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The Athens Journal of Education

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Volume 6, Issue 1, February 2019

Articles

Mission

ATINER is a ***World Non-Profit Association*** of Academics and Researchers based in Athens. ATINER is an independent **Association** with a **Mission** to become a forum where Academics and Researchers from all over the world can meet in Athens, exchange ideas on their research and discuss future developments in their disciplines, **as well as engage with professionals from other fields**. Athens was chosen because of its long history of academic gatherings, which go back thousands of years to *Plato's Academy* and *Aristotle's Lyceum*. Both these historic places are within walking distance from ATINER's downtown offices. Since antiquity, Athens was an open city. In the words of Pericles, **Athens*"...is open to the world, we never expel a foreigner from learning or seeing".*** ("Pericles' Funeral Oration", in Thucydides, *The History of the Peloponnesian War).* It is ATINER's **mission** to revive the glory of Ancient Athens by inviting the World Academic Community to the city, to learn from each other in an environment of freedom and respect for other people's opinions and beliefs. After all, the free expression of one's opinion formed the basis for the development of democracy, and Athens was its cradle. As it turned out, the Golden Age of Athens was in fact, the Golden Age of the Western Civilization. *Education* and *(Re)searching* for the 'truth' are the pillars of any free (democratic) society. This is the reason why *Education* and *Research* are the two core words in ATINER's name.

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Athens Journal of Education
Editorial and Reviewers' Board

President's Message

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Before you submit, please make sure your paper meets some basic academic standards, which include proper English. Some articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different divisions and units of the Athens Institute for Education and Research.

The plethora of papers presented every year will enable the editorial board of each journal to select the best ones, and in so doing, to produce a quality academic journal. In addition to papers presented, ATINER encourages the independent submission of papers to be evaluated for publication.

The current issue of the Athens Journal of Education (AJE) is the first issue of the sixth volume (2019). The reader will notice some changes compared with the previous issues, which I hope is an improvement.

Gregory T. Papanikos, President
Athens Institute for Education and Research

Athens Institute for Education and Research

A World Association of Academics and Researchers

21st Annual International Conference on Education
20-23 May 2019, Athens, Greece

The Education Unit of the Athens Institute for Education and Research (ATINER) organizes its **21st Annual International Conference on Education, 20-23 May 2019, Athens, Greece** sponsored by the Athens Journal of Education. The aim of the conference is to bring together scholars and students of education and other related disciplines. You may participate as stream leader, presenter of one paper, chair a session or observer. Papers (in English) from all areas of education are welcome. Please submit a proposal using the form available (https://www.atiner.gr/2019/FORM-EDU.doc).

Academic Members Responsible for the Conference

- **Dr. Alexander Makedon**, Head, Education Research Unit, ATINER.
- **Dr. Mary Ellis**, Director, Human Development Division, ATINER & Senior Lecturer, National Institute of Education, Singapore.

Important Dates

- Abstract Submission: **21 January 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **22 April 2019**

Social and Educational Program

The Social Program Emphasizes the Educational Aspect of the Academic Meetings of Atiner.

- Greek Night Entertainment (This is the official dinner of the conference)
- Athens Sightseeing: Old and New-An Educational Urban Walk
- Social Dinner
- Mycenae Visit
- Exploration of the Aegean Islands
- Delphi Visit
- Ancient Corinth and Cape Sounion

Conference Fees

Conference fees vary from 400€ to 2000€
Details can be found at: https://www.atiner.gr/2019fees

3rd Annual International Symposium on "Higher Education in a Global World", 8-11 July 2019, Athens, Greece

The Education Unit of ATINER is organizing the **3rd Annual International Symposium on "Higher Education in a Global World", 8-11 July 2019, Athens, Greece** sponsored by the Athens Journal of Education. The aim of the symposium is to examine educational developments throughout the world in universities, polytechnics, colleges, and vocational and education institutions. Academics and researchers from all areas of education are welcomed. You may participate as stream organizer, presenter of one paper, chair a session or observer. Please submit a proposal using the form available (https://www.atiner.gr/2019/FORM-COLEDU.doc).

Important Dates

- Abstract Submission: **11 March 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **10 June 2019**

Academic Member Responsible for the Conference

- Dr. Sharon Claire Bolton, Professor, Management Unit, ATINER & Dean, The Management School, University of Stirling, Scotland.
- Dr. Mary Ellis, Director, Human Development Division & Senior Lecturer, National Institute of Education, Singapore.
- Dr. George Priovolos, Director, Center for Small and Medium-Sized Enterprises (CSME) & Professor, Iona College, USA.

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More information can be found here: https://www.atiner.gr/social-program

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Globally Networked Learning in a University Classroom: A Pilot Program

By Steven M. Oberhelman[*]
Christina A. Dunn[†]

In 2017, the College of Liberal Arts at Texas A&M University created an initiative modeled on the State University of New York's Collaborative Online International Learning (COIL) program. COIL is an approach to fostering global competence through the development of a multicultural learning environment that links university classes in two different countries. Using various communication technologies, students complete shared assignments and projects, with faculty members from each country co-teaching and managing coursework. We piloted a COIL program with the purpose of fostering global competence and a multicultural learning environment through linking a Texas A&M Liberal Arts class and a university class in a foreign country. Each of the paired classes met separately and regularly in its home country for much of the semester, but the students also worked asynchronously online to share ideas, collaboratively produce work relevant to the course of study, and reflect upon their own and their partners' cultural points of view. In this paper we discuss the results of this pilot program.

Keywords: global learning, online learning, internationalization, study abroad, student success

Introduction

It is a well-known fact that study abroad brings tremendous benefits to students. Three academic advantages may be quickly singled out. First, students who participate in a study abroad program display better overall academic achievement. Research shows slightly higher four-year graduation rates for students who studied abroad to those who did not.[1]

Second, students who engage in an overseas experience also stay in college.

[*]Associate Dean of Undergraduate Studies Professor of Classics, George Sumey, Jr. Professor of Liberal Arts, Texas A&M University, USA.
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[1]This is the conclusion of many tier 1 research universities, such as University of California, Berkeley (https://opa.berkeley.edu/sites/default/files/studyabroad_finalterm_17may2017.pdf), and Colorado State (http://irpe-reports.colostate.edu/pdf/ResearchBriefs/EA_Graduation_Ra tes.pdf). Review of the evidence in Barclay, 2011, with the most recent evaluation in Haupt, Ogden, & Rubin, 2018. Malmgren & Galvin, 2008 discuss how study abroad improves graduation rates for at-risk students and students of underrepresented groups. The webpage http://globaledresearch. com/study-abroad-impact.asp lists 20 studies (with links) for reports by universities examining the effect of study abroad on graduation, retention, and learning. The higher GPRs earned by Texas A&M students who have international experiences may not necessarily be directly attributable to time abroad. At Texas A&M, no student with a GPR below 2.0 is eligible for study abroad; the same prohibition applies to students on academic probation. Thus, sudy abroad students are already achieving higher grades from the onset; their final GPR at graduation may be more a reflection of their overall academic abilities than the result of the academic skill-sets acquired from education abroad.

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Retention is as critical for accountability in higher education and for state legislatures as graduation rates (Tinto, 1987).[2] At Texas A&M the difference in retention rates for students who stay on campus and students who study overseas is about 10%.[3] Given Texas A&M's annual freshman class of 10,000, if all students were afforded some type of international experience, this would result in the retention of about 750 students.

Third, employers value study abroad experiences. Students who have studied abroad find that they have an advantage on the job market, especially when they are able to articulate in interviews the connection between their overseas experiences and job skills.

In recent surveys, employers have identified the study abroad skill-sets that they consider highly desirable in potential employees: cross-cultural communications skills, autonomy and independence, leadership skills, innovation, maturity, cultural awareness, and flexibility (Deardorff, 2004; Hunter, 2004; Fukai, 2016). In today's global economy and a highly diverse workforce, study abroad gives students a wider perspective of the world, the ability to work in a diverse environment, the means to adapt to change, open-mindedness, and a basic knowledge of the world outside a limited view.[4]

Despite the advantages to study abroad, in the United States only 10% of undergraduates will have abroad upon graduation (Institute for International Education, 2018). While it is important to increase study abroad participation, an equally critical question may be how to internationalize students who choose to remain on campus. In this article, we first discuss the misconceptions about study abroad and what barriers exist for students. Then, we describe a new program that we piloted in our college to give students an opportunity for interactive, high-impact international experiences without ever leaving their campus. Finally, we present the results of the pilot program.

Misconceptions about Study Abroad

In recognition of the great benefits of international experiences to students, academically, personally, and professionally, Texas A&M University has been very proactive in emphasizing study abroad. It is currently second in the nation for the number of students who study abroad, and is eclipsed only by New York University.[5] In the 2016–2017 academic year, Texas A&M sent 5,539 students

[2]The academic journal, *The Journal of College Student Retention: Research, Theory & Practice*, has offered since 1999 three issues a year dealing with the subject.

[3]Specific data for Texas A&M University students (university-wide and college-wide) are available by emailing us at s-oberhelman@tamu.edu or cadunn@tamu.edu.

[4]Students themselves acknowledge the value of the acquisition of global competence and workplace skills through their international experiences. Students are administered the Global Perspective Inventory (GPI) survey before they undertake an overseas experience and then again after it. The GPI is a web-based survey that assesses an individual's development of global perspectives. For the GPI and its application, see Braskamp, 2014 and Braskamp, Braskamp, & Engberg, 2014.

[5]As determned by the Institute for International Education (2018). Because New York University is a private university, this places Texas A&M at the top of public universities. For national data and

overseas (Table 1).

Table 1. Number of Students with Overseas Experiences by College at Texas A&M University

College	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**
Agriculture and Life Sciences	390	503	534	601	618
Architecture	214	264	231	306	407
Bush School of Government & Public Service	59	37	46	75	51
Education and Human Development	239	526	452	491	477
Engineering	591	601	732	1,032	963
Galveston Campus	68	237	326	431	464
Geosciences	83	92	128	185	129
Health Science Center	15	16	42	13	122
Liberal Arts	890	934	965	881	971
Mays Business School	423	518	584	627	636
Qatar Campus		157	210	223	218
School of Law		11	10	29	47
Science	144	149	154	145	139
Transition Academic Programs*	69	24	40	40	36
Unknown	6	2	8		
Veterinary Medicine and Biomedical Sciences	136	159	203	251	261
TOTAL	**3,327**	**4,230**	**4,665**	**5,330**	**5,539**

When students go overseas, it is for many reasons: academic course work, research, field trips, and internships. At Texas A&M, the most popular is the faculty-led study abroad program, which vary from five weeks to one semester in length, or field trips, typically one week in length and embedded in a campus-based course; nearly 70% of students participated in one of these two experiences (Table 2).[6]

Table 2. Types of Overseas Experiences for Texas A&M Students

Program Type	**12-13**	**13-14**	**14-15**	**15-16**	**16-17**
Conference/Workshop/Training	203	304	383	426	511
Exchange Programs*	159	187	266	346	226
Faculty-Led	1,091	1,240	1,278	1,949	1,998
Internship**	136	189	139	174	176
Research	230	404	469	257	263
Service Learning/Volunteer	40	23	34	36	71
Short Term Group Trip	1,043	1,367	1,572	1,637	1,742
Study*** (Courses not for credit)		19	30	13	50
Supervised Direct Enrollment	30	37	39	67	86
Teach Abroad***	2	1	8	16	12
Transfer Credit Study Abroad	393	459	447	409	404
Grand Total	3,327	4,230	4,665	5,330	5,539

discussion of them, see the State Department's report at https:// studyabroad.state.gov/value-study-abroad/study-abroad-data.

[6]Houser, Brannstrom, Quiring, & Lemmons, 2011 discuss the benefits of field trips; also Peet, Wooldridge, & Sturm, 2015. Simoes, 1996 notes the significant gains associated with short-term study abroad and not necessarily longer study abroad programs.

Although the benefits of study abroad are well-known to administrators, employers, and faculty, there is still some hesitation among students and parents or legal guardians. Several factors are at play, most significantly cost (Gordon, Patterson, & Cherry, 2014).

Study abroad if often perceived to cost far more than staying on a home campus. But the data do not support this; in fact, the costs of overseas study in many instances are comparable to on-campus study. As a test case, let us look at a long semester (15 weeks) in College Station and an equivalent semester at the Texas A&M Study Center in Castiglion Fiorentino, a Tuscan town 95 kilometers south of Florence.

First the costs for a student studying on the College Station campus in the fall of 2018 is shown in Table 3.

Table 3. Costs for Spring 2018 Semester, College Station

Costs	**Resident ($)**
Tuition & Fees (15 hours)	5,142
Loan Fees	32
Housing & Meals	5,218
Books & Supplies	700
Travel	2,400
Personal Expenses	3,500
Total	16,922

The costs of 15 hours at the Castiglion Fiorentino Study are outlined in Table 4.

Table 4. Costs to Study Abroad in Italy, Spring, 2018

Costs	**Resident ($)**
Tuition & Fees (15 hours)	$5,142
Loan Fees	32
Housing & Meals	6,600
Books & Supplies	250
Travel	3,000[7]
Personal Expenses	2,000–6,000[8]
Total	14,024–18,024

As we read in Tables 3 and 4, the difference in costs between on-campus study and a semester in Tuscany are negligible. There are additional costs for overseas study, but these are attributable to personal travel, gift purchases, and extra meals, not programmatic costs. Not all study abroad programs, however, take place in a medieval Tuscan town like Castiglion Fiorentino where the cost of living is low. The costs may be higher for programs in London, Paris, Tokyo, or

[7]Both personal travel and academic travel, including airfare, are combined.

[8]The range is considerable, depending on the student. Students are allowed a free weekend every other week. Some students take every advantage to travel, while others travel only moderately or stay close by, say, in Florence.

Berlin.[9]

The cost of higher education is increasingly on the minds of students. Reports show that two-thirds of college students are "food insecure," that is, they have limited adequate food, and about half are "housing insecure," that is, either they must often move because of the inability to pay rent or they cannot afford decent housing (Goldrick-Rab, Richardson, & Hernandez, 2017; Goldrick-Rab, Richardson, Schneider, Hernandez, & Cady, 2018 for data and discussion as well bibliography; Maroto, Snelling, & Linck, 2015 on food insecurity and its effect on academic performance by college students). Given the declining impact of financial aid, coupled with lost wages from time away, it is no surprise that many students perceive study abroad as unaffordable (Greenbaum, 2012; Goldrick-Rab, 2016; Gordon, Patterson, & Cherry, 2014).

These misperceptions disproportionately impact low-income students, who are more likely to be first-generation or minoritized, and thus underrepresented in study abroad. Also an increasing number of undocumented university students, mostly from Mexico and Central America, are enrolled at Texas A&M. However, they cannot leave the United States because they do not possess the proper papers.[10]

As observed at Texas A&M, some students do not want to miss out on extracurricular activities. This is especially true when American football season is in full swing and the campus has events the entire weekend, from Friday night gatherings through Sunday tailgating. Even the spring has its own extracurricular attractions. The upshot is that some students simply wish to stay home and enjoy an on-campus experience.

Another significant barrier to student participation is lack of family support (Gordon, Patterson, & Cherry, 2014). Familial expectations and parental perceptions of travel or safety abroad can influence students' decisions. The majority of Texas A&M students prefer participate in programs based in northern European destinations like England, France, and Germany. Every terrorist incident has a negative impact on the perception of safety abroad (Baker, 2014 on terrorism's role in discouraging travel; Gleye, 2017 for a first-hand account of students experiencing firsthand terror attacks).

Collaborative Online International Learning

In recognition of impediments to study abroad, and to expand the types of international experiences that are made available to students, we turned to the development and implementation of collaborative international courses.

[9]Every university has a study abroad office that can assist students in finding the right program at the right price. The Internet can help interested students; there are numerous sites for guesstimates for studying abroad; for example, https://www.gooverseas.com/blog/how-much-does-it-cost-to-study-abroad.

[10]Study abroad is possible through the Department of Homeland Security's Deferred Action for Childhood Arrivals or DACA. The problem is that undocumented students cannot receive any federally funded student financial aid, and so they cannot use federal loans, grants, and scholarships.

"Collaborative Online International Learning," or COIL, is a pedagogy that is international and yet also interactive and virtual. COIL may also be defined as globally networked learning. The term COIL was coined by the State University of New York, which is a pioneer in this field and has inspired not only our pilot program but those at many other institutions.[11] In COIL courses, students from two countries use different communication technologies to work on common assignments or to complete collaborative projects. Faculty in each country work with their own students but also work closely with each other.[12]

A COIL course typically has certain characteristics.[13] First, the two instructors work out the course curriculum ahead of time, paying close attention to logistics. The students at the two institutions work together for about four weeks; some COIL courses involve semester-long work, although three or four weeks are the average. Students must work in collaboration on assignments or problems; they can be paired or form small groups. The interaction between students is conducted through technology; the platforms that are used are at the discretion of the instructors and are dependent on what technology is available at the institutions and to students. Video-conferencing platforms like Skype and Google hangouts, networks like Facebook, and document-sharing programs like Google Docs allow students to communicate easily and quickly.[14] Students are enrolled at own institution and their work is assessed by the home instructor. In other words, a student has a meaningful, intense, and high-impact international learning experience without ever leaving their campus.

In January of 2017 at Texas A&M, we issued, as part of a pilot program, a call to faculty in the College of Liberal Arts for proposals for collaborative, interactive course work between their students and students in an equivalent class at a foreign institution.[15] As a stimulus we offered a research bursary, whose

[11]A *sine qua non* introduction to COIL and a guide on developing COIL courses is http://www.ufic.ufl.edu/UAP/Forms/COIL_guide.pdf. Reed, 2016 reviews some of the programs with assessment data, while Esche, 2018 is a recent 'how-to' guide for faculty interested in developing COIL courses in their curriculum.

[12]Levinson & Davidson, 2015 offer a review of 91 online cross-cultural pedagogical experiences.

[13]Examples of courses taught at different institutions may be found at http://coil.suny.edu/page/examples-coil-supported-courses).

[14]A full list, with discussion, of types of technology may be found at https://www.uwb.edu/globalinitiatives/academic/coil-initiative/coil-resources.

[15]As an example of a COIL course, we envisioned a German 201 ("Intermediate German I") class at Texas A&M being teamed with an intermediate German class at the University of Bristol. The English institution was desired, since both sets of students would be second-language learners; teaming with a German university would be intimating to the Americans who are not native speakers. Each class would meet separately and regularly throughout the semester, but students also work asynchronously online for about four weeks to collaboratively produce work and to reflect upon their own and their partners' cultural points of view. Teams of students, two to four per group, would work on pre-approved projects, such as the role of the media in political elections, immigration issues and the assimilation of immigrants, religious pluralism and religious fundamentalism, freedom of speech issues, and political elections. The students would use various communication technologies like Skype, Facetime, Facebook, and email, etc., to complete their projects, with the faculty members from each country coordinating and overseeing the coursework. The final project would be a PowerPoint presentation for presentation to both classes through Skype or some kind of wide-area data and interactive communications network.

amount was dependent on the length of the collaborative work. The scale was:

- $1,000 for two weeks
- $1,500 for three weeks
- $2,000 for four weeks.[16]

Faculty were asked to complete a detailed proposal form in which they identified the course and their international collaborator. Certain questions required responses.

- "Describe the nature of the collaboration. What will the students do? How will you build the activities into the overall course content?"
- "Address issues of language, such as the primary language of most students in each class and their fluency level, and the language to be used in the collaborative project."
- "What electronic platforms will the students use? Will you need any assistance from the college's IT or instructional technology offices?"
- "How will you and your overseas collaborator assess the students' projects?"

The faculty member also agreed to administer the Global Perspective Inventory prior to and subsequent to the collaborative work, in order to assess whether students had improved their global awareness and perspective through the COIL experience.

For the pilot program, we chose two proposals: "Communication Leadership and Conflict Management," and "Senior Seminar in Classics." The Communication professor collaborated with a professor of law at the Law School of the University of South Wales. In this four-week collaboration, two to four Texas A&M students teamed with two Australian students for the purpose of engaging in legal test cases that involved conflict and mediation. In each group, the Texas A&M students role-played as CEOs; their Australian peers role-played as corporate lawyers who acted as their consultants or as their adversaries in arbitration and negotiations. The students corresponded with each other via multiple email conversations, and participated in asynchronous email negotiations as well as synchronous Skype mediations.

As a course requirement, students were required to turn in to the instructor their email threads and to write a reflection journal. The email threads demonstrated how often and in what way students interacted with one another and how the project was developed and completed. The journal captured students' critical thinking and their reflection on the similarities and the differences between American and Australian cultural perspectives on conflict management.

The second course we selected involved a classics professor working with a colleague in the Dipartimento di Filologia Classica at the Università degli Studi di

[16]A special $3,000 bursary was added if the faculty member incorporated a weeklong overseas field trip into the COIL course.

Napoli Federico II. The Texas A&M course was a seminar for graduating majors in classics and focused on reader response/reception and the classical tradition, while the Italian students, who were in the masters program, were enrolled in a course on the history of traditional classical philology. The Texas A&M students worked separately at the beginning of the course, writing research papers on the transformation of the classics through translation, transfer, and refiguration of literary and cultural traditions. Both sets of students used the theoretical models developed by the collaborative research group "Transformationen der Antike" at Humboldt-Universität zu Berlin (Heinze, Schirrmeister, & Weitbrecht, 2013). Toward the end of the semester, the Neapolitan students joined and formed two-person teams with the American students. For two weeks, the Italian students worked as peer reviewers of the drafts of the Americans' research papers through email, Facebook, Instagram, and Twitter. Common class discussions on the theory and methodology of reception theory were held through Skype. Language was not an issue, as most Italian university students are comfortable with English and both professors are fluent in Italian and English and so were available to help smooth over any linguistic bumps. Three weeks overall were spent on the collaborative efforts. In the end, the A&M students gained an appreciation for what the Italian students can do with traditional models of philology, and the Italians were challenged by the innovativeness of new theoretical approaches to philological traditions.

Discussion

Did these courses succeed in providing students with a high-impact international experience? We address first the Australia/Texas A&M online collaboration. The instructors reported that their students took the project very seriously. Through synchronous and asynchronous interactions, the Australian students role-playing as lawyers interacted extensively through their American team partners who, as said above, role-played as CEOs in conflict management scenarios. The course was the first time that Australian students had worked with American students, and vice versa. Both instructors and students considered the project accomplished course objectives and learning outcomes: the Australians learned the negotiation strategies and tactics that communications majors are taught, while the American students were introduced to the relationship between law and conflict management. Problems were encountered when it came to the time difference, which is 16 hours. This vast difference in time made real-time, face-to-face conferencing difficult.

The classics course produced terrific results. Both professors deemed the papers that emerged from the team projects to be of very high quality. Those papers that focused best on the applications of transformation theory to literature and culture from late antiquity to modern times were collected into a volume entitled *Classics Transformed*. This collection was recently published by Edizioni ETS, a highly reputable publishing house in Pisa, in the series, Testi e studi di cultura classica. Besides a preface and introduction, 14 papers appeared in the

volume: seven from the Italian graduate students, seven by the American undergraduates (Abbamonte & Kallendorf, 2018).

We have renewed the COIL program, not only to provide a unique international experience to any Liberal Arts student but also to improve the retention of our first-generation students. If colleges wish to improve graduation rates for first-time-in-college students who are first generation, purposeful and targeted programming in the initial year of study must be provided. First-generation students are up to two times more likely to leave college during or after the first year (Choy, 2001; Ishitani, 2006). We are using as a model in this initiative the University of Texas at El Paso's COIL course for first-generation students. Dr. Effy George, Victoria University in Melbourne, Australia, and Irma Victoria Montelongo, University of Texas at El Pso, created this program, which is called the "VU–UTEP Global Learning Community."[17] This project involves transforming first-year Liberal Arts core curriculum classes into a transnational class, entitled "Imagining Nations, Imagining Regions: The Making of Cultural Diversity in Australia and on the U.S.-Mexico Border." The class focuses on instilling in students an intercultural awareness and on eliminating cultural stereotypes that each set of students may have.

The dramatic increase in retention rates elicited by the VU—UTEP collaboration is intriguing. The attrition for students enrolled at the University of Texas El Paso has averaged one to two students, out of initial enrollments of 20. At Victoria University the average attrition rate is two to three students per 30 students. These retention rates are very atypical for the two institutions. Official certified retention rates for students at the university after the first year is 70%.[18] But the students in the COIL program are retained at the rate 90 to 95%. Such dramatic improvements in retention are a reason why Nassau Community College similarly have developed and implemented COIL classes as a way to increase its first-year retention.[19]

It is our intention to develop a COIL component for the Regents Scholars Initiative (RSI) program that we help oversee for the college. The RSI program is designed to assist first-generation college students in achieving their educational goals at Texas A&M. Students receive up to $5,000 per year for four years, in addition to other financial aid and scholarships. Each student is first generation, with an adjusted family gross income of less than $40,000 per annum.

We coteach for the RSI students a class intended to provide the building blocks essential to success at Texas A&M University. Topics include adjustment to college life, exploration of strategies to help manage time and to self-motivate, effective study habits, and test preparation. In the fall, the course is built around the acquisition of academic success skills and how to become engaged in campus

[17]Oberhelman was made aware of this fine program from the creators themselves at an October 2016 conference in Denver, Colorado: "AAC&U Global Learning and the College Curriculum: Nurturing Student Efficacy in a Global World."

[18]Ten-year data may be found at https://www.utep.edu/student-affairs/financialaid/consumer-information/Retention-Rates.pdf.

[19]An in-depth report by Nassau Community College is available at the website, https://www.ncc.edu/middlestates/Enrollment_Plan_2018-21.pdf.

life. In the spring, the first half of the course prepares the students for a weeklong trip to Costa Rica; there, students learn about ecotourism, archaeology, and history, and engage in a service project in an underserved community. The second half of the course is devoted to writing self-reflection papers and finalizing their journals. Students of color make up about 75% of the class, with the majority of students from inner-city schools and the Mexican border. About 70% of the students are Mexican-American.

The current first-year retention rate for our RSI students is 88%. Since dramatic increases in retention rates are observable at other colleges when they create COIL opportunities for their first-generation students, we plan to create a COIL program for the RSI students. Retention of underrepresented and first-generation students is vital (Swail, Redd, & Perna, 2003; Brundage, 2017), and so a COIL/ virtual component to the yearlong RSI course, with the potential to develop intercultural awareness and competencies of the students, nearly all of whom have never left the state of Texas, cannot be passed up. We have begun exploring a possible COIL course with the University of Sydney. This Australian university does not have a formal class for first-generation students, but it does have a "First in Family."[20] The initial proposal is to connect first-generation students at both institutions in ways by which they can discern similarities of being first generation, regardless of place, and yet also to learn about the differences.

Conclusion

International experiences play a very strong role in enhancing student success. They result in better retention rates, higher grade point averages, and significantly greater four-year, five-year, and six-year graduation rates. International experiences can assume many forms, from a weeklong field trip to an internship to a long-term study abroad program. Despite their knowledge of the benefits of international experiences, some students hesitate to participate. Costs are a big factor, especially for low-income students and students of underrepresented groups. First-generation students are reticent about leaving their families and support structure, and are reluctant to forgo income for study abroad. Students and parents alike have concerns about safety.

Courses with a collaborative online international learning component (COIL) offer a pedagogically viable alternative to physically leaving a country. At little to no cost, students can have an intensive, interactive experience with students of another culture. The pilot program developed at Texas A&M demonstrates that students can have meaningful high-impact learning and acquire intercultural competencies through social media and interactive media platforms. Three weeks in, say, Athens or Barcelona can offer American students academic, cultural, and career benefits, but so can three weeks of collaborative online work with Catalan or Hellenic students.

[20]This is actually a national program in Australia: http://www.firstinfamily.com.au/. The University of Sydney has its own program, which is currently housed in its School of Economics; see the details at https://sydney.edu.au/arts/economics/fimf/index.shtml.

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Does PAL Work? An Exploration of Affect amongst First-year HE in FE Students

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The study evaluates a peer-assisted learning (PAL) scheme as an effective strategy in alleviating levels of negative emotions and, in the process, contributes to explorations of affect in first-year students in an HE in FE environment, with a particular focus on anxiety and related emotions. Various types of anxieties are defined in the context of a student's experience in HE, followed by an explanation of the present interventional study in an HE in FE institution, including the survey method used to collect data analyzed through SPSS. Surprisingly, the main findings are that overall anxiety and worry increased for students belonging to most faculties with time, regardless of participation in the PAL scheme. A positive finding was nonetheless that anxiety levels increased more steadily for students who belonged to the control group. The PAL scheme may have thus influenced how less anxious PAL students felt, compared to those who did not participate in the PAL scheme who were left feeling more anxious at the end of the semester.

Keywords: Affect, Anxiety, HE in FE, Peer-Assisted Learning (PAL), Transition

Introduction

The aim of this paper is to explore affect in first-year students in HE, with a particular focus on anxiety and related emotions, and evaluate a peer-assisted learning (PAL) scheme as an effective strategy in alleviating levels of stress and anxiety. In recent years, students' mental health and well-being have been the object of several studies that have highlighted the alarmingly increasing rates of depression, stress and anxiety amongst university students all over the world (Gaddis, Ramirez & Hernandez, 2018; Lee et al., 2018; Viskovich & Pakenham, 2018; Moore, Pollio, Hong, Valencia, Sorrell, & North, 2018; Carter, 2016; Adewuya, Ola, Olutayo, Mapayi, & Oginni, 2006; Nerdrum, Rustøen, & Rønnestad, 2006; Aktekin, Karaman, Senol, Erdem, Erengin, & Akaydin, 2001; Stewart-Brown, Evans, Patterson, Petersen, Doll, Balding, & Regis, 2000).

First-year students are potentially more likely to drop out because of anxiety and other emotions related to affect than in subsequent years of study (anxiety being one of the attributes of neuroticism in the Richardson, Abraham & Bond (2012) meta-analysis of variables correlating with students' performance). The

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first weeks in an HE institution are possibly the most stressful and anxiety may drop after this settling-in period. Peer-assisted learning (PAL) schemes have recently been praised as a panacea to a whole range of issues affecting students' engagement and autonomous learning and they have been used as a source of additional support to first-year students in HE institutions across the globe (Arendale, 2014). PAL has, however, proved to be useful in other ways which may not have been obvious at first, for instance when tackling issues in relation to the affective state of HE students. Concerns about students' mental health are not new but it seems that it has now become a global phenomenon and much research has recently focused on this worrying issue (Richardson, Abraham, & Bond, 2012). The majority of research into this transitory phase in a student's life is based on HE institution study where these topics have all been documented (MacAskill, 2012). A student's former educational experience moving on to a new learning context, a difficult separation from friends and family and, usually but not always, a change in living conditions triggered by moving to one's university location can all contribute to the levels of stress a student may experience in their first year in an HE institution.

The present research based in an HE in FE context is understandably exploring problems which are somewhat different to those faced by students in a more traditional HE setting. Students in this context often come from widening participation (WP) or are returners to education; they commute to their college, struggle with balancing family life, work and study and may suffer from feelings of inadequacy leading to negative emotions. Although this is a growing subpopulation of students, there have been some issues with the real effect of education policy on some of the WP participation in terms of the kinds of students coming from disadvantaged backgrounds and BME students, as well as their sporadic entry to HE institutions belonging to the Russell Group (Evans, Rees, Taylor, & Wright, 2017). Moreover, some research has focused on possible causes or theorized on the take-up of HE studies by WP students (Bowers-Brown et al., 2017; Webb et al., 2017) but by in large, exploring WP students' experience only features when it is the very focus of these studies, resulting in being overlooked in more general research on the HE experience.

Stress and anxiety are often seen as two related concepts. For instance, Rabkin and Struening (1976, p. 1014) state that "stress, like anxiety, is a broad and general concept describing the organism's reactions to environmental demands." Anxiety is an important construct to explore in the context of an HE institution as Brown and Ralph (1999) found that anxiety- related stress was one of the main reasons why a student would withdraw from their programme. Moreover, first-year students are more likely to drop out because of anxiety issues than subsequent years (Moffat, McConnachie, Ross, & Morrison, 2004) as the first weeks in an HE institution are possibly the most stressful and anxiety may drop after this settling in period. In the following literature review, various types of anxieties will first be defined in the context of a student's experience in an HE environment, completed by an explanation of the present interventional study in an HE in FE institution.

Literature Review

Several studies have highlighted the alarmingly increasing rates of depression, stress and anxiety amongst university students all over the world (Adewuya, Ola, Olutayo, Mapayi, & Oginni, 2006; Aktekin, Karaman, Senol, Erdem, Erengin & Akaydin, 2001; Nerdrum, Rustøen, & Rønnestad, 2006; Stewart-Brown, Evans, Patterson, Petersen, Doll, Balding, & Regis, 2000) This has obvious implications for the quality of life students will have over the next few years but also on their friends and family, as well as their peers. It may also have dramatic repercussions on their experience as a student, including achievement and the classification of their first degree. An awareness of the issue is essential but more importantly, strategies need to be put in place to support students who suffer from high levels of stress and anxiety (Bayram & Bilgel, 2008).

Peer-assisted Learning

Peer-assisted Learning (PAL) schemes are an increasingly prevalent aspect of HE provision, which first planted seeds in the UK higher education sector in the 1990s, that is now accompanied by a body of research self-reflexively evaluating the value and impact of these peer-to-peer initiatives. The primary focus of such schemes targets first-year students and centers on enhancing the student experience of higher education in a supportive and informal learning environment. As Falchikov (2001) identifies, the model most frequently deployed is that of a student from a higher level of study leading sessions and facilitating activities, thereby providing non-remedial additional study support for first-year students (Green, 2018, p. 57; West, Jenkins, & Hill, 2017; see also Dawson, van der Meer, Skalicky, & Cowley, 2014 for a systematic review on PASS in the UK). At UCO, PAL sessions are usually held fortnightly and first-year students' attendance is voluntary. Although much of the research focuses on single- subject case studies (Hammond et al., 2010; Longfellow et al., 2008; Meertens, 2016), the value of PAL schemes for learning enhancement are well-recognised. Indeed, discussions about PAL schemes highlight the relevance of Vygotsky's Social Development Theory (Hammond et al., 2010) as well as the relevance of communities of practice and scaffolding learning for students (Longfellow et al., 2008). The demonstrable pedagogical value of PAL schemes is a contributing reason for the increasing support of such activities across the higher education sector. Boud et al. (1999) defines peer learning as "the use of teaching and learning strategies in which students learn with and from each other without the immediate intervention of a teacher" (p. 413). In fact, the social and informal aspect of peer learning sessions is identified as one of the key benefits of such schemes by students (Hammond et al., 2010). Equally, PAL schemes have been identified as "clarifying" activities for students as they recapitulate course materials and often reduce the "feeling of being intimidated about asking questions" (Longfellow et. al., 2008, p. 101). Research has also pointed to the positive impact that such schemes can have on retention (Congos & Schoeps, 1998) as well as on attainment (Bidgwood, 1994; Parkinson, 2004). Beyond supporting student engagement and

understanding of curriculum content and course requirements, PAL schemes have also been shown to contribute to a gain in self-confidence and improvement of interpersonal skills (Meertens, 2016), alongside providing cognitive benefits by nurturing cohesiveness, mutual trust and emotional security between student groups (Longfellow, May, Burke, & Marks-Maran, 2008). The developments of these broader skills are critical to student transition into and through higher education study.

Transition into HE

Making a successful transition from FE into HE studying is a difficult period, not only in a young person's life but also when one is entering HE as a more mature student. Studies have highlighted an increase of depression, obsessive-compulsive disorder and forgetfulness during the transition period from FE to HE (Fisher & Hood, 1989; Gibson et al., 2018). Anxiety is one of the psychological effects of transition as students have to adapt from an FE environment where learning is very prescriptive and top-down to an HE-level study where independent learning is encouraged and practiced. This can result in students not feeling in control of their learning as they are unsure of how to proceed or what to do. Young, Bosmans & McLoughlin (n.d.) have identified the main sources of anxiety of students undertaking degree-level studies in an HE in FE setting. Not all anxiety is due to external factors though so an examination of various types of anxieties is needed here.

Anxiety in HE

Anxiety from Affective and Cognitive Perspectives. Anxiety can instinctively be associated with an affective concept but some researchers have also highlighted the cognitive component of anxiety (Krohne & Hock, 2011; Riskind, 2005). MacIntyre (1995, p. 91) cites Liebert and Morris (1967) who separated two of the components of anxiety, namely "worry" as the cognitive element and "emotionality" as the affective aspect of it. MacIntyre makes the point that "worry" or "preoccupation often takes the form of self-related cognition" and that it has an obvious impact on the learning performance, as whilst the student's cognitive activity is engaged in worry, it competes with the task at hand. However, a deeper look into the issue by MacIntyre (1995) indicates that positions depicted as clear-cut by opposite sides of the disabling/enabling debate are not so. He carries on by explaining that when a task is relatively simple, anxiety may cause an increased effort, which, in turn, results in a better performance. Conversely, with the level of difficulty of task increasing, the anxiety will shift from enabling to disabling as evidenced by the Yerkes-Dodson Law (Smith, Sarason & Sarason, as cited in MacIntyre, 1995, p. 92). Moreover, the direction of the relationship between anxiety and performance is not only that the required behaviour can cause anxiety but rather become a cyclical course of events where anxiety can in turn impact on performance so much so that the very prospect of a similar performance being required in the future can trigger anxiety (Bertrams, Englert, Dickhauser, &

Baumeister, 2013; MacIntyre, 1995).

Various Types of Anxieties in HE. Anxiety is not an easy psychological construct to define not only because it can be framed in a variety of ways but also because of its situated nature as well as more permanent attribute of one's personality, doubling the impact of a stressful situation when both transient and permanent aspects of anxiety occur at the same time and thus making it difficult to isolate. Khoshlessan and Pial Das (2017) acknowledge that anxiety in HE can be defined through a variety of anxiety constructs in the context of HE. Also, not all anxiety is necessarily a negative concept. Enabling anxiety is a concept related to second language acquisition and has been the object of much debate as to its existence or significance. Chapin (1989) notes that anxiety can produce motivation and therefore enhances the student's performance (see also Strack, Lopes, & Esteves, 2015). Other researchers go further, arguing that there is no such a thing as enabling anxiety. For instance, Watson and Clark (1988, p. 347) state that "anxiety is essentially a state of high negative affect, and has no significant relation with positive affect" (see also Zanon, Bastianello, Roat, Cerentini, & Hutz, 2013).

Nevertheless, anxiety can be broadly distinguished between a positive (enabling) or negative (disabling) emotion and between a permanent (trait) or transient (state) one. There are of course more specific types of anxieties but these will fall under these four descriptors. Most of the research on learning anxiety has understandably focused on the negative impact on learning (Deffenbacher, 1980; Sieber, O'Neil, & Tobias, 1977; Wine, 1980) with a more focused look at the learning of various subjects. Learning anxiety has mainly been studied in relation to second language acquisition (Bosmans & Hurd, 2016; Dewaele, 2017; Gardner, 1985; Horwitz, Horwitz, & Cope, 1986; Dörnyei, 2005; Mak, 2011; MacIntyre & Gregersen, 2012; Pae, 2013; Rodriguez & Abreu, 2003; Young, 1991; Zhang, 2013), but other subjects such as maths (Rusmono, 2015) and chemistry (Oludipe & Awokoy, 2010) also feature in these studies. More recently, the effect of game-based learning in reducing learning anxiety has also been researched, with a stance on the negative effects of anxiety (Su, 2016). Studies in psychology have identified three main kinds of anxiety: "trait anxiety (a more or less permanent personality characteristic), state anxiety (a temporary emotion felt at a particular moment in a given context) and situation-specific anxiety (anxiety felt in specific and isolated events such as exams and when giving an oral presentation)" (Ellis, 2008, p. 691). The latter can be further subdivided into test and examination anxiety and presentation/public speaking anxiety. Other types of anxiety specific to the HE context can also be added such as social anxiety.

Trait anxiety vs. state anxiety in HE. As mentioned above, the distinction between trait and state anxiety is a crucial one to make. Hampel Felix, Hauck, & Coleman (2005, p.17) acknowledge that it is difficult "without a fearsomely complex research design" to distinguish between all these types of anxieties. The use of two different and distinct questionnaires in the present study are thus merely giving an indication as to what kind of anxiety the sample is experiencing. An added difficulty is highlighted by Scovel (1991, p. 21) who quotes Kleinmann's study who stressed that:

> anxiety itself is not a simple, unitary construct that can be comfortably quantified into either "high" or "low" amounts. On the one hand, some researchers feel that momentary anxiety should be distinguished from a more permanent predisposition to be anxious, and that this dichotomy would help to account for some of the conflicting results of previous anxiety studies

Scovel's (1991) remarks have certainly proven true in the present study as, not only was it difficult to distinguish between a permanent condition of anxiety and a more momentary one but the results presented below are still showing an increase in state anxiety in both the test and the control group. However, the distinction between state and trait anxiety was still attempted by the use of two questionnaires looking at separating both forms of anxiety.

Any type of formal learning in an educational establishment involves a certain amount of social interaction, no more so than in HE teaching where seminars and discussions among students are part of the learning process. It is precisely this social and communicative aspect of HE learning that can trigger social anxiety. This distinct type of anxiety has been defined by Schwarzer (1986, p.1) as "(1) feeling of tension and discomfort, (2) negative self- evaluations, and (3) a tendency to withdraw in the presence of others". Feelings of tension and discomfort are common to all types of anxieties but (2) and (3) are particularly relevant in an HE in FE context where non-traditional routes open the way to a Level 4 course. The fear of not being able to study at that level is typical of these students and of adult returners to education. A lecture is an ideal place to hide, as is a seminar where it is all too easy to let more vocal students take the lead in discussions. This is precisely the type of issue that a PAL scheme addresses when giving students the opportunity to contribute to group discussions and practice oral presentations in a non-threatening environment. These students should then feel better equipped to make sense of lecture content, present in front of an audience and participate more fully in seminar debates, all skills that are essential to keep up with the demands of HE study.

Methodology

Ethics

There was no institutional Ethical Committee in place at UCO when this project started. Great care was thus taken to ensure that ethical standards were maintained by following the guidance given by the Ethics Committee of the British Psychological Society (2009) in terms of informed consent obtained from participants. The research aims were communicated verbally to students, along with an explanation that students were entirely free to participate or not. Students were also told that they had the right to withdraw at any point in the project and that all data would be anonymized as only student numbers would be taken to match the responses to courses and to check that both questionnaires had been filled. The fact that some students chose not to complete the second questionnaire demonstrates that completion was non-compulsory.

Participants

Most students at UCO have taken a non-traditional route into HE as the university prides itself on being a widening participation institution. At the time the present study was conducted, the student population was made up of 68% female students to 32% male students. The disparity can be explained through the degree portfolio offered at UCO, with a significant number of Education and Health and Social Science courses, attracting female students due to the make-up of the local commuting population, the White British to Black Minority Ethnic (BME) figures are more equally distributed as 48% of the student population is from a BME background, a much larger proportion than what can be seen at national level with an overall BME population of 18.4% (Equality Challenge Unit, 2014). UCO has also a higher than average mature student population with 41% of the students being over the age of 25. In contrast, the national average in England for students aged 26 and above is 29% (Equality Challenge Unit, 2014).The present study thus focuses on a quite specific sample and a unique context within the HE in FE sector and gives a very useful snapshot of non-traditional students' affective state in a sector becoming increasingly concerned about students' emotional well-being.

The first questionnaire (See Appendix 1) was given to approximately 160 first-year students who volunteered to complete it. Twenty-two (22) PGCE students were also included in the sample as most of them had completed their first degree in another institution and were also starting at UCO. The sample was therefore self-selected and provided a numerical account of the way they felt at the beginning of their HE journey in terms of affect and anxiety levels.

Questions allowing for differentiation between trait and state anxiety were included so as to discard students who would naturally feel anxious. A second questionnaire (See Appendix 2) was administered at the end of the first semester and altogether, 86 responses from students who completed both were gathered, resulting in a return of 53.75%.

The representativeness of the present study sample was analyzed in 6 demographic areas and can be seen in Table 1. A Pearson's Correlation Coefficient was computed to determine how representative the collected study sample was to the overall cohort of first-year students.

Table 1. Pearson's Correlation Coefficient between Study Sample and Whole Cohort

Pearson correlations between this study sample and the whole cohort	
Characteristic of sample	*Pearson Correlation Coefficient*
Female	.891
Male	.968
BME	.643
White	.768
Age below 21	.927
Age 21+	.921

Research Design

The present study was of a formative interventionist nature and proposed a descriptive model using the survey methodology which provided detailed information about students' affective state before and after the intervention. The research was conducted at an HE in FE educational provider, University Campus Oldham (UCO), which offers Honours and Foundation degrees in partnership with 5 HE institutions in the United Kingdom. A quantitative research approach enabled data to be yielded which made it possible to link first- year students' anxiety levels to their participation in a PAL scheme in a numerical way. The two questionnaires administered at two points in the academic year are described in the next section.

Data Gathering Instruments and Procedure. Two questionnaires were designed for the study; these were administered at the beginning and the end of the first semester. Both questionnaires can be seen in the Appendices. The first one was made of two well-known short versions of questionnaires used in psychology and for which reliability and validity have already been documented in the literature, the 7-item General Anxiety Disorder questionnaire (The GAD- 7, 2006) and the six-item short form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI) (Marteau & Bekker, 1992).

The second questionnaire only featured the STAI part of the first questionnaire as it would have been already established who displayed trait anxiety during the first administration. It also featured some open-ended questions destined to yield qualitative data used in this study.

Findings/Results

Data Analysis

The two questionnaires yielded both quantitative and qualitative data. The questionnaire responses were collated electronically and entered on an Excel Worksheet in order to trace which courses were being represented and to make sure that only respondents who completed both questionnaires were kept in the data set. They were then uploaded onto IBM Statistics SPSS 24 for analysis and the statistical procedures explained below were run. The main statistical procedures used were 1) the Kolmogorov-Smirnov test to check for normality and to quantify the distance between the empirical distribution function of the sample groups, 2) the Levene's test to assess the homogeneity of variance between groups, 3) the Mann Whitney U to test the difference between the test and the control group in terms of STAI scores and 4) the Wilcoxon signed-rank test for changes of anxiety in both the test and control group. The Pearson's Correlation coefficient was also calculated to establish the sample representativeness.

Overview of Sample

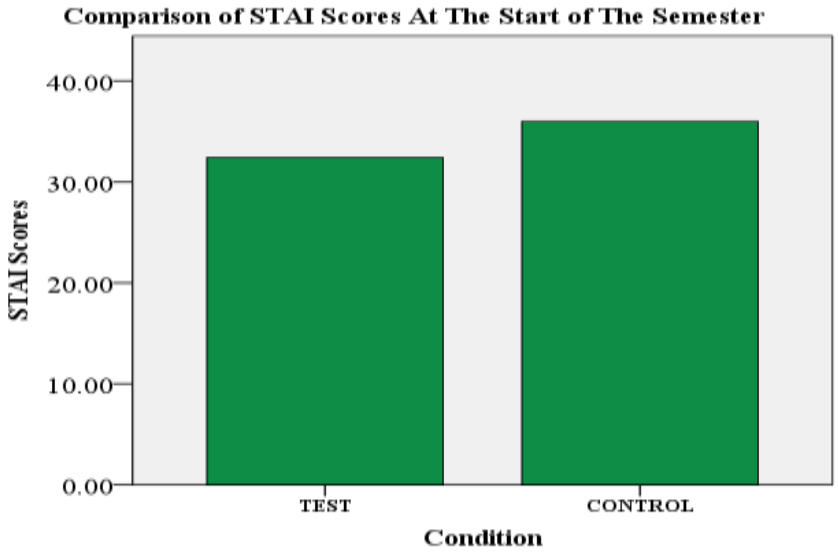
Missing values were coded for using "99". Students GAD scores were calculated to determine those students who scored above the threshold of 15 and were therefore classed as severely anxious. Only three students appeared to be categorized as severely anxious and so were removed from the data set so as to not skew the data.

Of the 83 students who had completed both questionnaires and thus making up the final sample, a total of 29 (35%) existed in the test condition which was made up of four courses involved in the PAL scheme. The results from the GAD questionnaire identified 3 students to be mildly anxious and 5 students to display a middle state of anxiety. A total of 54 (65%) were in the control condition being made up of seven courses not actively participating in PAL schemes. Again, using the GAD questionnaire, 11 students indicated being of a mild state of anxiety and 7 of a middle state of anxiety.

Anxiety of Test/PAL vs Control/Non-PAL Group

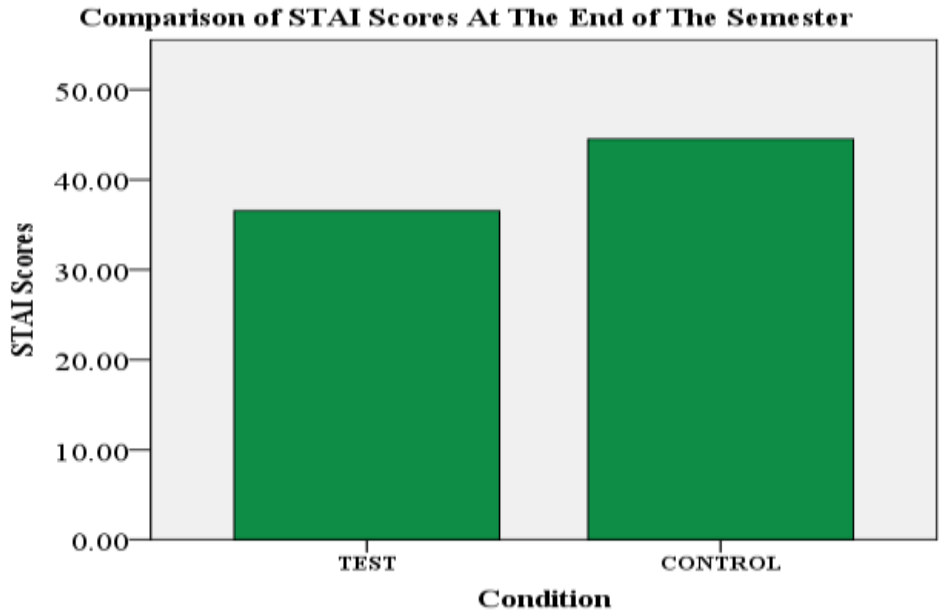
At Start of Semester. Comparing the two groups STAI scores, the control group appeared more anxious (M =35.98, SD = 10.93) than the test group (M = 32.41, SD = 10.83) at the start of the semester (see Figure 1). Kolmogorov-Smirnov tests showed assumptions of normality to be broken, therefore a non-parametric Mann Whitney U test was run to see if the difference between the two groups STAI scores at the start of the semester was significant. Results from the Mann Whitney U showed there was no significant difference (U = 626.50, Z = -1.503, p = .133) between the control group (Mdn = 36.66) and the test group (Mdn = 30).

Figure 1. Comparison of STAI Scores at the Start of the Semester for the Test and Control Groups



At End of Semester. The two groups STAI scores were again compared against one another at the end of the first semester. Once again, the control group appeared to be more anxious (M = 44.50, SD = 12.20) than the test group (M = 36.55, SD = 7.89) (see figure 2) with assumptions of normality again being broken and therefore a Mann Whitney U test was run to account for any significant differences. Results from the Mann Whitney U demonstrated a significant difference, U = 474.00, Z = -2.969, p = .003, to exist between the test (*Mdn* = 36.66) and control group (*Mdn* = 41.66). This highlights that the PAL scheme may have influenced how less anxious students felt compared to those who did not participate in the PAL scheme who were left feeling more anxious at the end of the semester.

Figure 2. Comparison of STAI scores at the end of the semester for the test and control Groups

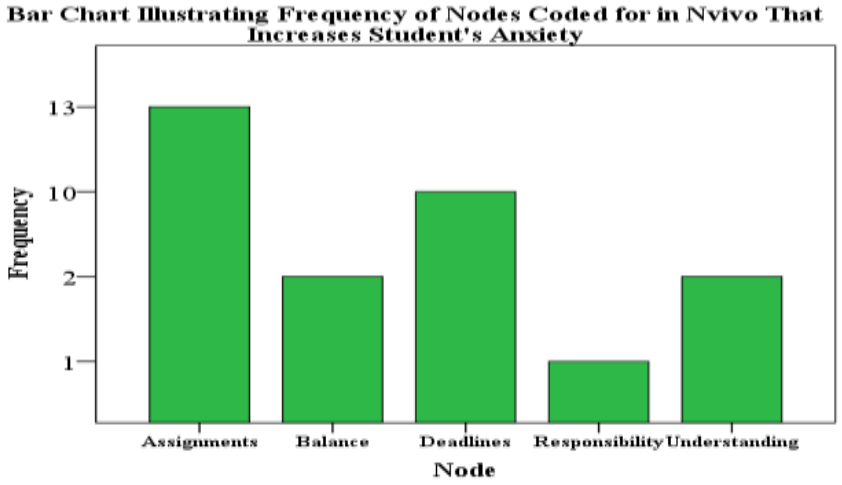


Changes in Anxiety from the Start to End of the Semester. Further tests were carried out to explore changes of anxiety at both time periods. Results of Kolmogorov-Smirnov tests showed assumptions of normality to be broken, therefore non- parametric Wilcoxon Signed Rank tests were applied to the data to investigate whether any significant differences existed within the data set of both groups. Overall, students in the test condition were less anxious at the start of the semester (*Mdn* = 30.00) than at the end of the semester (*Mdn* = 36.66) with a Wilcoxon Signed Rank test showing there to be a significant difference in anxiety between the two-time periods (Z = -2.248, p = 0.25). Likewise, students in the control condition were less anxious at the start of the semester (*Mdn* = 36.66) than at the end of the semester (*Mdn* = 41.66) with a Wilcoxon Signed Rank test showing there to be a significant difference in anxiety between the two-time periods (Z = -3.559, p = .001).

Reasons for Changes in Anxiety Levels

Qualitative data was collected from the second questionnaire that was administered to students, thus allowing further probing for factors which either increased or decreased their anxiety levels. Qualitative responses were coded for through the use of NVivo 11. This study carried out in 2017 investigated affect in an HE in FE institution and possible relationships between students' affect and emotions linked to their transition into HE, and yielded a large body of quantitative and qualitative data. Young, Bosmans and McLoughlin (n.d.) have already reported on the qualitative part of the study below but this paper uses the data yielded to explore a potential link between affect and participation or not in a PAL scheme, focusing next on the factors increasing or decreasing students' anxiety.

Figure 3. Factors Increasing Students' Anxiety Levels



Factors That Increase Anxiety

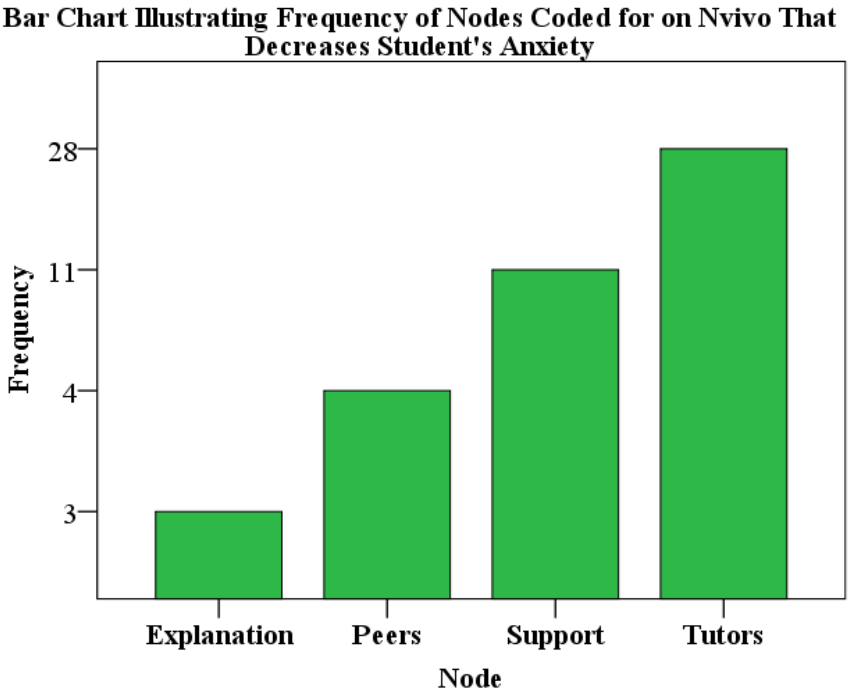
A total of 49 students (57%) disclosed factors that increased their negative emotions. As can be seen in Figure 3, assignments and deadlines were by far the main factors (51%) leading to an increase in students' level of anxiety. Adding to these, worries about obtaining lower grades than anticipated for their work and thus not doing well generally on the course all contributed to 20.4% of negative emotions at the start of the semester. Comments about 'not being good enough' were also expressed, potentially linking students' lack of confidence and self-esteem to feelings of anxiety. Including in the latter were comments about not being able to understand or cope with the large amount of new information being presented during lectures and when reading essential texts, linking teaching styles and course content to higher feelings of anxiety. Not all factors were necessarily linked to their studies with 4% of students highlighting personal life issues such as family relations, financial pressures and employment making it difficult for them to balance studying with other responsibilities. Anxiety levels can thus be

impacted on by factors external to their learning but these are very much real for students who may be returning to education as older learners with more life responsibilities or for learners who come for a BME background and all the other personal issues this may bring on.

Factors That Decrease Anxiety

A positive set of findings from the data was that 53 students (61.6%) highlighted several factors which helped lower their anxiety levels. The factor most often identified (64.2%) and much more significant than all others was the tutor's contribution to available help. This included one-to- one tutorials with their course tutors which was the conduit by which help could be obtained. This in itself highlights the wealth of help available to students, including from their personal tutor. However, another factor more relevant to the present study was help being obtained by peers (26.4%), along with their explanations and that is where a PAL scheme come to the fore as peer support is its raison d'être. Help from peers can of course take various guises such as informal conversations and moral support but students who participate in PAL have access to a third-year student's explanations on how to complete an assignment. This, along with more informal conversations, may have greatly contributed to a reduction in anxiety levels brought on by a dread of the white page. Additionally, 3 students (5.6%) also identified a positive attitude as an important factor in reducing anxiety, i.e. "just getting on with it".

Figure 4. Factors Decreasing Students' Anxiety Levels



Discussion

The present study attempted to explore affect in first-year students in an HE in FE environment, with a particular focus on anxiety and related emotions. The aim was also to evaluate a peer-assisted learning (PAL) scheme as an effective strategy in alleviating levels of negative emotions experienced by first-year students when embarking on their HE journey. In order to ensure that the anxiety felt by students was not trait anxiety, i.e. that it was not part of their emotional make-up, the GAD questionnaire was instrumental in discarding 3 respondents from the sample and only retain the moderately anxious and the mildly anxious students. Of the remaining 83, there were 61 students (73.5%) who scored zero and therefore were not anxious, 13 students (15.7%) who scored 5-9, therefore fitting into the mild category, and 9 students (10.8%) who scored 10-1, thus corresponding to the moderate category. Approximately just under a third (28.5 %) of students feeling some level of anxiety at the beginning of the semester compares to 26% of university students who suffer from moderate stress and anxiety from time to time in the UK in 2016 (Aronin & Smith, 2016). The STAI (Marteau & Bekker, 1992) was instrumental in identifying students' levels of anxiety at both points of administration in the project and allowed for comparison of these levels following intervention. Both groups of students had their level of anxiety rise towards the end of the semester as in other studies exploring WP students' mental health (Moore et al., 2018). However, the results highlighted a difference in anxiety levels which showed lower rises of anxiety for students who took part in the PAL schemes, compared to the control group as can be seen when comparing the data shown in Fig.1 and Fig.2. The control group got an increase of 8.52 in their anxiety level by the end of the semester compared to only 4.14 for the test group. The unexpected rise in anxiety for the test group may be due to some programs, i.e. Psychological Studies and Health and Community Studies showing a sharp increase in their level of anxiety by the end of the semester. This may be due to course specific contextual factors relating to changes in course staffing or the timing of the assessment deadlines specific to these courses. The sharp rises in anxiety levels in these two specific programs may have been the reason why there was a rise in anxiety overall by the end of the semester.

At this stage, it is thus not possible to establish a direct correlation between the students' anxiety levels and their participation in a PAL scheme but this is still a significant finding showing a smaller rise in anxiety for this group of students. In fact, Fig. 4 shows that help from peers and support are two essential factors decreasing anxiety levels. Tutor help has clearly been identified as an integral factor in decreasing students' anxiety and UCO's tutorial scheme is central to the levels of support given to the students to such a high standard. However, this research also shows that peer-to-peer to support is critical in students' perception of support available, thereby giving credence to the importance of a PAL scheme. Lee et al. (2018) equally champion peer-to-peer initiatives in order to create solutions together when it comes to mental health issues (see also Carter, 2016). Together with the tutor's input in the content of some PAL sessions, shows that it is an invaluable source of support for first-year students. Feeling better equipped to

face assignments and deadlines, their anxiety levels still rise, but less so than students who are on their own.

Both groups were subjected to the same factors exacerbating their anxiety as shown in the findings above, namely assignments, deadlines, feelings of insecurity resulting from an inability to make sense of lectures and readings. However, a lower rise in anxiety levels of students participating in PAL sessions may be explained by the fact that these sessions directly address these negative factors. PAL leaders are asked to help their group with assignment briefs and act as a sort of reminder of the work they still need to put in to meet their various deadlines. Feelings of insecurity are also tempered by the PAL leaders' help in making sense of lecture notes and in looking at various texts related to their program of study.

The PAL Leaders' training at UCO includes topics such as: principles of learning to cater for different learners, suggestions on how to help their group with various problems, building self-confidence by looking at various techniques to ensure everyone's participation, emphasis on learning processes to promote autonomy, encouragement of winning behavior, and become a good active listener. It follows that a lower rise in anxiety level coupled with a qualitative description by students of factors decreasing negative emotions allows for a positive evaluation of the PAL scheme in terms of it addressing affective issues through its Leaders.

In addition, it is important to ask whether a PAL scheme could further help students to cope with issues linked to affect, as Viskovich and Pakenham (2018) stress the importance of early intervention to address the effect of negative emotions. In the context of second language acquisition, Bosmans (n.d.) identifies course designers, learning materials and lecturers as the major contributors to learning strategies instruction to meet students' needs in terms of metacognition, cognition and affect. Peers themselves could now be added to this set as PAL sessions are a non-threatening forum for an exchange of learning strategies as identified in the findings of the present project. Barkham, Bewick, Koutsopoulou, Miles, and Slaa, (2010) stress the importance of embedding a range of approaches in the curriculum. PAL sessions being timetabled centrally are therefore one of the various interventions that address students' affective issues and help lower their negative emotions. The direct involvement of HE administrators at meso-level is also encouraged by Gaddis, Ramirez & Hernandez (2018) to influence local environments.

Finally, PAL sessions have a unique status in the lecturer/student interaction as PAL leaders are not to be seen as experts or in some kind of position of authority but as what they are, i.e. peers. This in itself takes away what could be perceived as an anxiety-inducing communication event with the lecturer as assessor and is therefore pivotal in addressing affective issues. An added advantage is also the promotion of autonomy that students are required to cultivate in HE, but with all the scaffolding that PAL sessions can provide. PAL schemes are indeed student-led and, as such, contribute to the independent stance of HE study rather than combat it, without leaving first-year students completely on their own, a situation which was seen as exacerbating anxiety in the present study findings.

Conclusion

Anxiety is a complex emotion. This paper has looked at various definitions of it, be it considered as a positive (enabling) or negative (disabling) concept. As a strength of this study, not only was the affective side of anxiety explored but also its cognitive component. Anxiety was also studied in terms of its relationship to learning performance, including the potential relief that a PAL scheme could bring on this negative emotion in students. Moreover, not only was affect and the affordances of a PAL scheme investigated in a WP population but also in an underexplored context, that is HE in FE.

Limitations of the Study

There are still some debates on whether anxiety causes poor learning performance or is the result of it. Various types of anxieties were defined in the context of a student's experience in an HE environment, followed by an explanation of the present interventional study in an HE in FE institution. Although both trait and state anxiety can occur at the same time and thus making it difficult to differentiate, the use of the STAI and the GAD questionnaire were instrumental in isolating the sample displaying state anxiety for the purpose of this project which was to look at the effectiveness of a PAL scheme in terms of relieving negative emotions when making the transition between FE and HE or returning to education.

Further Research

Although this project resulted in a slower increase of the anxiety experienced by students participating in the PAL scheme, further studies are required to look more closely at other positive outcomes of this resource in helping HE students to survive a time which could prove difficult in terms of emotional well-being. Conversely, further projects could investigate other types of interventions which would be equally effective in relieving negative emotions when entering an HE program.

Brown and Ralph (1999) advocate the use of targeted resource and time to be allocated during induction period and ongoing academic support. This paper has sought to find a link between a student-led strategy such as PAL and a reduction in the state anxiety felt by first- year students. PAL is one of the schemes and strategies which can be used by HE in FE institutions to aid students' transition between college life and university experience. After all, it is in the interest of all stakeholders that students make a success of their HE studies and move on to be productive members of society.

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Investigating Future Educators Training to Teach English in Ecuador: An Examination of one University's Program

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Education in Ecuador is undergoing a process of change led and supported by the country's government leaders. In this study, researchers use a wide-angle lens informed by governmental mandates to investigate English language teaching. They examine how English language teachers are trained for the K-12 Ecuadorian context within one university's region. The 40 participants, students completing a school-based internship during the last year of their training to become teachers, represent a sample of Ecuador's cultural and linguistic diversity. This work is informed by findings from a previous study, consisting of observations and interviews of practicing teachers (Burgin & Daniel, 2017). Using mixed methods, this research includes surveys and focus groups conducted before and after delivery of instructional workshops centered on topics related to English language instruction and teacher training. Findings indicate mixed-results from pre to post for teachers' cultural beliefs; however, positive change was found regarding participants' attitudes toward multicultural students. Data revealed that teachers require more support to deliver instruction that is appropriate for monolingual and multilingual student populations.

Keywords: English language teaching, multilingualism, teacher training.

Introduction

The investigation discussed in this article was conducted by two Latin American professors who reside in the United States (U.S.). They are native speakers of Spanish whose schooling in Latin America ranges from seven to 16 years in length in the countries of Cuba and Ecuador. They have histories of working with teachers in the northern and southern hemispheres of the Americas, and with immigrant populations of students at levels K-12 in the U.S. This work examines English language teaching (ELT) in one university' teacher instruction program. Keeping in mind Ecuador's top-down educational mandates of the past decade as a backdrop to curricular requirements (Van Damme, Aguerrondo, Burgos, & Campos, 2013), this work examines how students finishing their teacher training program perceive they have been prepared to teach English, and to consider the country's cultural and linguistic diversity in lesson planning.

In this study, pre-workshop and post-workshop surveys were administered

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to teacher candidates (students completing a school-based internship during the last year of their training to become teachers), prior to and after participation in nine instructional workshops focused on ELT methods. The surveys explored these interns' (future teachers') perceptions of the quality of their university's training and its focus on ELT. In addition, the surveys provided data to evaluate changes in the participants' espoused philosophy of ELT before and after attending the workshops.

After the workshops, focus groups were held and data was used to document the knowledge and pedagogy of ELT that participants shared they had developed in the workshops. These provided an opportunity for the interns to voice additional questions, and to explore their future needs in professional development after graduation, unique to the particular needs of students and teachers in Ecuador.

Background to the Ecuadorian Context

Ecuadorian educators' work requires a consideration of the sociocultural context of the schools, the communities, and an awareness of the support available to all stakeholders to validate learners' rights (Van Damme, Aguerrondo, Burgos, & Campos, 2013; Freire, 2002). These researchers believe that when students' basic needs are unmet, educational achievement is likely to be compromised. An issue that is of grave concern in Ecuador that influences this study and the participants, is the availability of potable water and bathrooms in the country's rural areas. Estimates for 2015 projected 86.9% of Ecuador's population would have access to potable water (93.4% in urban areas, and 75.5% in rural areas), and that 84.7% of the population (87% in urban areas and 80.7% in rural areas) would have access to sanitation facilities (Instituto Nacional de Estadísticas y Censos, 2015).

Ecuador's cultural and linguistic diversity is visible in the many living languages spoken across this nation. The *Instituto Nacional de Estadísticas y Censos* (2015) documented 93% of Ecuador's population speaks Castilian and 4.1% speak Quechua. The newspaper *El Tiempo* (2015) reports 14 indigenous languages (including Quechua). Ethnologue (2016), a trusted source of information for world languages, identifies 25 indigenous languages for the country, placing 24 in the category of *living languages*, with 21 of the 25 categorized as indigenous. The INEC (2015) provided 2010 census information reflecting the cultural diversity of the country's population was composed of *mestizos* (mixed Amerindian and white) 71.9%, Montubio 7.4%, Amerindian 7%, white 6.1%, Afroecuadorian 4.3%, mulato 1.9%, black 1%, and other 0.4%.

One challenge to reaching educational equity in Ecuador is that for learners of indigenous descent, achieving mastery of English means learning to communicate in a third language. Part of the country's ongoing curricular redesign reflects a focus on increasing the economic solvency of its population. This model of teacher education is based on teacher competency, and on the addition of English language instruction across the country's schools. Student evaluations

such as the *Ser Estudiante* exam (Resultados Pruebas Censales, 2008) are used to identify areas in the curriculum that require increased time allocations and/or different instructional foci and revised delivery methods. Given the aforementioned research-based information, it is logical that all Ecuadorian educators be prepared to understand and espouse philosophies that demonstrate appreciation of the country's diversity within the ELT curriculum. Clearly, addressing Ecuador's cultural and linguistic diversity and adding English to the curriculum, places increased responsibilities on teacher trainers. These added demands include increasing the levels of inter-cultural understandings of future teachers, and thus ensuring that schooling is equitably offered to all of the country's citizens (Constitution of the Republic of Ecuador, 2011).

This inquiry was precipitated by the researchers' awareness of the educational changes in Ecuador that have resulted from top down mandates set forth by the country's leaders. Changes have aimed to increase teacher quality, raise the literacy rate, and add ELT to the curriculum at levels K-12 (Gallegos, 2008). There has been a substantial shift in the way teacher competency is now evaluated in Ecuador (Cevallos-Estarellas, & Bromwell, 2015). Ecuador's leaders seek to better prepare its children for the global marketplace by monitoring and linking student progress to what their teachers do in the classroom. The movement to design curricula that appropriately meets educational needs across all segments of Ecuador's society, includes the added requirement of English instruction in the curriculum at K-12 levels (Malik, Esaki-Smith, Lee, & Nagan, 2015).

Some factors to consider are the demonstrated positive trends in Ecuadorian education. For the year 2010, the Instituto Nacional de Estadísticas y del Censos (2015), estimated that 93.2% of Ecuadorians were literate, and the Ecuadorian Demographic Profile (2016) predicted this figure would increase by approximately 1.5% each year. Therefore, given the documented levels of Spanish literacy in Ecuador, this inquiry does not look to examine literacy instruction in the country's dominant language. This research documents how teachers perceive they are prepared to teach English. We present future educators voices prior to and after participating in instructional workshops focused on how teachers might improve design and delivery of effective ELT when planning lessons for Ecuador's multicultural multilingual context.

This research is based on a sociocultural framework of teaching and learning, and on theoretical understandings that SLA processes are enhanced by balanced literacy instruction that supports students' academic growth within their zone of proximal development (Vygotsky, 1986). In schools, this requires both teacher and student led instruction, and at the same time situates students and teachers as co-learners who open doors to view each other's unique cultural contexts (Daniel, 2016). Wertsch (1990) emphasized that the teacher and the students are co-learners in classrooms where students support each other's learning, and take turns taking on the role of being the expert.

This work explores ways to guide Ecuadorian teachers in informed reflective practice to help them identify questions they have not previously considered. These processes will allow them to expand their knowledge base and experiment implementing new strategies for learning in their classrooms. This research

investigates the pedagogy that participants were being taught in their training and possibilities for improved practice in ELT.

Procedures for Data Analyses of Focus Groups Conducted Before and After Instructional Workshops

Focus group conversations were examined qualitatively and quantitatively to identify significant recurring themes in the data (Corbin & Strauss, 2008). Prior to conducting this work, the researchers hypothesized which themes might emerge in the focus groups. However, some of the themes that emerged were surprising because they revealed the interns held negative opinions about their training. Symbolic convergence theory (SCT) (Daniel, 2010) was used to identify and analyze the themes that resulted in greater emotional commitment and convergence in the participants, suggesting agreement, creation of new ideas, and interpretations.

SCT is a theory that has been used in marketing and advertising to identify projects that will be successful such as the riverboat casinos in the state of Iowa in the United States (US). SCT has also served well to examine the birth and development of new ideas in education and educators' voiced concerns about issues of social justice (Daniel, 2010). SCT delves into individuals' psyche because it is a vehicle for identifying and acknowledging everyone's realities.

SCT posits that human beings create their fantasies and realities through the messages that are communicated to them in their lives, and through the intra- and inter- personal interactions that subsequently arise. Human beings are thus understood to be actors who justify their philosophies as their realities evolve. In this study, the participants developed ideas that were not judged in data analyses to be accurate or false. The accuracy of the ideas per the researchers' realities was not the important issue. Rather, participants' personal involvement revealed challenges in ELT in Ecuador and what educators in this country consider is needed to improve instruction.

Methodology of Research

Needs Analysis

Before this intervention began, a needs assessment was conducted consisting of two protocols. First, in a previous study, the authors conducted observations of nine secondary level English teachers (Burgin & Daniel, 2017; Daniel & Burgin, 2016), using the Classroom Observation Checklist (2010). These served to analyze practicing Ecuadorian teachers' delivery of content, lesson organization, classroom interactions, verbal and non-verbal communication in the classroom, and integration of media during instruction in English classes (Burgin & Daniel, 2017; Daniel & Burgin, 2016). Along with the observations, practicing educators answered open-ended questions related to how future teachers are trained in Ecuador (Daniel & Burgin, 2016). Responses to both the survey and the open-

ended questions asked in this prior work, provided insights into how teachers are trained to consider the cultural and linguistic diversity of students in Ecuador.

Rationale for Workshops

In effective ELT models, educators recognize students' linguistic and cultural funds of knowledge (Goodman & Allen, 2017; González, Moll, & Amanti, 2005; Ruiz, 1984). They are aware that sociocultural underpinnings contribute to learners' evolving understandings of the cultures of the English-speaking world. Effective English teachers possess two important professional and personal qualities. They teach the target language of study and function as cultural brokers (Hall, 2016). Models of balanced literacy align to second language acquisition (SLA) philosophies that acknowledge the power of the home's contribution to literacy and cognition. Competent teachers demonstrate in their curriculum that they value the students' in and out-of-school networks across the home, the school community, and the neighborhood.

Answers to the following questions posed to practicing teachers in a previous study (Burgin & Daniel, 2017), were used to develop this study's overarching question and three sub-questions:

> How adequately do students in their teacher training program perceive they are prepared them to lead their students to academic success and mastery of English?
>
> a. What pedagogies are taught to students training to become English teachers?
> b. What components of intercultural education are part of the English language teacher training curriculum?
> c. What are students in Ecuador taught in their training to become teachers that focuses on ways to address their society's cultural and linguistic diversity in ELT?

Specifically, the questions that guided this mixed methods study focused on identification and exploration of teacher interns' perceptions of the ways the curriculum in their teacher training program prepared them to teach English.

> Q. 1: How do students perceive they have been prepared to deliver effective ELT?
> Q. 2: How do students being trained to teach English consider Ecuador's cultural and linguistic diversity in their lesson planning?

Participants and Site of Workshops

The workshops were delivered at a state university in Ecuador that prepares teachers to teach English in the K-12 school system. A total of forty interns in the last semester of their studies were invited to participate. Study participants

(n= 40) were in their clinical placements completing a year-long internship at K-12 schools in the region of the university. During the internship period, interns experience teaching lessons to students only after they prepare and submit lessons to their supervisor for approval. Participants, all between 22-25 years of age, were evenly divided between males and females. They were also complying with the graduation requirement of writing a thesis, at the same time that they were in their clinical internships.

Pre/post surveys were administered to the participants before and after the instructional workshops, to determine if there was a change in the participants' knowledge and skills. At the completion of the workshops, a group forum was conducted to ask the participants questions about what they had learned, to answer remaining pedagogical questions on the part of the participants and researchers, and to explore topics that might be addressed in future workshops.

Appropriate Selection of Workshop Topics

Workshops topics were selected if they met the criteria that they would serve as the vehicle for the interns to identify and reflect on the challenges they might encounter as teachers of English. We wanted to help interns reflect on the challenges that we had identified they might face in their careers as English teachers.

Themes selected for the workshops also evolved from the researchers' belief that all languages need to be viewed as a resource for teaching and learning (Ruiz, 1984). Ruiz's philosophy raises educators' awareness of the key roles that culture and language play in education. A culturally relevant ELT curriculum assigns equal status to all the cultures and languages represented by the classroom demographic and do not privilege some learners over others (Daniel, 2016; Faust, 2016; Kincheloe, 2008; Hawkins & Norton, 2009). We believe that SLA is a complex process (Bialystok, 2011) that can be examined by looking at what learners do as they progress through stages of language development, and as they are given opportunities to compare and contrast their cultures and languages with those of English speakers. In the classroom, SLA requires a balance of implicit and explicit pedagogy. Language educators know that in the real world and in classroom environments, learners acquire additional languages as they use all their linguistic expertise to make meaning as they translanguage for understand (García & Wei, 2014; Canagarajah, 2013).

Planning the Workshops

Prior to conducting the instructional workshops, the planning consisted of two phases: a needs assessment of the participants and focus groups. Only informal focus groups were conducted after the instructional workshops.

Pre-Workshop Surveys

Before the instructional workshops, a needs assessment of the participants'

knowledge about second language teaching strategies, and interventions for cultural and linguistically diverse school environments was performed, using a survey instrument and conducting focus groups. Information gathered was helpful in adjusting the materials to be delivered during the instructional workshops. Pre-workshop surveys served to investigate and document participants' philosophies underlying the ELT instructional methods taught to them in their training.

Data were examined to establish how interns perceived their teacher training was preparing them to address diversity and teach English. Survey questions addressed components of intercultural education present in the secondary level English curriculum (See Table 1: Section 1 Teacher's Cultural Beliefs and Table 2: Section 2 Attitude towards Multilingual Students in the findings). Section I of the survey contains 21 questions and Section II includes 13 questions: both sections used a dichotomous scale (Yes = 1 and No = 2). Pre- and post-workshop surveys were matched through a code assigned to participants.

Pre-Workshop Focus Groups

Four focus groups were conducted with interns before they participated in instructional workshops. Data were used to identify topics to address in the workshops, and to decide how to best scaffold the topics selected for the workshops. A review of the professional literature centered on the educational changes of recent decades in Ecuador, was used to interpret the focus group data.

In the pre-workshop focus groups, the interns were asked:

1. What strategies for teaching English were taught in your teacher training program?

    a. How were you taught to teach these ELT strategies to monolingual students?
    b. How were you taught to teach these ELT strategies to bilingual and trilingual students?
    c. How were you taught to use instructional strategies in ELT to evaluate student learning?

Focus Groups after Workshops

Informal focus groups, conducted after the instructional workshops, continued the inquiry of future teachers' perceptions of (1) how training programs prepare future teachers to teach English to Ecuador's diverse student populations and, (2) to identify what future professional development for practicing teachers might be most beneficial for the Ecuadorian context.

The post workshop focus groups were guided by the following questions:

1. What have you learned about teaching English to monolingual students

and to learners who may speak an indigenous language (as a first language), Spanish as a second language, and are in the process of studying English (a third language)?

a. What instructional support do monolingual students need?
b. What instructional support do multilingual students need?

2. What is your understanding of the multiculturalism present in Ecuador's student population? Share your definition of multiculturalism.
3. What other questions do you have for us [the researchers]?

After the instructional workshops were delivered, data from post-workshop surveys and post-workshop focus groups were used to document interns' questions related to ELT and future professional development needs.

Analysis of Results

Nine workshops were presented over three days with a total of 15 hours--5 hours per day. The number of workshop participants was 40 for many of the workshops. However, the quantitative data indicates that complete data (surveys and participation in focus groups and workshops) was collected on only 19 participants. Due to this small number of responses, the researchers could not perform the desired data analyses (e.g., paired *t*-test). Thus, descriptive statistics are presented. A data analysis at the individual level was performed to determine the number of participants who changed their answers either positively, (from *no* in pre-test to *yes* in post-test), or negatively, (from *yes* in pre-test to *no* in post-test).

The purpose of surveying participants before and after the workshops, was to determine these future teachers' perceptions of diversity for their context, their knowledge of how to use and teach students teaching strategies in ELT, and to establish their ability to plan content and language objectives for lessons (See Table 1 Section 1 Teacher's Cultural Beliefs and Table 2 Section 2 Attitude Survey).

Results of the Teachers' Cultural Beliefs survey seem to indicate that participants changed their perceptions positively about the influences on instruction of teachers' cultural beliefs. Regarding the Attitudes toward Multilingual Students survey, participant responses indicated a positive change from pre to post-test. Positive change reflects the participants' awareness of different cultural norms and multilingual students' academic needs.

Section 1: Teachers' Cultural Beliefs Survey

Table 1. Section I Teachers' Cultural Beliefs

	Pre test*		**Post test***	
Questions	*Yes*	*No*	*Yes*	*No*
1. Teachers should incorporate elements of student culture in lessons.	19	0	18	1
2. Schools/teachers should encourage minority students to become integrated into the existing school culture by giving up their own cultural values.	2	17	6	13
3. Schools/teachers should adapt their school cultures to the needs of minority students.	16	3	18	1
4. Should teachers focus on content dictated by the school curriculum without thinking about student cultural background?	1	18	4	15
5. Teachers have little available time to plan and provide culturally responsive curriculum in content area classrooms.	17	2	16	3
6. Minority students' home cultures or environments influence learning.	14	4	17	2
7. Using elements of the student's culture in curriculum and lesson planning is not necessary because all students need to become integrated into the existing school culture.	9	10	11	8
8. Providing first language services for minority language students is not necessary because they need to learn the dominant language.	17	2	18	1
9. Maintenance of the first language is not important for academic success of language minority students.	16	3	18	1
10. Maintenance of the first language is not important for life success of minority language students.	16	3	17	2
11. Minority language students should speak the school language at home.	12	7	14	5
12. Minority language students should be allowed to speak the home language at school.	18	1	17	2
13. Special services should be provided for minority language students.	12	7	15	4
14. Classes in the language used at school should be provided for them to master speaking the new language.	18	1	17	2
15. Multilingual assistance such as individual help in first language, contact with parents, translation.	14	5	13	6
16. Multilingual courses in subject areas (incorporating first language) should be provided.	18	1	15	4
17. Courses in development of academic language in their first language (reading, writing etc.) should be provided.	19	0	15	4
18. Bilingual school personnel for communication with students and parents/families should be provided.	19	0	16	3
19. Multilingual students have different learning needs because of their background.	12	7	14	5
20. Multicultural students have different learning needs because of their background.	11	7	16	3
21. When learning to read for the first time, multilingual students should learn to read in the language used at school.	16	3	15	4

*n=19

Table 1 shows the comparison between the pre- and post-test responses for questions 1-21 of the Teachers' Cultural Beliefs. Out of the 21 questions, participants changed responses in nine questions from *yes* in pre-test to *no* in post-test in the post-test ranging from 1 to 4 participants. Participants changed their answers to questions that relate to supporting multilingual students. For example, participants changed their answer from yes to no concerning bilingual support to communicate with parents, that multilingual courses should be provided, and that teachers provide multiculturally responsive curriculum. These may indicate that teachers need support to implement pedagogy that would benefit multilingual students. Regarding the other 12 questions, participants changed from *no* in the pre-test to *yes* in the post-test with a range of 1 to 5 participants. These findings seem to indicate that teacher realized the supports that multilingual student need. These findings suggest that in their reflections, participants recognized the multilingual students need instructional support that should be provided by teachers; however, participants also realized the time commitment and resources needed to meet students' needs.

Section II: Attitudes toward Multilingual Students Survey

Table 2. Section II Attitudes toward Multilingual Students

	Pre test (n=19)		**Post test (n=19)**	
Questions	*Yes*	*No*	*Yes*	*No*
1. I feel confident modifying lessons for culturally diverse learners.	8	11	14	5
2. I know how to write a content objective.	14	5	16	2
3. I know how to write a language objective.	8	11	14	5
4. I know how to identify cultural aspects of a students' identity that impact his/her learning.	5	14	12	7
5. I feel confident identifying students' needs based on their first language.	7	12	13	5
6. I feel confident designing curriculum for students who speak Spanish at school and indigenous or other language at home.	1	18	13	6
7. I am sensitive to the socio-affective needs of culturally diverse students.	17	2	19	0
8. I know how to determine whether my students have unique needs because they are from a minority culture.	7	12	16	3
9. I know how to determine whether my students have unique needs because they speak a minority language.	5	14	13	5
10. I use a variety of methodology to help multilingual learners achieve academic success.	8	11	15	3
11. I know how to incorporate graphic organizers in content area instruction.	8	11	14	4
12. In my work I feel confident using the same language objectives for monolingual Spanish speakers that I use for linguistically diverse learners.	3	16	14	4
13. I feel confident engaging students in literacy activities using graphic organizers.	13	6	14	4

Table 2, offers a dichotomous comparison between pre and posttest answers to questions 1-13 for the Attitudes toward Multilingual Students Survey. For these questions from one to 12, participants changed their answers from *no* in the pre-test, to *yes* in the post-test. One to two participants changed from *no* in the pre-test, to *yes* in the post-test about writing content objectives, being sensitive to the socio-affective needs of culturally diverse students and feeling confident engaging students in literacy activities using graphic organizers. Regarding writing language objectives, 11 participants in the post test changed their answer to that *yes*, they felt confident selecting language objectives for both monolingual and linguistically diverse learners. The highest number of participants changing their answer from *no* in the pre-test, to *yes* in the post-test was twelve regarding designing curriculum for monolingual or multilingual students. Results demonstrate the participants changed their attitudes toward multilingual students as a result of participating in the workshops.

Limitations of this Study

Determining participants' change in knowledge/skills gained in participation in the workshops through the calculation of the effect of the workshop (power) was not possible due to the small number who participated in all the workshops (19). Another issue that the researchers learned was that the dichotomous scale used in the survey did not allow for an accurate examination of participants' change in knowledge. Changing the dichotomous scale of the survey to a five-point Likert scale would allow respondents to indicate the level of multilingual content and attitude before and after the workshops. The second possibility to better determine outcomes, would be to use a retrospective pre and post survey design. In this case, the pre-survey is administered simultaneously with the post survey by asking the participants to recall their knowledge prior to the workshops (Allen & Nimon, 2007).

Discussion of Results

Focus groups data indicated that practicing teachers have the dispositions needed to help Ecuador's culturally and diverse students and that they have the cultural awareness to be able to effectively consider learners' academic and affective needs. In contrast, the data indicated that teacher candidates do not feel prepared to act upon the diversity of student populations once they begin their work as teachers in charge of their classrooms. Teacher candidates' comments evidenced their need of more professional development regarding formative and summative assessments, and the types of expertise and tools they might need to support students' academic progress.

Data from the surveys suggests a positive change in the attitudes and perceptions of the participants after the workshop, regarding cultural beliefs and attitudes toward multilingual students. The positive change was reflected in changed responses from pre to post-test and what these suggest in participants'

perceptions. In addition, it is of great interest to the researchers that findings reveal that five participants changed from *no* in the pre-test to *yes* the post-test for Q20 (Multicultural students have different learning needs because of their background). This change strongly supports a change in participants' views of how the academic needs of multicultural students are impacted by their backgrounds and funds of knowledge. Concerning the Attitudes toward Multilingual Student's survey, after the workshop, twelve students stated that they felt confident to design curriculum for monolingual and multilingual students, including making modifications needed regarding the initial identification needs assessment of students, and subsequent academic needs.

Interaction of Results

The discussion that follows is twofold. It presents the data analysis of the survey questionnaire and the focus groups before and after the instructional workshops. Data analyses of surveys administered before and after the instructional workshops

Survey Questionnaire Data Analysis

Section I: Cultural Beliefs

Answers to questions on the Teachers' Cultural Beliefs Survey (Table 1) yielded two findings. First, there was little change between the pre- and post test results. Secondly, an examination of responses for Questions 17, 20, and 21, reflects conflicts in interns' philosophies of instruction, and suggest that practice does not support espoused ELT philosophies. Interns agree that "… multicultural students have different learning needs because of their background (Q. 20), and that schools should offer "courses that foster development of academic language" in students' first language (Q. 17). In contrast, responses to Q. 21 "… multilingual students should learn to read in the language used at school", indicate that instruction in Ecuadorian schools overlooks the indigenous languages spoken by many students, recognizes Spanish as the language of instruction, and identifies English as the target language of study for the reason that it will gain learners greater economic success.

Section II: Attitudes toward Multilingual Students

Data presented in Attitude towards Multilingual Students (Table 2) supports findings in Table 1. The interns acknowledge their sensitivity to the socio-affective needs of culturally diverse students (Q.7), but are not adjusting instruction. Pre-workshop responses of three yeses compared to 16 for Q. 12, reveal the true state of practice. Interns (14 of 19) agree with the statement "In my work I feel confident using the same language objectives for monolingual Spanish speakers

that I use for linguistically diverse learners".

Focus Groups: Data Analysis

Before the Instructional Workshops

Salient themes in the pre-workshop focus groups can be divided into the following categories: (a) use of teaching strategies, (b) being an organized teacher, (c) feeling a high degree of uncertainty about how to teach and assess strategically and, (d) that in their training the topic of culture was not addressed.

Teaching strategically. The interns indicated that during their training they were taught visual, auditory, and interactive strategies for instruction. They shared that teachers can only select strategies after they identify and understand students' educational needs. One mentioned that "teaching should be interactive if the teacher is to support understandings of the new material". Another intern indicated that it is important to "assess grasp of new concepts through speaking tasks or essays that support students' learning." Yet a third intern stressed three strategic steps to teaching well are to maintain (1) an organized classroom, (2) to make sure all students are polite and, (3) to select appropriate materials for instruction.

Participants explained that they implement many foreign language strategies for learning after they develop lessons and select the materials they will use. This information reflects that they strive to understand students' academic needs and adjust instruction accordingly. None of the interns provided examples of any one strategy that they used when teaching during the internships. The lack of specific information about use of instructional strategies in teaching could be attributed to (1) the level of teaching experience of interns who had not been managing a classroom of students without the assistance of their supervisor, (2) their perception that the instructors who trained them had not offered sufficient modeling and (3) that they were still working to translate theory into practice.

Issues of Assessment. The majority of the interns emphasized that processes for assessing students in English classes had not been clearly explained to them in their training. They agreed that assessment techniques that were part of their training seemed ineffective evaluation methods. They stressed needing to learn more ways to measure students' achievement. Perhaps the interns' uncertainty about assessment protocols relates to the pressure the interns anticipate when they look ahead to their own evaluations as teachers. In addition, the interns shared that they will be provided the materials they need to teach by the government, and that this will delimit their ability to make adjustments to both instruction and assessment.

Organization of instruction. The interns stressed the importance of the teacher being organized while presenting new vocabulary and grammar. The limits of the information shared revealed that interns' knowledge of ELT methodology does not include the ability to apply current theories of SLA. For

example, they stressed that an important instructional strategy is that "while reading materials written in English, the students prepare a list of new vocabulary words." They did not appear to consider that memorizing the meaning of a lengthy list of words might overwhelm students. They agreed that students' evaluations need to assess their ability to "find the definition, draw the meaning of the word, and use the new word in a sentence."

In contrast, the interns mentioned that an effective way to instruct is for the teachers to ask students to learn how two words can be used in two different contexts each day's lessons. They stated that "Students look up word definitions in the dictionary and write sentences, or the teacher writes a word on the board, defines it, and asks students to use the word in a sentence".

Culture. Participants agreed that in their teacher training, the topic of multiculturalism was "practically not mentioned", and that they had not had "any experience with multilingual students." They stated "we don't know details about multiculturalism but we know that we have to respect different customs." They explained multiculturalism helps educators "to learn about students' cultures, and to get to know them individually". They shared what they know about being bilingual or trilingual they "learned from educators from the U.S. who have visited Ecuador and told us how people in the U.S. act", and not through "any formal education."

Focus Groups Post-workshops

Salient themes in the post-workshop focus groups can be divided into the following categories: (a) grasping and meeting the academic needs of culturally and linguistically diverse students, (b) being able to demonstrate their understandings and ability to apply current SLA theories in instruction, (c) recognizing learners' cultural capital, (d) understanding the diversity in Ecuador and, (e) wholehearted agreement of professional development needs after graduation.

Meeting students' academic needs. Findings reveal that after the workshops the interns demonstrated clearer understandings and ability to identify monolingual and multilingual students' academic needs. Comments reflected their previous personal and educational experiences in learning English. Prior to the workshops, none mentioned that cultural and familial influences on learning require differentiated instruction for diverse students.

An intern mentioned that many students speak Quechua at home, while another teacher referred to his classmates from other countries speaking different languages. Another intern mentioned that "for speakers of an indigenous language, learning a new language is not difficult." Although not all of the interns agreed with this statement, many nodded their heads and voiced comments demonstrating agreement with the position that if given enough instructional time, multilingual students can learn another language easily. An intern's reflection of his experience studying English elicited agreement across participants. He focused on the different accents that he had heard. "I learned that English accents from Latino and Chinese backgrounds classmates are different. There were words that I

found hard to understand because of how they were pronounced. I know that the accent depends of one's country of origin."

Another intern provided an example of her time working with an indigenous community: "for children who master *Quechua* at home and do not speak Spanish well [no mastery of Spanish], learning English is not easy…this happens even when teachers try to reinforce the new knowledge at the beginning of the instruction time." Another intern seemed to agree with her classmate, but her words showed a lack of clarity about the topic of the ongoing conversation. She shared that "Indigenous students are not able to express themselves either in Spanish or English, although they adapt themselves to the environment." The majority of the interns believed that having students who have not mastered Spanish poses a barrier to teaching English. They concluded that because "the students cannot receive help in their own language; help is given either in Spanish or English. It was apparent that the teachers use Spanish to clarify the English grammar and vocabulary they are teaching.

SLA theories and instructional planning. It is noteworthy that none of the interns identified SLA theories by name nor compared and contrasted different approaches to ELT other than to mention skill building strategies. Regarding best practice for monolingual and multilingual students, a candidate indicated and many others agreed that, "rural areas need knowledgeable teachers; including those who understand learning strategies and pedagogy." It was suggested that "the English teacher should know the dominant language of the area where he/she teaches because this makes the teaching better." In addition, the interns mentioned that "building trust, acting professionally, and being helpful to students would help students learn". Another intern indicated that "students who know two languages tend to first relate new knowledge to the already mastered language, then the student learns the words in English, and then the student can retain the new knowledge."

Students' cultural capital. An intern pointed out that "other languages should be valued….the classroom teacher should be knowledgeable about the indigenous language, the topic of instruction, and the students' culture." Another teacher candidate paralleled the answer by indicating that "students talking about topics that are familiar leads to meeting learning objectives." An obstacle mentioned to learning English among indigenous groups was the fact that in recent years students have had instruction in English for only two to three hours per week; "students from different ethnic backgrounds such as indigenous, *mestizos,* and *afroecuatoriano* do not answer in English due to the short time exposed to the English language."

Participants acknowledged the need to support multilingual students' needs even when learning goals are not met. The interns indicated that Spanish monolingual students may not need as much instructional support as students whose home language is Quechua. They recognized that classroom teachers play a very important role in supporting students, meeting their academic needs, and helping them lean new material.

Diversity in Ecuador. The interns explained diversity based on their understanding of their context. They acknowledged the existence of many ethnic

groups in Ecuador, and the differences across these cultures. One intern mentioned that "we are used to living among different cultures such as the *mestizos*, *afroecuatorianos*, and indigenous groups." Another teacher candidate used an example indicating that the "*afroecuatorianos de la sierra* (from the mountainous regions) live differently from the *afroecuatorianos de la costa* (from the coast)." The interns recognized that "Ecuadorians share a multicultural background although being unique at the same time…which generates different perspectives." Another teacher candidate indicated that "students need to share their own culture and their own ways of living with others, and by exchanging experiences they can learn from each other."

Several interns explained what they consider an issue regarding curriculum for ethnic groups living in rural areas. Comments do not reflect knowledge of governmental mandates to require English in the curriculum across all levels. The interns indicated that "the Department of Education in Ecuador does not require teaching English at the elementary level in these areas; thus, teachers need to prepare their own materials; and teaching English at the elementary level becomes a partnership between the classroom teacher and the parents. Classroom teachers will teach English as long as parents will provide the requested materials." Another intern pointed out that interdisciplinary support for teaching English would be beneficial to engage students and meet objectives for ELT." Yet another intern followed this comment by expressing the need for more support from school administrators.

Professional development and questions for the researchers. Voiced comments suggest that participation in the instructional workshops led the interns to identify what else they want to learn. Their reflections led them to pose many questions about SLA. They began to identify what they do not know. Recurrent themes in their questions suggest uncertainty as they look ahead to beginning their teaching careers, and acknowledge the shortcomings of their training. Their inquiries related to their training to teach English and their philosophical stances.

They asked questions about (1) error correction, (2) what the relationship should be between students and teachers, (3) if teachers should be the ultimate authority or collaborate with students as they teach, (4) what the ideal order for teaching the language domains should be and what the best way is to connect reading, and writing with speaking, (5) in what ways teachers can help students who are struggling to learn and, (6) how to better teach special need students. The interns asked two key questions that reflect their professional development needs; "What are the problems of children who are learning two languages" and "How are these learners affected academically?"

Conclusions

Data analyses strongly suggest that future research needs to engage Ecuadorian educators in reflective practice. The goal will be for future teachers to do more than acknowledge that there is considerable cultural and linguistic

diversity in Ecuador. The interns recognized that different ethnic groups in Ecuador speak different languages, have different ways of living, and add to the kaleidoscope of colors that compose the country's demographic. In addition, even though it does not appear to be a consideration in training, the interns recognized students' academic and affective needs and linked these to learners' ethnic and cultural backgrounds.

This research suggests that teacher trainers might join their efforts to examine the ways the diversity in their nation can affect students' academic success. Pedagogy developed from a sociocultural framework will foster respectful inter-personal interactions and validate all learners' realities. The problems appear to be that top-down mandates have not allowed teachers to question their pedagogy and that not all future teachers understand ELT requirements at K-12. It is clear that there is a need to address multilingual development and how to balance the use of students' languages in ELT. The one-year internship period seems an appropriate time to add the requirement of conducting action research in the training. This would provide the experience of the teacher as an actor and participant observer, and help prepare future teachers to become the nation's policy makers.

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Visual Thinking Routines: Classroom Snapshots

By Alain Gholam[*]

Visual thinking routines are principles based on several theories, approaches, and strategies. Such routines, which are usually used again and again in the classroom, promote thinking skills, call for collaboration and sharing of ideas, and above all, make thinking and learning visible. Visual thinking routines are carried out in different Graduate Education courses at the American University in Dubai. The following article explores what visual thinking routines are, their merits, and how they are effectively implemented in the classroom. The visual thinking routines administered in the courses (I see, I think, I wonder routine; Connect, Extent, Challenge routine; 4C's routine; Headlines routine; Color, Symbol, Image routine; Sentence, Phrase, Word routine; and I used to think…Now I think… routine) are described in the article in reference to the following three components: 1) Thinking moves: What thinking moves does the described thinking routine reinforce? 2) Application: When and how can the described routine be used? and 3) Classroom Example: How is the described routine used in the Graduate Education courses at the American University in Dubai? The article also documents snapshots and actual examples from classroom practices at the Graduate School of Education at the American University in Dubai. As with all original, new, and unique resources, visual thinking routines are not free of challenges. To make the most of this useful and valued resource, educators need to comprehend, model, and spread awareness of the effective ways of implementing such routines in the classroom. It is crucial that such routines are meaningfully and effectively integrated into the curriculum to reinforce thinking skills, collaboration, creativity, and make learning visible.

Keywords: Visual Thinking Routines, Thinking Skills, 21st Century Education.

Thinking: Identified and Explained

Thinking is a major component in schools, as students are encouraged to think at all times and everywhere. Let us stop for a while and think about the various definitions of thinking. What is meant by the term, 'thinking'? What makes thinking so special and important? What are thinking skills? How can a teacher tell a child is thinking? Sousa (2011) believes that thinking is easier to describe than to define: *"its characteristics include the daily routine of reasoning where one is at the moment, where one's destination is, and how to get there"* (p. 250). Orlich, Harder, Callahan, Trevisan, and Brown (2012) mention that thinking is a multifaceted act that includes attitudes, knowledge, and skills, which allow an individual to effectively shape his or her environment. On the other hand, Arends (2014) explains that thinking is a mental process involving a variety of operations such as induction, deduction, classification, and reasoning. In conclusion:

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> "*Thinking skills are the mental processes we use to do things like solve problems, make decisions, ask questions, make plans, pass judgments, organize information, and create new ideas. Often we're not aware of our thinking – it just happens automatically.*" (Moore, 2015, p.376)

The various definitions suggest that thinking is purposeful and involves a certain cognitive process. It is important to also consider some other essential and vital questions related to thinking: What types of thinking do teachers value in their classroom? Do teachers want their students to understand? analyze? interpret? reason? What types of thinking do specific disciplines, assignments, and activities call for? Ritchhart, Church, and Morrison (2011) clarify the types of thinking that are essential and central to different subject areas:

> *"We need to be aware of the kinds of thinking that are important for scientists (making and testing hypotheses, observing closely, building explanation….), mathematicians (looking for patterns, making conjectures, forming generalizations, constructing arguments….), readers (making interpretations, connections, predictions….), historians (considering different perspectives, reasoning with evidence, building expectations….), and so on, and make these kinds of thinking the center of the opportunities we create for students."* (p. 10-11)

What about interdisciplinary thinking? Ritchhart Church, and Morrison (2011) include important questions related to interdisciplinary connections: *"Are there particular kinds of thinking that serve understanding across all disciplines? Types of thinking that are particularly useful when we are trying to understand new concepts, ideas, or events?"* (p.11). The authors suggest eight thinking activities that are integral to understanding: 1) observing closely and describing what's there, 2) building explanations and interpretations, 3) reasoning with evidence, 4) making connections, 5) considering different viewpoints and perspectives, 6) capturing the heart and forming conclusions, 7) wondering and asking questions, and 8) uncovering complexity and going below the surface of things (p.11-18).

The eight thinking moves are logical. Let us connect this valuable information to our own experiences. We do use such thinking moves to reach understanding – an understanding of an idea, thought, or any new novel situation. We may first observe closely and try to describe what we see and what we think. We try to make sense of what we experience. Then, we may find ourselves engaged in different explanations and interpretations that are built on evidence. We may even make connections with our previous knowledge of a certain idea, thought, or situation. Finally, we may be involved in different conversations and talks to consider different perspectives, raise questions and doubts, and reach final conclusions. Such processes become valued and visible in the classroom when they start being reinforced and modeled by the teacher. When students become familiarized with the various thinking moves, they refer to them to identify what they will be doing to learn. As a result, students

become more aware of their own thinking strategies and processes, and this in turn leads to metacognition (Ritchhart, Tuner, & Hadar, 2009). Metacognition, which is the ability to form a judgment related to our own thoughts, is a precursor for learning and success (Fleming, 2014).

Let us consider the question posted at the beginning of the article: What types of thinking do teachers want to value in their own classrooms? Teachers definitely want their students to understand, but, is the only goal of thinking to reach understanding? We also think to go beyond the facts and make connections, solve problems, make judgements, and reach generalizations. Ritchhart Church and Morrison (2011) suggest additional types of thinking moves that need to be valued in the classroom: 1) identifying patterns and making generalizations, 2) generating possibilities and alternatives, 3) evaluating evidence, arguments, and actions, 4) formulating plans and monitoring actions, 5) identifying claims, assumptions, and bias, and 6) clarifying priorities, conditions, and what is known.

Visual Thinking Routines: What? Why? How?

We should also note that thinking is usually invisible. So, if thinking is invisible, what is really meant by the term, visible thinking? Tishman and Palmer (2005) refer to visible thinking as any kind of observable representation that documents the development of an individual's or group's thinking, questions, and reflections. They argue that tools such as mind maps, charts and lists, diagrams, and worksheets are considered visible thinking if and only if they make students' thinking visible. Ritchhart and Perkins (2008) provide a list of characteristics that anchor visible thinking. Some of these characteristics include: learning happens as a result of thinking; the development of thinking is a social endeavor; and developing thinking requires making thinking visible. Visual thinking is a flexible framework that encompasses a variety of methods to make students' thinking visible to themselves, their peers, and teachers (Dajani, 2016).

What tools are used to make thinking visible? Questions promote visible thinking. Teachers ask their students questions on a daily basis, however, it is important to note that the purpose and form of these questions can vary widely (McTighe & Wiggins, 2013). Tishman (2002) provides an example by stating that questions, such as *"What is going on here?" "What do you see that makes you say so?"* call for visible thinking. Johnston, Ivey, & Faulkner (2011) affirm that such questions convey that you are expecting your students to engage in thinking and you are interested in their response. Ritchhart, Church, and Morrison (2011) clarify that: *"Open-ended questions – as opposed to closed-ended, single-answer questions – are generally advocated as means of pushing beyond knowledge and skill and toward understanding"* (p.30). Ritchhart (2012) believes that teachers need to understand how the use of questioning can help foster a culture of thinking and make a classroom a place where individual and collaborative thinking is valued, visible, and actively promoted.

Listening is another tool that is used to make thinking visible. Listening

conveys a sense of respect for and an interest in the learner's contributions, and when this is present, students are more willing to share their thinking and put forth their ideas (Ritchhart, Church, & Morrison, 2011). Sue Patton Thoele has highlighted the role of listening in the classroom: *"Deep listening is miraculous for both listener and speaker. When someone receives us with open-hearted, non-judging, intensely interested listening, our spirits expand"* (quoted in Rao, 2010, p.24).

Other tools that can be used to make student thinking visible are visual thinking routines. Such tools are referred to as routines because they represent a sequence of actions designed to achieve a specific outcome in an efficient manner (Ritchhart, 2015). Visual thinking routines were first designed by Faculty at the Harvard Graduate School of Education:

> *"Thinking routines are one element of an initiative called Visible Thinking that we, our colleagues at Project Zero, and collaborators in various schools have developed. In our research, we have explored the practically of using thinking routines and documentation as classroom learning tools, developed a framework for pursuing cultural transformation in classroom and schools, and devised tools for integrating the arts. This work has spanned elementary through university settings, included both public and independent schools, and involved schools in the United States, the Netherlands, Sweden, Belgium, and Australia"* (Ritchhart & Perkins, 2008, p.57)

Wolberg and Goff (2012) provide a rationale for implementing thinking routines in the classroom and explain that such routines make students' thinking and learning visible to themselves, peers, and teachers. Costa (2008) strongly believes that thinking needs practice and students need practice, reflection, and modeling to engage in skillful thinking. Researchers highlight that visual thinking helps learners connect with familiar and relevant events in their lives, expands their repertoire of thinking, engages them in the learning process, and motivates them to learn (Salmon, 2010; Ritchhart, Church, & Morrison, 2011). Visual thinking promotes deep inquiry (Project Zero, 2010). Tishman and Palmer (2006) also assert that visual thinking reinforces skills through engagement and participation and deepens students' understanding. Wolberg and Goff (2012) stress the fact that *"certain thinking skills, such as being able to understand different points of view or providing evidence, do not come naturally to young children and must be taught explicitly and strengthened within a learning environment"* (p.60). When students recognize relationships between facts and questions and claims and evidence, they form authentic knowledge (Ritchhart, Palmer, Church, & Tishman, 2006). Dajani (2016) mentions that visual thinking creates a learning environment where students are: open-minded, curious, critical, and skeptical. In addition, Dajani (2016) explicates that visual thinking allows teachers to track difficulties and challenges students come across. According to Ritchhart (2015), visual thinking forms a culture of thinking where students are strongly encouraged to make great use of quality thinking time, share collaboratively, and reflect upon the different viewpoints and perspectives of

their peers. Ritchhart (2004) confirms that in such creative classrooms students are doing more than just learning content, and teachers are doing more than teaching. Hattie (2012) notes that since visual thinking makes learning visible, teachers can know whether they have an impact on learning, and since it makes teaching visible, students can learn how to engage in metacognition and thus become their own teachers. Ritchhart (2007) strongly believes that a quality curriculum engages students in a variety of thinking moves, such as, making connections, observing closely, asking questions, and evaluating outcomes.

In the classroom, visual thinking routines are used in three different ways. First, they can be used as tools to support specific thinking moves such as: making connections, describing what is present, building explanations, considering different viewpoints and perspectives, capturing the heart and forming conclusion, and reasoning with evidence (Ritchhart, Church, & Morrison, 2011). They are similar to cognitive strategies (Ritchhart, 2015). Barahal (2008) states that such routines are flexible and "*can easily be used to strengthen student thinking about virtually any topic or subject, from a math problem to an historical document, from a poem to a work of* art" (p.299). Salmon (2008) mentions that thinking routines provide students with meaningful and rich experiences in an arranged manner that offers overall structures in which learning takes place. Second, visual thinking routines can be used as structures where they follow a natural progression in which each step builds on and extends the thinking of the previous one: *"Therefore, in using the routines the goal is never simply to fill out or complete one step and move on to the next but to use the thinking occurring at each step in the subsequent steps"* (Ritchhart, Church, & Morrison, 2011, p.47). Therefore, they become the scaffolds for thinking (Ritchhart, 2015). Wolberg and Goff (2012) proclaim that what makes thinking routines structures is the fact that they comprise a series of steps that provide teachers with a protocol for enabling thoughtful discussion in the classroom. Finally, visual thinking routines are used in the classroom as patterns of behavior (Ritchhart, Church, & Morrison, 2011). Barahal (2008) clarifies that: "*when used regularly, thinking routines help students master and internalize new thinking processes until they become second nature*" (p.299). They are used regularly and become part of the pattern of the classroom, and students internalize messages about what learning is and how it happens (Ritchhart, Church, & Morrison, 2011). Therefore, after several uses in the classroom, teachers can initiate any thinking routine merely by naming it (Ritchhart, Palmer, Church, & Tishman, 2006).

Visual thinking routines are designed in such a manner to serve different purposes in the classroom: routines for introducing and exploring ideas, routines for synthesizing and organizing ideas, and routines for digging deeper into ideas (Ritchhart, Church, & Morrison, 2011). Table 1 shows a brief overview of visual thinking routines used for introducing and exploring ideas.

Table 1. Routines for Introducing and Exploring Ideas

Routine	**Key Thinking Moves**
Routines for Introducing and Exploring Ideas	
See-Think-Wonder	Describing, interpreting, and wondering
Zoom In	Describing, inferring, and interpreting
Think-Puzzle-Explore	Activating prior knowledge, wondering, planning
Chalk Talk	Uncovering prior knowledge and ideas, questioning
3-2-1 Bridge	Activating prior knowledge, questioning, distilling, and connection making through metaphors
Compass Points	Decision making and planning, uncovering personal reactions
The Explanation Game	Observing details and building explanations

Source: Ritchhart, Church, & Morrison, 2011, p.51.

Table 2 shows a brief overview of visual thinking routines used for synthesizing and organizing ideas.

Table 2. Routines for Synthesizing and Organizing Ideas

Routine	**Key Thinking Moves**
Routines for Synthesizing and Organizing Ideas	
Headlines	Summarizing, capturing the heart
Color, Symbol, Image	Capturing the heart through metaphors
Generate-Sort-Connect-Elaborate: Concept Maps	Uncovering and organizing prior knowledge to identify connections
Connect-Extend-Challenge	Connection making, identifying new ideas, raising questions
The 4C's	Connection making, identifying key concept, raising questions, and considering implications
The Micro Lab Protocol	Focusing attention, analyzing, and reflecting
I Used to Think…Now I Think	Reflecting and metacognition

Source: Ritchhart, Church, & Morrison, p.51-52.

Table 3 shows a brief overview of visual thinking routines for digging deeper into ideas.

Table 3. Routines for Digging Deeper into Ideas

Routine	**Key Thinking Moves**
Routines for Digging Deeper into Ideas	
What Makes you say That?	Reasoning with evidence
Circle of Viewpoints	Perspective taking
Step Inside	Perspective taking
Red Light, Yellow Light	Monitoring, identifying of bias, raising questions
Claim, Support, Question	Identifying generalizations and theories, reasoning with evidence, making counterarguments
Tug of War	Perspective taking, reasoning, identifying complexities
Sentence-Phrase-Word	Summarizing and distilling

Source: Ritchhart, Church, & Morrison, p.52

Visual Thinking Routines: Pictures from Practice

Visual thinking routines were carried out in different Graduate Education courses taught at the American University in Dubai during Fall 2016: EDCO602 – Curriculum, Instruction, and Assessment, EDEL606 - Elementary Science and Mathematics Methods, and EDSE608 - Secondary Math Methods and Assessment. The participants referred to in the following paper were 17 student teachers enrolled in the three courses: EDCO602, EDEL606, and EDSE608. Nine student teachers were enrolled in EDCO602 (1 male and 8 females). One student teacher was teaching at the preschool level, two at the elementary level, one at the high/secondary level, and five were not teaching at the time. Five student teachers were enrolled in EDEL606 (1 male, 4 females). One student teacher was teaching at the preschool level, one at the elementary level, and three were not teaching at the time. Three student teachers were enrolled in EDSE608 (1 male and 2 females). Two student teachers were teaching at the high/ secondary level and 1 was not teaching at the time. A profile of the student teachers is presented in Table 4.

Table 4. Student Teacher Profiles

Characteristics	**EDCO602**	**EDEL606**	**EDSE608**	**TOTAL**
Course Size	9	5	3	*17*
Gender				
Male	1	1	1	*3*
Female	8	4	2	*14*
Teaching Level				
Preschool	1	1	0	*2*
Elementary	2	1	0	*3*
Middle	0	0	0	*0*
High/Secondary	1	0	2	*3*
Not teaching	5	3	1	*9*

I focused on modeling the utility of visual thinking routines in my courses for two main purposes: first, to ensure a student-centered learning culture that embraced the following essential factors: collaboration, reflection, and higher-order thinking; and second, to make sure student teachers receive hands-on experience related to visual thinking routines and implement them meaningfully in their own classroom.

In every learning session, student teachers enrolled in the courses were asked to make their thinking visible through a variety of visual thinking routines. The different routines were used as tools to promote engagement and deep understanding. They were seen and perceived as structures that followed predetermined steps and tasks designed by the professor. Therefore, with time such routines became patterns of behavior.

The thinking routines administered in the courses are described in the article hereby in reference to the following three components: ***Thinking moves:*** What thinking moves does the described thinking routine reinforce? ***Application:*** When and how can the described routine be used? ***Classroom Example:*** How

was the described routine used in the Graduate Education courses at the American University in Dubai?

Visual Thinking Routine 1: I see, I think, I wonder

Instructions: According to Ritchhart, Church, and Morrison (2011), I see, I think, I wonder routine includes the following directions or order:

> *Looking at an image or object:*
> *What do you see?*
> *What do you think?*
> *What do you notice?* (p. 55)

Thinking moves: The "I see, I think, I wonder" routine is used for description, interpretation, and wondering purposes. Such a routine highlights the essence of observation, as it first requires students to carefully look at an image or object. Then, it involves them in thinking and interpretation, as students are expected to make meaning from their observations. Finally, students are asked to formulate meaningful questions and wonderings related to the image or object they examine.

Application: I see, I think, I wonder routine can be used at the beginning of a lesson, when a teacher is about to introduce a new concept, making it a perfect tool for exploration. I see, I think, I wonder routine can even be administered as an exist card at the closure of a lesson. Students can also watch short movies or even observe their surrounding and engage in the routine. In summary, it can be a valuable and a meaningful tool anytime during the lesson. Students can be given the choice to work individually, in pairs, or in groups. For assessment purposes, I see, I think, I wonder routine can be used as a pre-assessment, formative assessment, and even as a summative assessment. Table 12 represents a summary of the routine's thinking moves and application.

Classroom Example: Throughout two learning sessions, student teachers were inquiring into the purpose, focus, and uses of assessment and evaluation. At the beginning of the second session, they were asked to carefully observe a picture of a chef trying to blend different ingredients together and tasting the dish before being served. Student teachers were asked to report what they observed, thought, and wondered about the picture. They were strongly encouraged to see the connection between the image and the concept under exploration, assessment. A whole classroom discussion followed. Table 5 represents a descriptive summary of the student teachers' responses.

Table 5. Student Teachers' Responses – I See, I Think, I Wonder

I See	I Think	I Wonder
A woman, white blowse, cooking tools	She is tasting her food in order to see if she is satisfied with results	I wonder if she is satisfied with the results
Someone preparing food	She is a cook, assessing the food	What stage is she assessing in
A lady tasting food!	She looks like she's experimenting	What is she thinking: assessing or evaluating?
Observing, checking what she has	She is assessing a student's work	If she thinks student has done well?
A lady	The lady is a chef and she is tasting something she made	What she is tasting? Why is she alone?
A sink	I think someone who did a big effort in cooking and now she is tasting her food	I wonder if she spotted something strange?
Kitchen utensils	I think she is trying to check if the blended ingredients up to the level she wants!	I wonder if she will fix and add more amount of the ingredients!
Kitchen appliances	I think she has to use her expertise to judge what she has just tasted	I wonder if she will condemn the novice for his/her messiness of base judgement only on product
A chef making something, looks like dessert to me, she is observing the spoon	I think she might have spotted something while mixing. She might be checking an amount of what she wants to add	I wonder what is she cooking
I see a woman cooking		
A woman trying to blend some ingredients		
I see a chef (based on attire) in a novice's kitchen		

Figure 1 shows a visual representation of the student teachers' responses.

Figure 1. Visual Representation – I See, I Think, I Wonder

Visual Thinking Routine 2: Connect, Extend, Challenge

Instructions: According to Ritchhart, Church, and Morrison (2011), the "Connect, Extend, Challenge" routine includes the following directions or order:
Consider what you have just read, seen, or head, then ask yourself:

1. *How are the ideas and information presented connected to what you already knew?*
2. *What new ideas did you get that extended or broadened your thinking in new directions?*
3. *What challenges or puzzles have come up in your mind from the ideas and information presented?* (p.132)

Thinking moves: The Connect, Extend, Challenge routine helps students bring together and assemble different pieces of information. It can be used as a reflection tool to assist students in making connections with what they already know, identifying new ideas that push their thinking deeper, and raising questions for further examination and analysis. It offers rich opportunities for newly acquired thinking to form from a variety of learning experiences

Table 6. Student teachers' responses – Connect, Extend, Challenge

Connect	Extend	Challenge
Ships from tell to do	*Students should think, analyze, create, and explore*	What about the number of students in class?
Inquiry based = questions	Prescriptive, guided, open	Testing, Differentiation vs std. testing
Theory + practice = Best teaching methods	In Maths: focuses not on calculation but application	How to engage all children in critical thinking
It confirmed my understanding of IBL	Shift from simple coverage to a deep understanding	Inquiry based in little children????
21st Century learner requirement: think, communicate, collaborate	Preparation for the future and work challenges	Reaching the brains of challenging students
Covering to uncovering the curriculum, deeper understanding, real world experience	Developing thinking and not memorization	Teachers need a lot of training
Generalizations to apply what we learn to real life situations, schools need to *better represent the real world*	Problem solvers succeed in the future	I didn't feel any general educator can teach easily using IBL
Active participants	21st Century skills: critical skills, communication, collaboration	Practical side? How does it work?
Asking questions, gather data, think and decide	21st Century skills: critical skills, communication, collaboration	Is it the only magical solution?
	In Math you can use inquiry	How do you test analytical higher order thinking?
	Inquiry trains the brain to find solutions	If the student didn't do good or learn well from the inquiry what is to be done to help him?
	Knowledge, no need to memorize: not final goal as before	
	Cognitive science + educ. psychology helps increase teacher effectiveness	
	Real world experience = engagement	

Application: Connect, Extend, Challenge routine can be used when a teacher is about to launch a new inquiry or after students acquire new information. It can even be used as a closure engagement, as teachers may ask their students to make use of such a routine and engage in self-reflection. Students can be given the choice to work individually, in pairs, or in groups. For assessment purposes,

Connect, Extend, and Challenge routine can be used as a pre-assessment, formative assessment, and even as a summative assessment. Table 12 represents a summary of the routine's thinking moves and application.

Classroom Example: Student teachers were investigating the characteristics, examples, and non-examples of inquiry based learning. They were asked to read and explore a document related to inquiry-based learning. Then, student teachers were requested to pair up and share their thoughts, wonderings, and views on the reading. As an exist ticket, student teachers had to individually complete a Connect, Extend, and Challenge routine. A whole classroom discussion followed. Table 6 represents a descriptive summary of the student teachers' responses.

Figure 2 shows a visual representation of the student teachers' responses.

Figure 2. Visual Representation – Connect, Extend, Challenge

Visual Thinking Routine 3: The 4C's

Instructions: According to Ritchhart, Church, and Morrison (2011), The 4C's routine includes the following directions or order:

1. *Connections: What connections do you draw between the text and your own life or your other learning?*
2. *Challenge: What ideas, positions, or assumptions do you want to challenge or argue with in the text?*
3. *Concepts: What key concepts or ideas do you think are important and worth holding on to from the text?*
4. *Changes: What changes in attitudes, thinking, or action are suggested by the text, either for you or others?* (p.140)

Thinking moves: The 4C's routine reinforces and strengthens text built discussions by asking the students to make connections, challenge ideas or assumptions, ask questions, identify important relevant concepts, and consider change. It is a meaningful and engaging routine that promotes text-to-self connections, critical and analytical thinking, concept/theme identification, and synthesis.

Application: The 4C's routine can be used after reading a piece of literature. It can also take the form of an exist ticket. Teachers who implement such a visual thinking routine involve their students in deep self-reflection by challenging them to think how the lesson is connected to what they already know, what ideas do they find difficult or wish to test, compare the different ideas to unwrap hidden messages, and identify any possible change in thought or behavior. Students can be given the choice to work individually, in pairs, or in groups. For assessment purposes, 4C's routine can be used as a pre-assessment, formative assessment, and even as a summative assessment. Table 12 represents a summary of the routine's thinking moves and application.

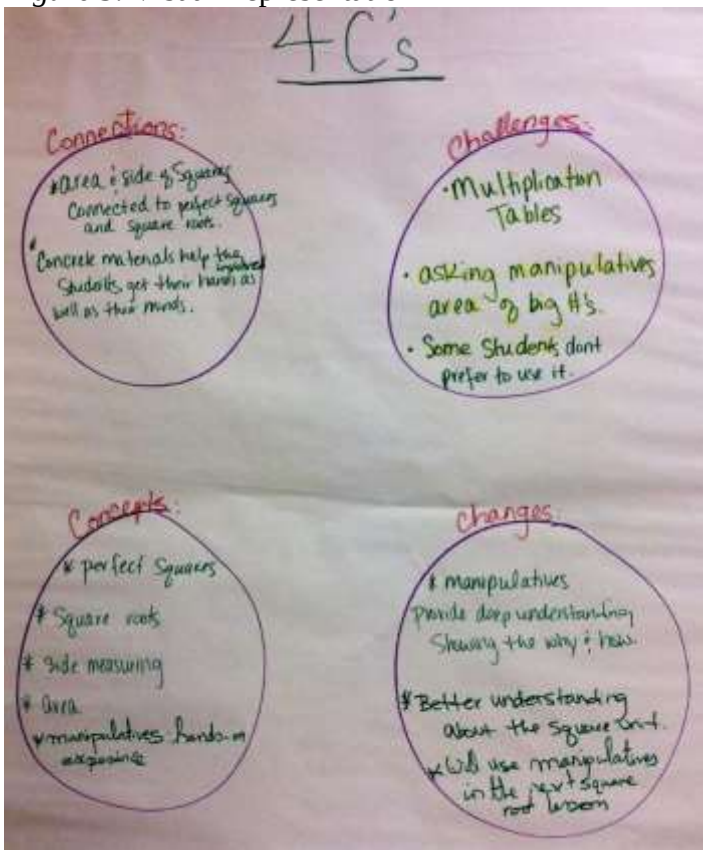
Table 7. Student teachers' responses – 4C's

Connections	**Challenges**	**Concepts**	**Changes**
Area and side of squares connected to perfect squares and square roots	Multiplication tables	Perfect squares	*Manipulatives provide deep understanding showing the why and how*
Concrete materials help the students get their hands involved as well as their minds	Asking manipulatives area of big #'s	Square roots	Better understanding about the square unit
	Some students *don't prefer to use it*	Side measuring	Will use manipulatives in the next square root lesson
		Area	
		Manipulatives: hands-on experience	

Classroom Example: Student teachers were exploring the role of manipulatives in Mathematics. They were asked to read a document related to the use of manipulatives. In groups, they had to make connections with the text, identify any idea they wanted to challenge or found difficult, unwrap the concepts/ themes from the reading, and pinpoint any changes in attitudes or thinking. A whole classroom discussion followed. Table 7 represents a descriptive summary of the student teachers' responses

Figure 3 shows a visual representation of the student teachers' responses.

Figure 3. Visual Representation - 4C's



Visual Thinking Routine 4: Headlines

Instructions: According to Ritchhart, Church, and Morrison (2011), Headlines routine includes the following directions or order:

> *Think of the big ideas and important themes in what you have been learning. Write a headline for this topic or issue that summarizes and captures a key aspect that you feel is significant and important.* (p.111)

Thinking moves: Headlines are used to provide a summary of a certain topic, issue, idea, or thought. They engage the students in apprehending and capturing the implications or core of the topic, issue, idea, or thought being explored.

Application: Headlines can be used at the end of a lesson when a teacher expects the students to provide a brief summary or quick synthesis regarding a certain topic. They can also be used at the beginning of a lesson, by asking the students to design a headline that demonstrates what they already know about a certain issue, concept, idea, or topic. For assessment purposes, headlines routine can be used as a pre-assessment and formative assessment. Table 12 represents a summary of the routine's thinking moves and application.

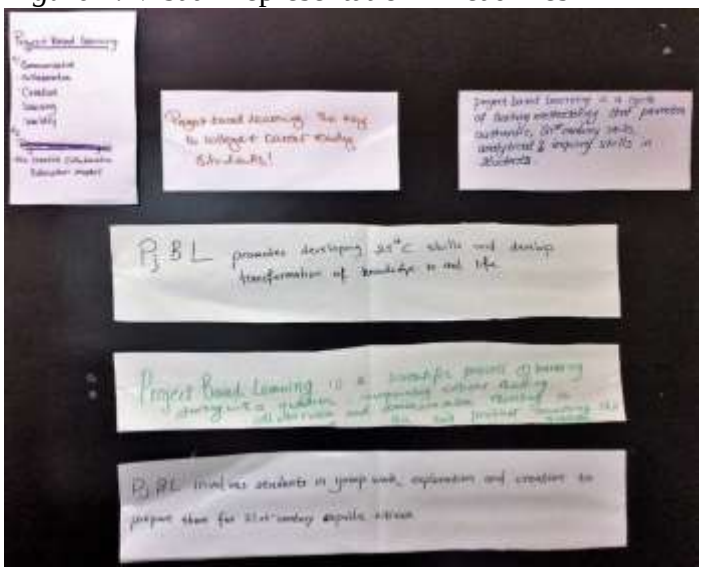
Classroom Example*:* After spending some time inquiring into the essentials of project-based learning, student teachers were asked to write a headline that summed up their understanding of project-based learning and its impact on student learning. Student teachers were asked to present their headline to their colleagues. Table 8 represents a descriptive summary of the student teachers' responses.

Table 8. Student Teachers' Responses – Headlines

Headlines
Project Based Learning: communicate, collaborate, creative learning worldly, the creative collaborative educational model
Project Based Learning: The key to college and career ready students!
Project Based Learning is a cycle of teaching methodology that promotes authentic, 21st century skills, analytical and inquiry skills in students.
PjBL promotes developing 21st C skills and develop transformation of knowledge to real life.
Project Based Learning is a scientific process of learning starting with a question, incorporating critical thinking and communication resulting in an end product answering the question.
PjBL involves students in group work, exploration and creation to prepare them for 21st century capable citizen.

Figure 4 shows a visual representation of the student teachers' responses.

Figure 4. Visual Representation - Headlines



Visual Thinking Routine 5: Color, Symbol, Image

Instructions: According to Ritchhart, Church, and Morrison (2011), the "Color, Symbol, Image" routine includes the following directions or order:

> *Think of the big ideas and important themes in what you have just read, seen, or heard.*
> *Choose a color that you think best represents the essence of that idea.*
> *Choose a symbol that you think best represents the essence of that idea.*
> *Choose an image that you think best captures the essence of that idea.* (p.119)

Thinking moves: The Color, Symbol, Image routine is used when teachers want their students to think symbolically and figuratively. Students are asked to reflect on the major ideas and assumptions – from a variety of media (audio, video, visuals, text) and represent these ideas and assumptions in nonverbal ways using a color, symbol, or image.

Application: The Color, Symbol, Image routine can be used as frontloading or closure engagements when teachers are looking for interpretation, clarification, and open discussion. Such a routine can be implemented any time during the lesson or unit. Students can be given the choice to work individually, in pairs, or in groups. For assessment purposes, Color, Symbol, Image routine can be used as a pre-assessment, formative assessment, and even as a summative assessment. Table 12 represents a summary of the routine's thinking moves and application.

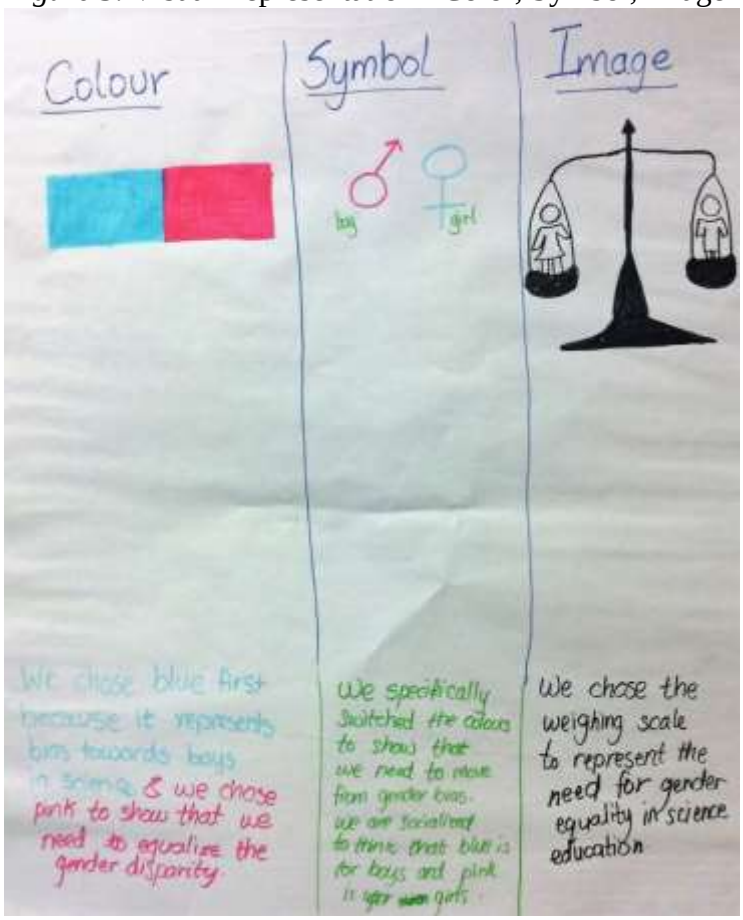
Classroom Example: Student teachers were considering and exploring gender bias in science. They were asked to read an article that explored gender bias in science. Then, in groups student teachers had to choose a color, symbol, and image that best represented the major ideas in the article. A sharing and discussion session was followed. Table 9 represents a descriptive summary of the student teachers' responses.

Table 9. Student Teachers' Responses – Color, Symbol, Image

Color	Symbol	Image
We chose blue first because it represents bias towards boys in science and we chose pink to show that we need to equalize the gender disparity.	We specifically switched the colours to show that we need to move from gender bias. We are socialized to think that blue is for boys and pink is for girls.	We chose the weighing scale to represent the need for gender equality in science education.

Figure 5 shows a visual representation of the student teachers' responses.

Figure 5. Visual Representation - Color, Symbol, Image



Visual Thinking Routine 6: Sentence-Phrase-Word

Instructions: According to Ritchhart, Church, and Morrison (2011), the "Sentence-Phrase-Word" routine includes the following directions or order:

> *In your discussion group, review the text that you have read and each select your own:*
> *Sentence that was meaning to you, that you felt captures a core idea of the text*
> *Phrase that moved, engaged, or provoked you*
> *Words that captured your attention or struck you as powerful* (p.207)

Thinking moves: Sentence-Phrase-Word routine is used for summarizing and refining purposes. Such a routine helps students become active readers and derive significant meaning from text with a focus on seizing the core of the text. A discussion of sentence-phrase-word routines allows for the consideration of different meanings, connotations, messages, themes, implications, and inferences.

Table 10. Student Teachers' Responses – Sentence-Phrase-Word

Words	**Phrases**	**Sentences**
Systematic	"We're almost done"	I've learnt how to create a unit plan from scratch
Clear	Very motivating	A quality curriculum aligns standards, assessments, and content
Interesting	3 Dimensional, Enduring Understanding, Assessment vs Evaluation	The course summarizes the main purpose of learning and education, which is conceptual learning
Challenging	Essential questions: Lead, guide	Curriculum design is a very essential skill for effective teaching
Instruction, 3D, Assessment, 2D	Reteaching the 21st century thinking	A new and innovative way to understand curriculum, instruction, and assessment
Conceptual, KUD, Questions, Thinking	Eye opening	It explained the process of Ed. from A to Z
Curriculum, Assessment, Evaluation, Differentiation	Conceptual understanding, Backward design	I was really mixed up with what is really an assessment. This course was encouraging, diff., beneficial
Generalizations, Performance Tasks	Understanding what a curriculum is, knowing difference between assessment and evaluation	The vision and mission statements are crucial in understanding the experiences (hidden) and (unhidden) that a student, teacher, & parent will endure
Student experiences, Enduring understanding	All encompassing	I didn't know before what is really a curriculum, I didn't know how to effectively plan my lesson & units
Authentic learning	Thinking outside the box	
Guideline map	Provokes thinking!	
Interesting	Authentic assessments, KUDS. 2D vs 3D curriculum	
	Authentic learning, Engaging learning, Learning styles	

Application: Sentence-Phrase-Word routine can be administered anytime during the lesson. It is considered a meaningful reflection tool because students have to think of a particular idea, concept, thought, or object and generate a list of

sentences, phrases, and words that cross their mind. Students can be given the choice to work individually, in pairs, or in groups. For assessment purposes, Sentence, Phrase, Word, routine can be used as a pre-assessment and formative assessment. Table 12 represents a summary of the routine's thinking moves and application.

Classroom Example: Sentence-Phrase-Word was used as an exist ticket in EDCO602: Curriculum, Instruction, and Assessment. During the last session, students were asked to think of the course and reflect on their learning journey by completing a sentence-phrase-word routine. A sharing and discussion session followed. Table 10 represents a descriptive summary of the student teachers' responses.

Figure 6 shows a visual representation of the student teachers' responses.

Figure 6. Visual Representation - Sentence-Phrase-Word

Visual Thinking Routine 7: I used to think……Now I think

Instructions: According to Ritchhart, Church, and Morrison (2011), the "I used to think… Now I think …" routine includes the following directions or order:

> *Reflect on your current understanding of this topic, and respond to each of these sentence stems:*
> *I used to think…*
> *Now I think…* (p.154)

Thinking moves: I used to think… Now I think routine is an effective routine that allows students to connect on a certain topic or issue and reflect on their acquired knowledge. Students are given the opportunity to explore how their thinking has changed and matured in time. Such a pre/post reflection tool strengthens cognitive abilities and the identification of cause effect relationships as students visually monitor the change in their thinking and identify new opinions and acquired knowledge.

Application: I used to think… Now I think routine can be used when a teacher needs to visually experience the change of students' views, opinions, feelings, ideas, and knowledge as a result of learning. It can be used after a novel learning experience such as reading a piece of literature, watching a movie, listening to a song, or engaging in a classroom debate. Usually, teachers make use of such a routine after completing a unit of inquiry or study. Students can be given the choice to work individually, in pairs, or in groups. For assessment purposes, I used to think… Now I think routine can be used as a formative assessment and even a summative assessment. Table 12 represents a summary of the routine's thinking moves and application.

Classroom Example: During the last portion of the teaching methodology course, student teachers explored what is meant by classroom assessment and inquired into the different tools and methods of assessment. As a closure engagement, student teachers were asked to complete this routine related to the concept of assessment. A sharing and discussion session was followed. Table 11 represents a descriptive summary of the student teachers' responses.

Table 11. Student teachers' responses – I used to think… Now I think

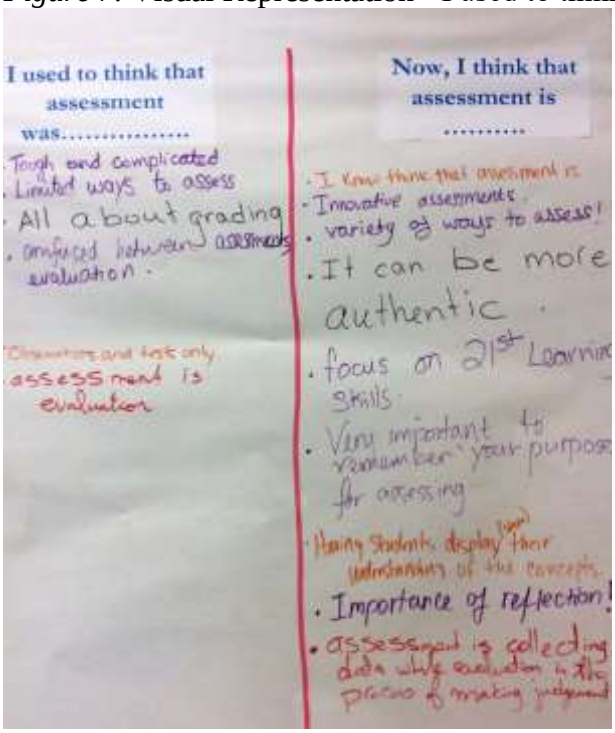
I used to think that assessment was:	**Now, I think that assessment is:**
Tough and complicated	I know that assessment is innovative assessment
Limited ways to assess	Variety of ways to assess!
All about grading	It can be more authentic
Confused between assessments and evaluation	Focus on 21st learning skills
Observations and tests only	Very important to remember your purpose for assessing
Assessment is evaluation	Having students display (show) their understanding of the concepts
	Importance of reflection
	Assessment is collecting data while evaluation is the process of making judgments

Table 12. Summary of Visual Thinking Routines

Visual Thinking Routine	**Encourages this thinking move**	**Can be used during this time of the lesson**	**Can be used for the following assessment purposes**
I see, I think, I wonder	Observing, interpreting, and questioning	Frontloading During Closure	Pre-assessment Formative Summative
Connect, Extend, Challenge	Formulating connections, identifying new knowledge that pushes the thinking, questioning	Frontloading During Closure	Pre-assessment Formative Summative
The 4C's	Formulating connections, identifying concepts and themes, questioning, providing implications and changes	During Closure	Pre-assessment Formative Summative
Headlines	Summarizing and outlining	Frontloading Closure	Pre-assessment Formative
Color, Symbol, Image	Thinking symbolically and figuratively	Frontloading During Closure	Pre-assessment Formative Summative
Sentence, Phrase, Word	Summarizing and distilling	Frontloading During Closure	Pre-assessment Formative
I used to think…Now I think	Reflection and metacognition	Can be completed once: As a closure Can be completed twice: As frontloading and closure	Formative Summative

Figure 7 shows a visual representation of the student teachers' responses.

Figure 7. Visual Representation - I used to think… Now I think



Conclusion

Any teacher is held accountable for preparing students to contribute to the future world. Learners need to be equipped with skills needed to face problems and create new products and services. No one can deny the fact that thinking skills are essential for dealing with the demands of future life. Students need to connect with previous learning, extend their thinking in new directions, apply their thinking to new situations, identify generalizations, reason with evidence, and formulate meaningful questions. However, it is also important that such skills be armored in a social manner, where students cooperate with one another, take on and complete tasks, listen to one another, discuss ideas, ask questions, and reach decisions. Learning for work and life in our times means helping as many children as possible learn to apply 21st century skills and reach a solid understanding of different core subjects (Trilling & Fadel, 2009). Implementing visual thinking routines in the classroom will aid teachers and educators in making sure 21st century education is reaching every child. When used in Pre-K – 12 settings, such tools allow for student engagement, collaboration, thinking, curiosity, and creativity.

Given the benefits and importance of including visual thinking routines in daily curricula, how do schools create a thinking culture? What are the essential elements needed to make sure visual thinking routines are effectively and efficiently implemented in schools? First, schools need to believe in a culture of thinking. Therefore, it is central that school administrators and coordinators design curricula that promote student engagement, cooperation, thinking, questioning,

and 21st century education. Second, teachers should be well-equipped with the knowledge and skills needed to design and implement effective visual thinking routines in the classroom. In order to do so, teachers need to participate in study group programs related to visual thinking routines. Teachers need to have quality time to share and exchange ideas acquired from these study group programs. Third, teachers should be given a trial period to implement visual thinking routines in the classroom and prepare an evaluation of the process: the strengths, the weaknesses, what could be done better, etc. Fourth, trained teachers should offer hands-on training to the ones who are still new and are not familiar with the use of visual thinking routines. Fifth, teachers should participate in ongoing professional development programs related to visual thinking routines. Such programs help teachers stay up to date with the recent trends in visual thinking routines.

Teachers prepare students for the future world. Whether we like it or not, we cannot teach our students the way we did fifteen years ago. Educators need to make sure we equip our students with the skills and knowledge they need to successfully face the outcomes of the 21st century. To do so, students need to be active participants in the learning process. Students, collaboratively, need to observe their surroundings, ask questions, experiment, predict, formulate hypotheses, test hypotheses, arrive at conclusions, communicate their findings, and take action in serving the world. Visual thinking routines in the classroom facilitate these necessary outcomes.

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Application of Team-Based Learning at a Health Science Course: A Case Study

By Elif Bengü[*]

The purpose of this study is to identify students' reactions to the implementation of team-based learning as an instructional strategy in a pharmacology course in the context of a Turkish university. Team-based learning is defined as an active form of learning that not only encourages individual effort but also team involvement to learn in an academic setting. Team-based learning is one of the learning techniques/methods that is increasingly being used in medical education. Literature shows that in team-based learning students apply the concepts at the time they are learned in the classroom, before the exams, as opposed to traditional lecturing, in which the concepts that are learned are later tested in the exams. Furthermore, research supports that faculty are more engaged with their students in team-based learning, since it affords instructors the ability to readily identify what their students are achieving, as opposed to traditional lecturing or other group approaches. There are limited studies in Turkey that examine the applications of team-based learning in a higher education setting. Therefore, this study describes the use of the team-based learning technique in an undergraduate health science course in Turkey. The initial results indicate that this instructional strategy was beneficial for students' learning.

Keywords: active learning, adult education, health science, higher education, high power distance, large classroom, team-based learning.

Introduction

Although educators in teacher training programs often encourage their students to use alternative teaching methods, when it comes to teaching these methods, traditional methods are mostly used in the classroom. The situation is even more troublesome in other departments in the universities, especially when it comes to departments where critical thinking skills and effective teamwork are part of the skillset that students are required to obtain (Hrynchak & Batty, 2012).

In their 2017 study, Frisby, Slone, and Bengu highlighted that the application of instructional methods can show cultural differences and as a result of that students and instructors may view the teaching and learning process differently. Turkey scores high on power distance, which is one of the independent dimensions of the culture that was identified by Hofstede (as cited in Frisby, Slone, & Bengu, 2017). In cultures with a high power distance, power is centralized and there is a strict hierarchical order (Frisby et al., 2017). Research shows that the Turkish higher education system has the elements of traditional

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authoritative culture (Tatar, 2005; Yıldırım, 2006; Topbaş, 2013). Turkish higher education is highly teacher-centered, where teachers do not expect to be questioned or criticized and students are not expected to speak up in the classroom (Tatar, 2005; Yıldırım, 2006; Topbas, 2013)

According to the results of Bidabadi, Isfahani, Rouhollahi, and Khalili (2016) and Michaelsen, Parmelee, McMahon and Levine (2008), one of the best teaching approaches for higher education is the mixed method, which involves combining the student-centered method with the teacher-centered one.

During the search for an approach that combines the student-centered method with the teacher-centered one, the researcher found team-based learning (TBL) as an attractive option. In TBL, students take initiative in their learning process, as opposed to the traditional teaching method, where students are passive learners. In this method, teachers still play an important role, in which they act as facilitators and advisers (Zeng, Xiang, Zeng, & Zuo, 2017).

TBL is defined as a learner-centered, teacher-directed instructional approach that fosters active learning and promotes a high level of cognitive skills (Thompson et al., 2007; Nieder, Parmelee, Stolfi, & Hudes, 2005; Michaelsen, Parmelee, McMahon, & Levine, 2008; Parmelee, Michaelsen, Cook, & Hudes, 2012; Dolmans, Michaelsen, Van Merrienboer, & Van der Vleuten, 2015). On the one hand, healthcare professionals are expected to have strong critical thinking and teamwork skills (Hrynchak & Batty, 2012). On the other, TBL provides a learning environment where students have to work in teams and solve problems. It is not surprising, therefore, that Thompson et al. (2007) and others (McInerney & Fink 2003; Searle et al., 2003; Nieder, Parmelee, Stolfi, & Hudes 2005; Chung, Rhee, Baik, & Oh-Sun, 2009; Shellenberger et al. 2009; Wiener, Plass, & Marz, 2009; Fatmi, Hartling, Hillier, Campbell, & Oswald, 2013; Emke, Butler, & Larsen, 2016) have mentioned in their papers that TBL is an instructional strategy that is being employed increasingly in medical education. Because of these qualities, TBL can also be an appropriate method for other fields in higher education.

Before continuing with the study, it is worth highlighting the differences between TBL and problem-based learning (PBL), since both methods are commonly used in higher education and are often confused (Salam et al., 2016). PBL was developed in medical school in the late 1960s (Dolmans, Michaelsen, Van Merrienboer, & Van der Vleuten, 2015) as "a student centered as opposed to a teacher centered approach" (Dolmans, et al., 2015, p. 354). Similarly, TBL was designed by Michaelsen in 1970 to encourage teamwork rather than group work. His aim was to lift the classroom spirit and decrease the teaching pressure because of the growing numbers of students in his own classroom (Michaelsen et al., 2008).

The two common characteristics of PBL and TBL are (i) learning about professionally relevant problems and (ii) learning in small groups or teams (Dolmans et al., 2015).

The main differences between these two teaching methods are demonstrated in Table 1.

Table 1. Main Differences between PBL and TBL

Instruction characteristic	Problem-based Learning (PBL)	Team-based Learning (TBL)
Number of teachers and presence	Many teachers; one per small group. Teacher physically present in each group	One teacher for many small teams. Teacher not physically present in each team.
Rooms	Groups work in different small rooms.	Teams work in the same large room in teams.
Pre-class reading/exposure to new content	No mandatory pre-class reading assignment before group discussion. Exposure to new content after initial group discussion, during self-study and during final group discussion	Mandatory pre-class reading assignment before team discussion. Exposure to new content before the team discussion.
Prior knowledge	Students are not tested, but encouraged to activate their prior knowledge by means of an initial group discussion.	Students are tested individually and as a team to check their understanding of the reading assignments and prior knowledge.
Teacher- versus student-initiated decisions about content to be studied	Students generate issues for self-study; students define what is not yet well understood after an initial group discussion of professionally relevant problem.	Teacher defines content for pre-class study based on knowledge required for application problems that will be given during the unit. Teacher decides, based on the results of a group test, which issues are not yet well understood.
Feedback	Feedback (both confirmatory and corrective) from peers during the final group discussion and if necessary from the teacher. No testing and no inter-group discussions.	Feedback (both confirmatory and corrective) from peers and the teacher during team test, but also from inter-team discussions after teams have revealed their choices, challenged others and attempted to defend their own.
Peer feedback	No structured peer evaluations/feedback.	Structured peer evaluations/feedback.
Problems	Reasoning around problems with no specified questions.	Reasoning around problems with associated questions.

Source: Dolmans et al., 2015.

What is Team-based Learning?

There are various definitions of team-based learning (TBL). In simple form, it is a teaching paradigm that promotes active learning where single instructors manage multiple small teams. TBL consists of learning activities and phases. These steps are described in detail in Michaelsen, Parmelee, McMahon, & Levine's (2008) study.

In conjunction with Zeng, Xiang, Zeng, & Zuo (2017), in this study we separate TBL in three phases. Phase I includes grouping and assigning readings; Phase II consists of an **I**ndividual **R**eadiness **A**ssurance **T**est (iRAT), a **T**eam **R**eadiness **A**ssurance **T**est *(*tRAT) and discussion; and lastly, phase III involves the teamwork, second phase of discussion and peer evaluation.

Phase I: Pre-TBL Session

1. Grouping. The instructor must create a team as diverse as possible, where there will be an "opportunity to *develop* into learning teams" (Michaelsen et al. 2007). The teams must be heterogeneously formed and coached by the instructor. The instructor has to have at least a slight idea about her students' usual performances, so that she can have teams with diverse groups of students.
2. Assigned readings. This period lasts approximately one week. A week prior to the assigned topic, students are given readings and other assignments that are related to the topic and are expected to learn from the material that was provided. The reference material should not exceed five pages and should be within the students' level of understanding (Michaelsen et al. 2008). In this stage, accountability is really important. If students attend the session without reading the assigned material, the teams will not be able to function as it was expected. Before the instructor provides the assigned readings to the students, she has to emphasize why students are accountable for coming to class prepared. In TBL, accountability has shown itself as one of the essential elements (Sutherland et al. 2013).

Phase II: TBL Session

1. iRAT. Students are expected to attend the next class period prepared to take an individual readiness assurance test (iRAT) on the assigned materials. Each student is examined individually at the beginning of the session and the papers are collected in 15 minutes. The iRAT questionnaire should include between eight to ten questions, which should be in multiple-choice format.
2. tRAT. After students turn in their answers to the individual test, they are asked to re-take the same test within their groups. This time, the teams must discuss it amongst themselves. In this step, it is ideal to see the students reach an agreement if they have not selected the same answers for the iRAT questions. This type of exam is called a team readiness assurance t*est* (tRAT). After they come to a decision as a group, the students are expected to check the correctness of their decision using a scratch-able answer sheet (Michaelsen et

al., 2008). Each team receives one scratch-able answer sheet and scratches off the covering of one of four or five boxes in search of a mark or star, which indicates that they have found the correct answer. In this study, four boxes were used.

3. Written appeals. Students have the opportunity to appeal any questions that are on the test or were missed on the test. This study did not include written appeals.

4. Feedback. After the tRAT, the instructor is expected to provide oral feedback to the teams. When the instructor goes over the questions one by one, she asks each team to indicate their response. If the instructor sees any answer that is not correct, she has to provide immediate feedback. The feedback has to come before the application session, in order to clarify any misunderstandings about the topic that was presented through the readings or in the previous sessions. In this study, there were ten teams. Since it can be challenging to get the answers simultaneously from the groups, we used option cards (Michaelsen, 2008). Option cards, each marked A, B, C, D and E, were designed as a sign so that everyone could see it.

Phase III: TBL Application Session

1. Teamwork in the classroom. The instructor provides an assignment/case study to each group and asks them to solve some sort of a problem to promote discussion both within and between groups (Michaelsen et al., 2008). The assignment should be the same one for each group. Michaelsen et al. (2008) talk in detail about the kind of assignments and questions the instructors should be asking students "to process information at higher levels of cognitive complexity."

2. Reporting. After teams write their reports for the assignment/case study, each team presents its results either sequentially or simultaneously. If time permits, the instructor can provide immediate feedback to the reports in the classroom. Otherwise, she can send the feedback to the group through e-mail.

3. Peer Evaluation. At the end of the session, teams are asked to evaluate their teammates' performance in the activities. This study did not include peer evaluation.

Using Team-based Learning in the Classroom

Literature review shows that numerous instructors apply team-based learning (TBL) in their health science courses (Terenzini, Cabrera, Colbeck, Parente, & Bjorklund, 2001; Haidet et al., 2012; Prince, 2004; Nieder, Parmelee, Stolfi, & Hudes, 2005; Michaelsen, Sweet, & Parmalee, 2009; Koles, Stolfi, Borges, Nelson, & Parmelee, 2010; Emke, Butler, & Larsen, 2016). These researchers are providing positive outcomes and reports in their studies.

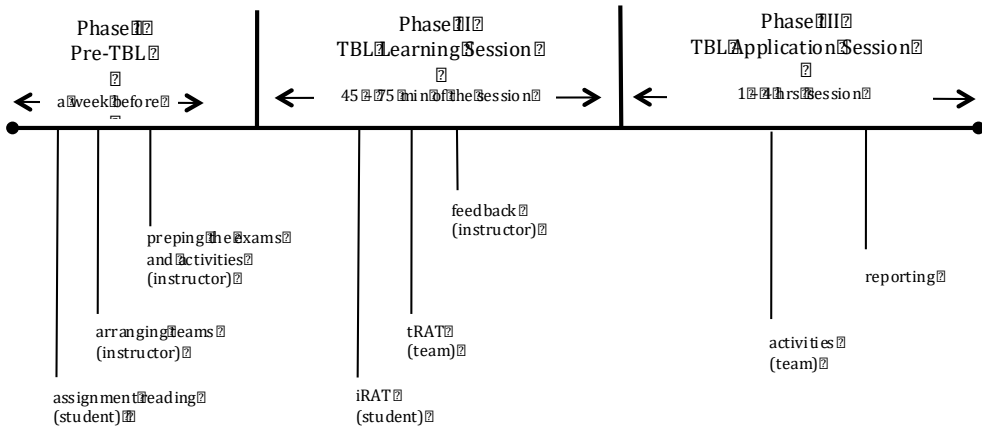
As an educator, this author felt the need to put this method to the test in the context of a higher education institution in Turkey. First, it was necessary to

find an instructor who would be interested in using an alternative teaching method in his or her classroom. This was not an easy task. The instructors who were approached were hesitant. Finally, an instructor was found who was willing to give it a try in one of her evening classes. After the first meeting with the researcher, she was provided with an orientation session about TBL. During this session, the dates on which she would apply the method were also determined. She was asked to provide an introduction to her students, the reasons that she chose to use TBL, and suggestions on how she planned on conducting the session. She was also requested to arrange the grouping and reading assignments for Phase I; quiz for Phase II; and activities for Phase III. She was assisted throughout the process. One main problem was to find scratch-able answer sheets, as well as big cards for the sign cards. Since these materials were not available for purchase in Turkey, the researcher made them.

Subsequently, the folders were arranged per team. Each folder included: an iRAT with 10 questions, a scratch-able answer sheet for the tRAT, sign cards (A, B, C, D, E), a case study, blank sheets on which to write their reports, and the evaluation form (only for the first session). In this study, the class was divided into 10 teams, with six to seven students per team. Seating was re-arranged and grouped according to the number of teams. Students were called on one by one and were asked to sit with their assigned team. All the steps of TBL were followed, except for the written appeals and peer evaluations, partly because of the lack of preparedness of the students and partly due to time concerns.

The steps and phases that were taken in this study can be seen in Figure 1.

Figure 1. Team-Based Learning Instructional Activity



Source: Michaelsen, Sweet, & Parmalee, 2009

Methodology

This case study took place at a private university in Turkey during the fall semester of 2016. Fraenkel, Wallen, and Hyun (2011) defined case study as one of the common forms of qualitative research. According to their definition,

"a case study is a detailed analysis of one or a few individuals."

The instructor who took part in the study is the program director of the First and Emergency Aid program in the Vocational School of Health Services. The aim of this program is to educate technicians to be able to give treatment at first sight during an illness or accident and transport the patient or the injured person to the hospital in a specially equipped ambulance. It is a two-year program that offers both day and evening classes. Evening classes are designed for students who work during the day.

In this study, a Pharmacology course consisting of 62 enrolled students was used as the data source. It is a required course that meets once a week and goes from 6:00 pm until 9:00 pm. About 90% of the student population has day jobs and by the time they come to the class they are usually worn out. The classroom is located in a very old building with low ceilings. In addition, here is hardly any ventilation in the classroom. Due to these factors, the students' motivation level to participate in the session is low. In fact, the instructor herself claims that she doesn't feel motivated to conduct the class, since she has already been teaching all day.

Data Collection and Analysis

Data sources included two observations from the same group of students, which took place three weeks apart. In the first observation, a survey was used consisting of 14 questions: a Likert-scale questionnaire and two open-ended questions. A three-item Likert-scale was used in the survey; *agree*, *somewhat agree* and *do not agree*. This type of survey was given to students to check their basic reaction to the TBL methodology, as well as to gain insight into their perception of it.

The survey with the open-ended questionnaire was given to students after the first session, while the focus group study with two groups was conducted after the second session to triangulate the data. Each focus group contained six to eight people who were picked randomly. The two to three questions asked at the focus group sessions lasted approximately 60 minutes. They were audiotaped and transcribed by the researcher. The data was then analyzed with SPSS quantitative software.

Results

Students reported on their reactions and what they would like to see done differently through the open-ended questions that were provided at the end of the Likert-scale survey. Similar questions were also asked during the focus group study. The results were summarized into five categories: team-based learning (TBL) as a method; teamwork; scratch-able cards; reporting/evaluation and classroom decorum. The statistical results of the questions that we thought are crucial (Questions 1, 9, 10, 11 and 12) are shown in Tables 2, 3, 4, 5 and 6. In the tables, "Katılmıyorum" means "Do Not Agree;" "Kısmen Katılıyorum"

means "Somewhat Agree;" and "Katılıyorum" means, "Agree."

Team-based Learning (TBL) as a Method

In Question 1 (Table 2), the students were asked to indicate if they felt they learned in this session compared to the other session of the course, and 58.06% of the students said "I agree." On question 10 (Table 3), 67.74% of the students said that what they have learned in this session makes sense and on Question 12 (Table 4), 61.29% of the students expressed that they understood the main concepts.

To gain more insight into their perception of using TBL as a method in the classroom, we asked the focus group similar questions. Students in the focus group expressed that they were more active compared to the other sessions of this course. Students in this group saw TBL as a technique where students are engaged and become active learners. They defined the method as interactive, interesting and student-centered.

Students in the focus group further defined TBL as "*a material that is up-to-date.*" They expressed that this alternative teaching method makes the session more interactive and interesting and as a result of that they said, "*they learn.*" They also mentioned that TBL encouraged them to ask questions and discuss, which does not happen often in their courses. One student characteristically commented:

> "(Through team-based learning) instruction can still take place and be fun at the same time … through this session we have seen that an instructor has the capability to make the session more fun … and we learn better."

Table 2. Question 1 I Have Learned a Lot in This Session Compared To the Other Sessions of This Course

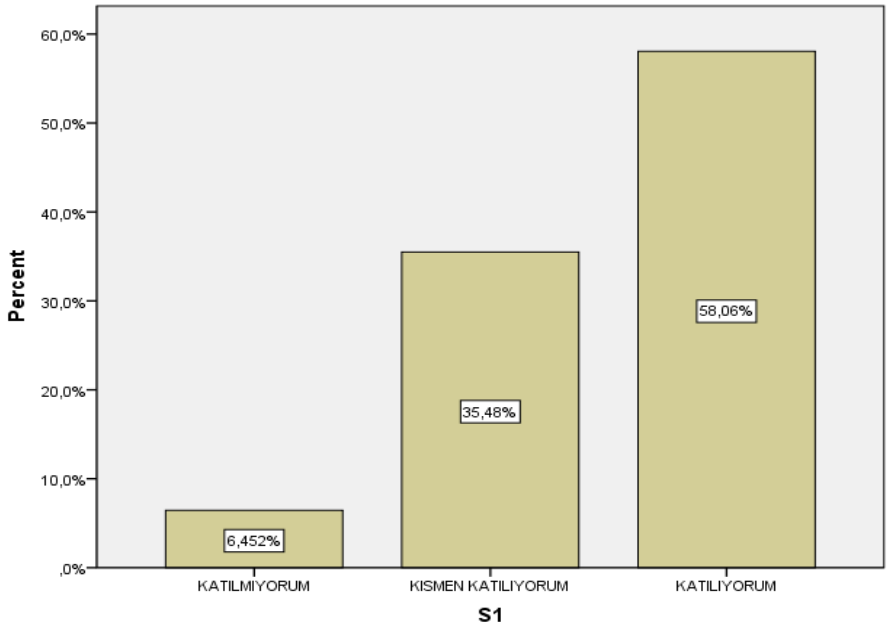


Table 3. Question 10 What I Have Learned In This Session Makes Sense

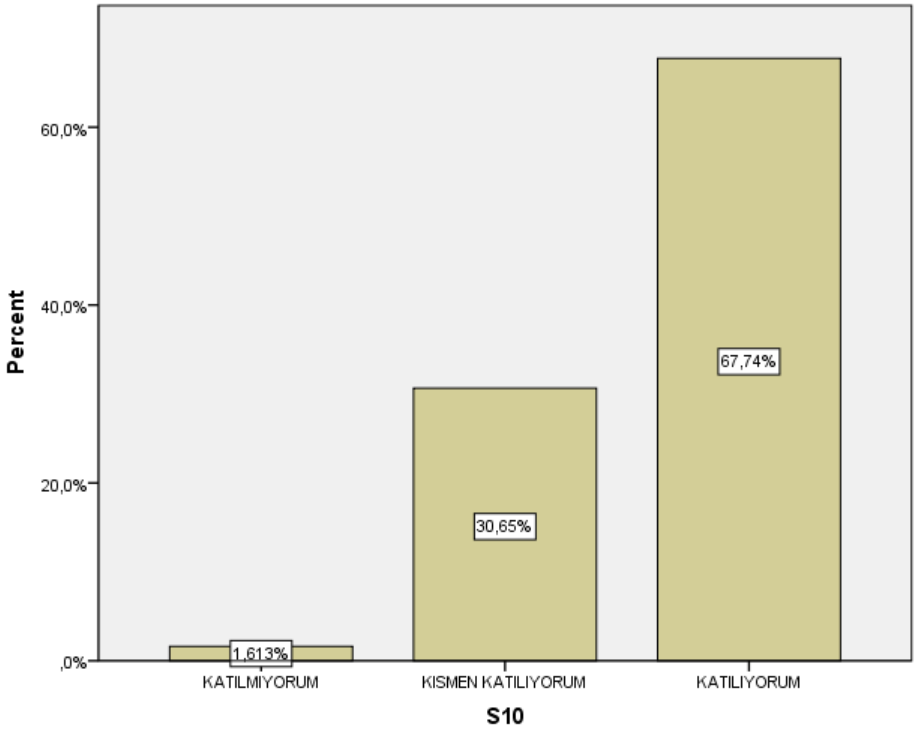
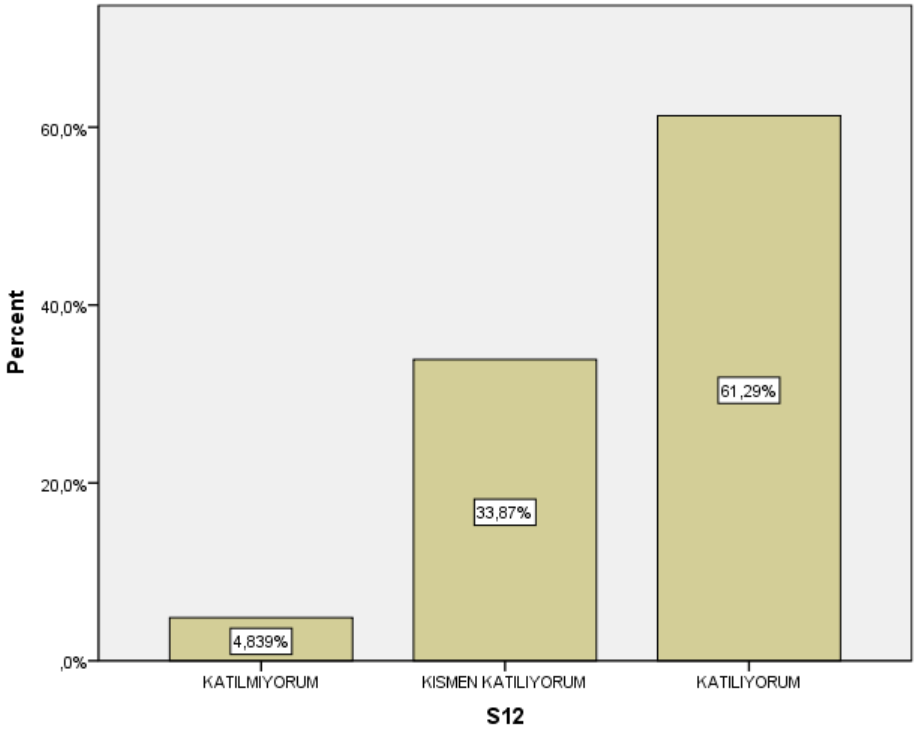


Table 4. Question 12: I Have Understood the Main Concepts

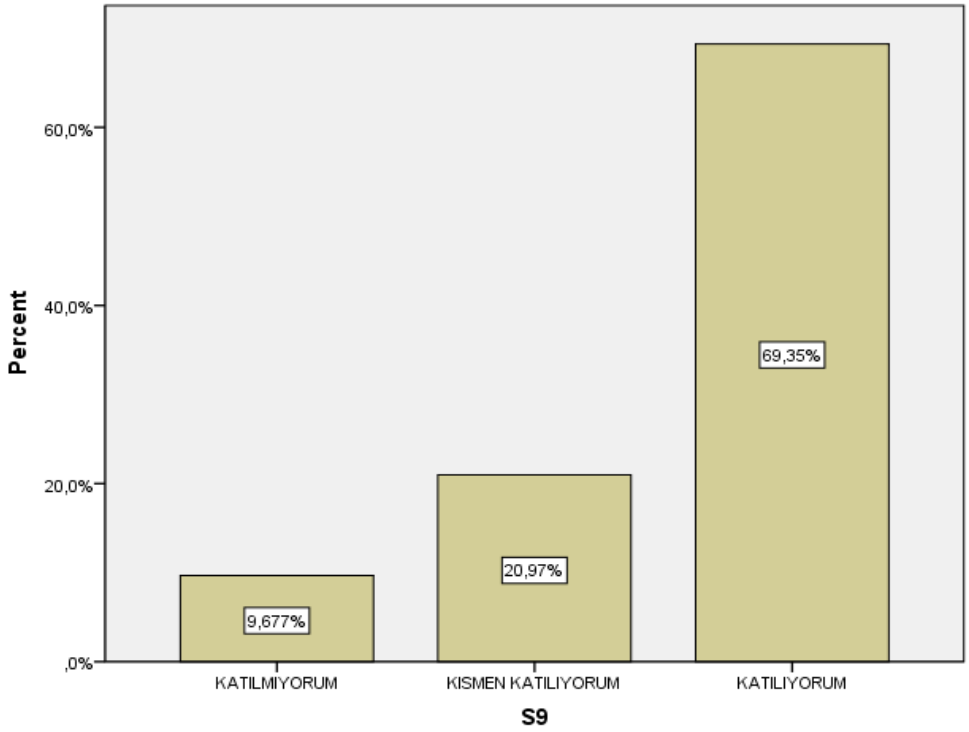


Teamwork

On Question 9 (Table 5), 69.35% of students expressed that the teamwork that took place in this session had a positive effect on their learning. They also mentioned that they enjoyed working on the real-world scenarios as a team, which boosted their confidence; this was cited as one of the things they enjoyed the most in the application of TBL. In the focus group, they agreed that working in a team aided in developing their teamwork skills. They also expressed that providing a setting where they had a chance to discuss the tRAT within their teams encouraged them to contribute more.

The focus group also mentioned that teamwork provided them an opportunity to see their weaknesses around the topic.

Table 5. Question 9 the Teamwork That Took Place in This Session Had A Positive Effect on my Learning



Scratch-able Cards

In TBL, each team receives one scratch-able answer sheet in their folder in order to use it during the tRAT. After they decide on the answer as a team, they scratch off the covering of one of four boxes in search of a mark / star which indicates that they have found the correct answer.

Students expressed that scratch-able cards was another element that they greatly enjoyed in the application of TBL, since these added excitement to the process. It also forced them to discuss the results, since none of the team members wanted to scratch the wrong choice.

Reporting/Evaluation

Students said that they found the reporting part at the end useful. Reporting provided them an opportunity to hear different perspectives and solutions for the case study.

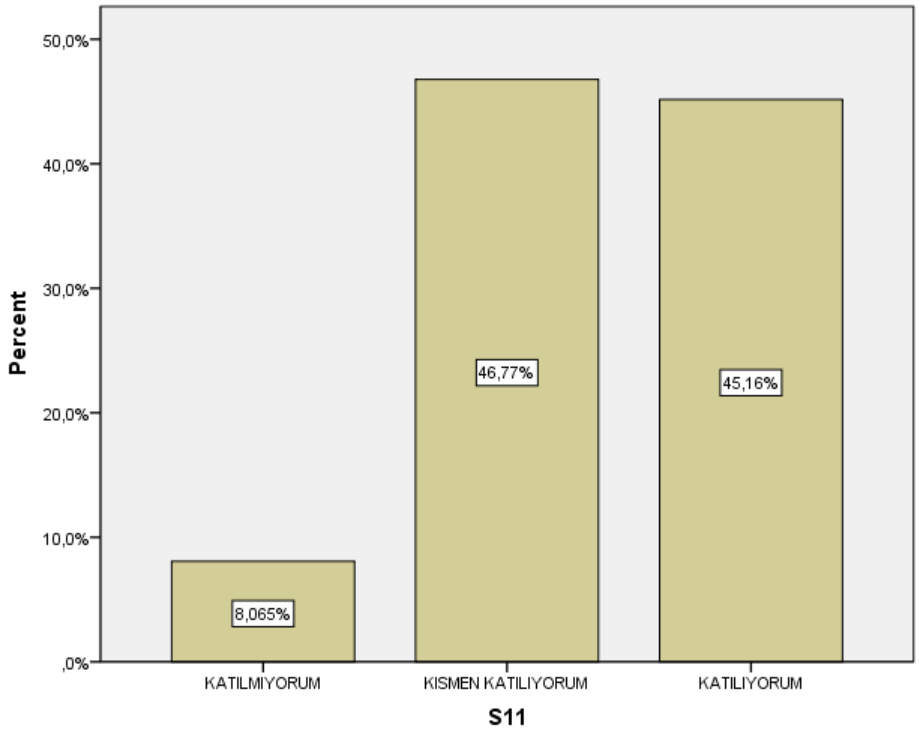
Classroom Decorum

When asked what they would like to change, nearly all of the students answered, "*classroom.*" Later in the focus group, when the same question was asked, students responded that the classroom where the course took place should be changed, as it is not suitable for teamwork and learning. They said, "*it is dark, tight and stuffy.*"

Disrespectful students came out as a second element by which some students were bothered. Several pointed out that students should respect each other, be quiet and listen when other groups are reporting. When this issue was mentioned to the instructor, her explanation was:

> "… Students are already tired. They would like to be done (with this course) and go to their home as soon as possible. They have lost their focus … I am even amazed that they managed to stay in the class until the end (of this session)…. usually they leave early …"

Table 6. Question 11 the Preparation That I Have Done Before This Session Helped Me to Follow the Session



Discussion

The study results indicate that students evaluate the team-based learning (TBL) model positively. As it was mentioned by students, they would like to see more of their lecturers apply TBL in their courses.

Accountability was an issue of concern, as less than half of the students said that they came to the first session without reading the material. During the second session, students reported having read the material before coming to the session. Reading the materials beforehand is a crucial step for the TBL method to run smoothly. As 45.16% students responded on Question 11 (Table 6), their preparation before this session helped them to follow the session. This shows that a pre-TBL training session is not just crucial for the instructor but also for the students. During such a session, the instructor would have to explain why students are accountable for coming to class prepared and that "accountability is the cornerstone of team-base learning" (Sutherland et al. 2013).

Reporting is one of the phases of TBL in which students' knowledge is put to the test. As Zeng, Xiang, Zeng, and Zuo (2017) and others have mentioned (Terenzini et al. 2001; Haidet et al., 2012; Prince, 2004; Nieder, Parmelee, Stolfi, & Hudes, 2005; Koles, Stolfi, Borges, Nelson, & Parmelee, 2010; Emke, Butler, & Larsen, 2016), reporting also provides students with an environment in which they are required to apply their knowledge in order to solve real-world scenarios within a cooperative learning environment. In this study, students expressed that teamwork boosted their self-confidence, stimulated an interest in learning, and improved their ability to solve problems. Since teamwork is crucial for TBL to work effectively, it would be useful to incorporate a workshop on this valuable skill before the session, since students in Turkey lack experience in that area.

Michaelsen, Sweet, & Parmalee (2009) have suggested that teams present their case studies sequentially or simultaneously. We found in our study that simultaneous reporting works better for the teams. That way teams do not attempt to copy from each other.

Limitations

As mentioned above, most of the steps of team-based learning (TBL) were implemented, except for the written appeals and peer evaluations. This was decided partly because of the lack of preparedness of the students, as well as due to time concerns. In addition, students in this cultural context are not familiar with evaluating each other's performance (Frisby, Slone, & Bengu, 2017) and they see no point doing that. As Thompson et al. (2007) have also mentioned, students do not see this as "a professional development experience" and they tend to give the same grade to their peers. Therefore, in this study we couldn't evaluate the effects of peer evaluation.

Conclusions

A growing body of research indicates that the team-based learning (TBL) model, which is an example of an active and collaborative approach to teaching, is an effective instructional model. In this study, we have also looked at its effectiveness in night classes, which are characterized by fatigued, less motivated students. The results showed that TBL energized students and triggered their motivation in learning more about the topic.

The study showed that TBL in a Turkish university setting can be an educational tool that encourages teamwork and makes an active learning session more interactive, engaging and fun. Furthermore, for TBL to be successful, students should be made accountable of their own learning, but at the same time, it is imperative that the teacher also properly plans the pre-readings, case scenarios and activities (Sutherland, Bahramifarid, & Jalali, 2013). Although it would seem the instructor takes on a passive role in the classroom, she has to provide timely and active feedback to students (Michaelsen et al. 2008; Sutherland, Bahramifarid, & Jalali, 2013).

It is suggested, therefore, that despite the high power distance characterizing the Turkish culture, Turkish university institutions and departments would benefit from providing professional development workshops for instructors who are interested in using TBL in their classrooms. The use of this method would not only make their students' learning more profound, but would also benefit the teachers themselves, for it leads to more motivated and engaged class participants.

Final Thoughts

The results showed that team-based learning (TBL) is an active learning method that is learner-centered and instructor-guided. A possible next step for this researcher will be to apply TBL to other subject fields, such as engineering and architecture courses, within the technical university where she is employed. In addition to that, she would like to provide a workshop for instructors about the use of team-based learning and work with those who are interested in applying this method in their own courses.

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