities. Learning facilities in schools, namely the equipment used for learning, learning media, books and other learning resources and learning spaces that support student learning activities. Learning facilities are well managed by schools so that they are right on target and effective in their use. The effectiveness of the provision of learning facilities can improve the quality of learning.

Learning activities are carried out effectively in achieving the learning objectives that have been formulated to help students achieve optimal learning outcomes. Students who take advantage of the learning facilities will also find it easy to learn. if they do not find learning difficulties, they will be more successful in the learning process. So that learning facilities have an influence on learning outcomes. Teaching is a process of regulating and organizing the environment around students in order to grow and encourage students to carry out the learning process. In creating fun, effective, and innovative learning, a teacher needs a skill. Teacher teaching skills are absolute skills that must be possessed by a teacher. There are 8 (eight) teacher teaching skills that play a very important role and determine the quality of teaching, namely the skills to ask questions, provide reinforcement, hold variations, explain, open and close lessons, guide small group discussions, manage classes, and teach small groups and individually.

If the teacher can apply the eight teaching skills, then the learning process will create pleasant, effective, and innovative learning conditions. Effective learning activities are able to optimize student learning outcomes. So that the teaching skills of teachers have an effect on learning outcomes. Interest is the tendency to pay attention continuously and reminisce about some of these activities accompanied by feelings of pleasure. Interest is also defined as the tendency of a person's soul to something accompanied by feelings of pleasure because he feels there is an interest in that something. If students have an interest in the teaching material being studied, they will study seriously and can obtain optimal learning outcomes because they like it and will feel satisfied when their wishes have been fulfilled.

Meanwhile, teaching materials that are not of interest to students will be rarely studied, it can result in students not being able to master the teaching materials. The result is that they cannot get optimal learning results. Based on this description, it can be concluded that learning outcomes are influenced by interest in learning. Motivation to learn is a desire or urge to learn, where a person knows what is going to be learned and understands why to learn it. Motivation arises because there is stimulation in the form of a goal which is marked by the emergence of feelling.

Owned learning motivation can provide experience to students. The experience they have can change their behavior. Changes in good behavior are called learning. If students have experienced changes in behavior, then

they have obtained learning outcomes. Optimal learning outcomes are influenced by strong learning motivation. Based on these descriptions, it can be concluded that learning motivation affects learning outcomes.

Motivation arises because there are motives and needs. Students who are aware of the need to carry out learning activities, they will try to meet these needs in order to achieve the goals they want. The availability of complete facilities and infrastructure can help the learning process of students because learning facilities are a means of supporting learning activities. So that they will find it easier to meet their learning needs because of the learning facilities.

Students who have motives and do not find difficulties in fulfilling needs can create motivation in themselves. From this description, it can be concluded that learning facilities affect learning motivation. Most likely students do not have motivation to learn because they feel unhappy with the learning activities they do. A teacher has a role to create fun learning so that the learning process is successful. The teacher's way of realizing fun learning is by applying teaching skills.

So that a teacher must have good teaching skills in order to increase the learning motivation of their students. Because it is the teacher's obligation to help increase the learning motivation of students so that they can meet their needs and achieve their learning goals. Based on this, it can be said that teacher teaching skills affect learning motivation.

Motivation is related to experiences and interests. Someone who is not interested in the activities they do, they will not get meaningful experiences. Because they do these activities not based on motivation. When students feel happy with the learning they are carrying out, it means that these students have an interest in learning. Because they like to carry out these activities, they will get valuable experience and can bring progress to themselves. So that motivation can emerge in students. This condition is an example of the intrinsic motivation that students have. Thus, learning motivation is influenced by interest.

Motivation arises because there are motives and needs. Students who are aware of the need to carry out learning activities, they will try to meet these needs in order to achieve the desired goals. The availability of complete facilities and infrastructure can help the learning process of students because learning facilities are a means of supporting learning activities. Management of facilities and infrastructure that is implemented by schools properly will make these facilities effective and right on target. So that students will find it easier to meet learning needs because of the learning facilities.

Learning facilities that are managed properly can improve the quality of teaching. Quality teaching will be able to help students to have motives and not find difficulties in fulfilling needs, so that they can generate motivation in themselves. Because the students have the right motivation, they will be able to get optimal learning outcomes. Therefore, learning facilities can influence learning outcomes through learning motivation.

Teachers have a role in creating a learning process that is fun, effective, and innovative. In addition to creating fun learning, a teacher must also help students to increase learning motivation so that students are able to meet their needs. The way teachers deal with this is by applying their teaching skills. Because teacher teaching skills are an absolute skill that a teacher must have. An effective learning process can increase the motivation of students so that they can obtain optimal learning outcomes. Therefore, teacher teaching skills can affect learning outcomes through learning motivation.

Students who have an interest in learning, it means that they get a learning experience that is able to make them interested so that they always pay attention to these learning activities with feelings of pleasure without being told or forced by others. Because they have an interest in learning, they will study seriously. If students have studied in earnest, it means they already know what will be learned and understand why to learn it.

This can be interpreted that these students already have motivation within themselves. Because students have the right motivation, they will be able to obtain optimal learning outcomes. So that interest in learning can affect

learning outcomes through learning motivation. The learning process that is implemented effectively can optimize student learning outcomes. Learning outcomes will be obtained by students, when they have completed the learning process, it is marked by having positive knowledge, skills, and behavior. Whether or not a learning process is effective in achieving learning objectives is called the quality of teaching. In realizing the quality of teaching, learning facilities and teaching skills are needed. In addition, students are also expected to have an interest in learning. Those who have an interest will study seriously because of their interest in the material being studied. Optimal learning outcomes can be obtained if students have strong learning motivation. The availability of learning facilities that meet the needs of students, good teacher teaching skills during the learning process, and interest in learning are expected to be able to foster strong learning motivation in students so that optimal learning outcomes can be obtained.

Learning facilities, teacher teaching skills, interest in learning, and learning motivation are factors that can affect learning outcomes, whether or not the learning outcomes obtained by students are influenced by these factors. Based on the results of a preliminary study at vocational schools, it is known that the learning outcomes of students in basic accounting subjects are in good categories. However, when researchers conducted a literature review, they still found research gaps regarding the effect of learning facilities, teaching skills, interest in learning, and learning motivation on learning outcomes.

Conclusion

Based on the research that has been done, it can be concluded as follows: There is a positive and significant effect of learning facilities on learning outcomes, this means that the effect of learning facilities on learning outcomes is significant. So that the better the learning facilities, the higher the learning outcomes. There is a positive and significant effect of teacher teaching skills on learning outcomes, this means that the effect of teacher teaching skills on learning outcomes is significant. So that the better the teaching skills of the teacher, the higher the learning outcomes. There is a positive and significant influence of interest in learning on learning outcomes, this means that the effect of interest in learning facilities on learning outcomes is significant. So that the higher the interest in learning, the higher the learning outcomes. Motivation to learn mediates learning facilities, teacher teaching skills and interest in learning towards learning outcomes.

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