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CONTENTS

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Research Article

Humanizing Engineering Education: A Comprehensive Model for Fostering Humanitarian Engineering Education[1]

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Abstract:

The goal of the paper is to provide guidelines for building a comprehensive model that fosters humanitarian engineering education. The paper brings the voice of field practitioners and students, in addition to academic research, to determine the most critical attitudes, skills, and capacity building practice for empowering humanitarian engineers. A large pool of data related to the research topic was collected through an online questionnaire answered by 187 members of Engineers Without Borders. Inductive analysis methodology was used to analyze the survey results. Moreover, scholarly literature review was done to review the history of engineering and learn about the shortcomings in conventional engineering education and how it could be reformed to meet humanitarian engineering challenges.

Keywords: Humanitarian engineering, engineering education, critical skills , capacity building, educational model

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INTRODUCTION

Engineers have made huge efforts to make unimaginable dreams reality, yet their efforts at meeting basic human needs in developing countries are missing. Today most engineering talents are busy with creating luxurious technology for rich customers. According to Paul Polak (2008), "the majority of the world's designers focus all their efforts on developing products and service exclusively for the richest 10% of the world's customer. Nothing less than a revolution in design is needed to reach the other 90%."

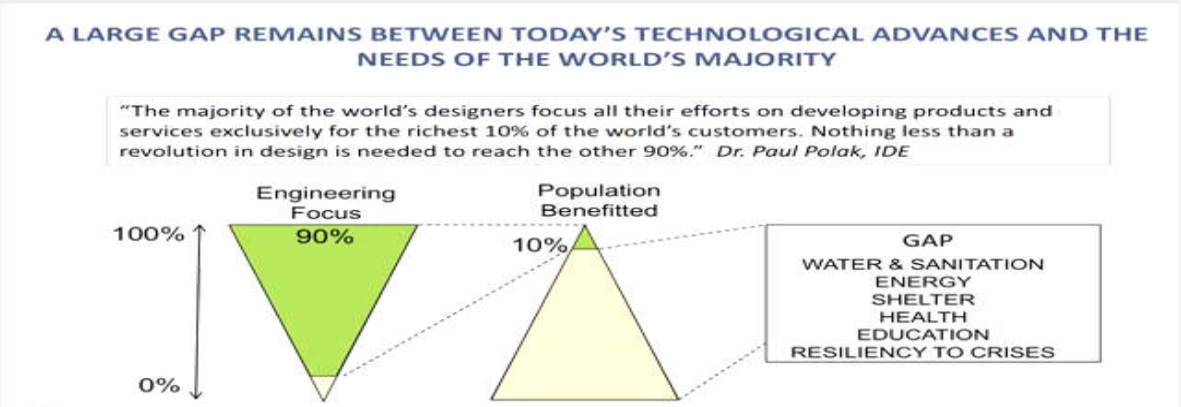

Figure 1. Technological Advances And The needs of The world's Majority. (Amadei, 2011)

Among the other 90%, there are 0.8 billion people who lack clean water, 2.4 billion people who lack adequate sanitation, 1.6 billion people who have no access to electricity. Moreover, malnutrition kills 11 million children under the age of five every year. These facts should put a moral obligation on the engineering profession to direct some effort to meet basic needs of those people. Many of the challenges that face developing countries and underserved communities are related to engineering in some way. Water filtration, building sanitation and housing, designing nutrition supply chain and energy generation is at the heart of the engineering profession. There is an urgent need to involve engineers in solving underserved communities' problems. Recently, a new movement within engineering education emerged to induce engineers to practice more humanitarian role. This movement was called humanitarian engineering. Humanitarian Engineering emphasizes the importance of preparing engineers with adequate knowledge and practice to meet underserved communities' needs. It is a movement to escape the "social captivity of engineering" by capitalism or nationalism or some other form of wealth and power. Encyclopedia Britannica defines humanitarian engineering as "the application of engineering to improve the well-being of marginalized people and disadvantaged communities, usually in the developing world" (Brown, n.d.).

Preparing engineers to meet global challenges and be facilitators for sustainable development requires a comprehensive reform in educational content and practices. Current conventional engineering education programs do not equip students with knowledge of, or skills in, humanitarian engineering practices. One of the main reasons for

this shortcoming is the fact that Humanitarian Engineering is a relatively new emerging concept in engineering academia, although it is an old practice used by individual engineers and organizations outside the academic field. Therefore, determining what truly merits being considered humanitarian engineering work is still a controversial issue, since all engineers could argue that their work contains a humanitarian side.

In order to deal with this issue, some HE educators tried to theorize criteria for considering a work as HE. Vandersteen, for example, set four criteria to distinguish what counts as HE work compared to conventional engineering work or pure humanitarian work. First, there must be a need among the people benefiting from this work. Second, that need should be related to basic human necessity. Some humanitarian engineering professionals refer to Maslow's hierarchy of needs to determine the definition of basic needs. Third, the beneficiaries should be involved in the project design and execution. Finally, the work should require actual engineering skills and knowledge (Vandersteen, 2008). Furthermore, Passiono proposed a concept called "degree of humanitarian engineering" (see figure 1.). This concept states that humanitarian engineering work varies in the "degree of humanitarian engineering" (Passiono, 2015). A work that meets crucial needs for a human, involving marginalized people and utilizing many engineering skills and knowledge will have a higher "degree of humanitarian engineering." This work will be at the upper right corner in the figure titled "Humanitarian Engineering." Another, which has the same features as the previous work but with less engineering content, is titled "Humanitarian engineering." It will be located in the middle of the upper line. This concept helps humanitarian engineers set priorities in their work. However, humanitarian engineers should not compromise the humanitarian aspect to use more engineering skills. Serving the community should be their first propriety. In this paper, the term HE refers to any work that utilizes engineering skills and knowledge to meet a basic and crucial human need.

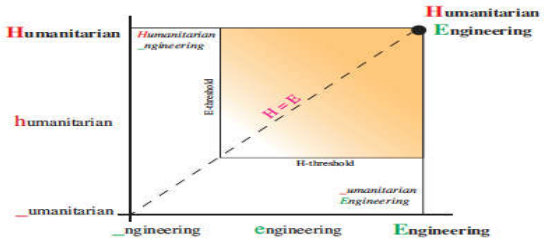

Figure 2. Degree of Humanitarian Engineering (Passiono, 2015)

Figure 3. Maslow's pyramid (Maslow's Hierarchy.., n.d.)

HE work usually requires different tools and approaches than what is taught in traditional engineering curriculum. Traditional engineering curriculum was mainly designed to prepare students to work in the context of industrial and private sectors, while HE work is usually done in a different context. Empowering engineers to work in the humanitarian and community development sectors requires teaching them about wide

range of technical and non-technical issues. Today there is still a disturbing lack of interdisciplinary courses in engineering education, and the response from academic institutions in this aspect has been extremely slow compared to the urgent need (Amadei, Wallacewallace, 2010)

Engineering educators recently published research proposing strategies for teaching a humanitarian engineering skill-set. Most of the HE research has been done by academic professors, while humanitarian engineering initially started as a practice outside academia and the nature of the discipline is highly centered on practice outside classrooms, so it is extremely important to include the voice of field practitioners, both professional and student, in determining what type of education, skills and attitude humanitarian engineers need in order to function well in their field. The goal of this paper is to propose a comprehensive educational model that meets the challenge in the humanitarian engineering field based on collective knowledge and the experience of HE practitioners in Engineering Without Borders, as well as scholarly educational academic research.

METHOD

In gathering information for this research, two methods were used: literature review and online survey. The primary goal of the survey is to get information from the practitioners for three issues: 1) The surveyed perception about HE 2) The critical attitudes and skills in humanitarian work 3) What are the best practices for teaching these attitudes and skills. In order to answer these questions the survey was designed to include two types of questions: eight multiple-choice questions and three open-answer questions related to HE. The definition of humanitarian engineering was written at the top of the survey to avoid misconceptions. The first and second multiple-choice questions were adjusted to show the respondent's role at EWB and academic major. The next four questions were about controversial issues in HE. Then, three open-answer questions were intended to directly collect information about the research question The survey was sent via electronic correspondence to more than 240 EWB chapters around the US. Also, it has been sent to a few EWB chapters outside the US (e.g. EWB at the University of Queensland in Australia, EWB in London). The message was forwarded to many members within the chapters by the chapters' presidents. The survey received 187 responses, which represents an adequate random sample size. According to Cohen and Manion (2000), in order for a sample size to be effective in statistical analysis, a minimum of thirty respondents is required. Moreover, Literature review was done to review the history of engineering education and learn about the shortcomings in conventional engineering curriculum and how it could be improved to meet the challenges and requirements in the HE field. Recently, many engineering educators have written research papers proposing strategies for teaching students a humanitarian engineering skillset. The research showed that the proposed strategies could fall under four categories: curriculum changes, informal learning practices to complement classroom education, adapting new methods of teaching

that are more suitable to the HE field, and creating philosophical and ethical framework for HE practices. All these strategies were considered in developing the comprehensive model.

History of Humanitarain Engineering Cocept and Practice

Humanitarian Engineering is a new concept, but it is an old practice. Engineers have always been involved in humanitarian work. Engineering as a practice is very old. Imhotep, the architect of the Step Pyramid in Egypt in about 2250 BC, is considered the first engineer known by name (Bentarica, nd). However, engineering as a profession arose in the late medieval or early modern period (Vandersteen, 2008). During the same period, the social philosophy of humanitarianism developed as a movement to enhance ethics, kindness and sympathy to all human beings (Simoes, et al., 2007).

Initially, the humanitarian movement strongly influenced the medical field. It did not have a direct influence on the engineering profession, since engineering emerged in a military context that was controlled mainly by governments (Simoes, et al., 2007, Vandersteen, 2008). The first engineering institutions were created by national governments mainly for military purposes. Only lately, during the industrial revolution in Great Britain, have engineers started to find their way out of the military context. During that period, the term "civil engineering" emerged as a counter term to the military usage of engineering. John Smeaton (1724-1792) was the first one who called himself a "civil engineer" as he began using scientific methods to analyze construction projects. He founded the Society of Civil Engineers, which is considered the first official professional engineering society (Vandersteen, 2008). After that, numerous types of engineering majors emerged to fulfill developed countries' challenges and modern life needs. During that period, there was no organized humanitarian engineering work to serve impoverished communities. There were few individuals who initiated work that could be considered humanitarian engineering. Fred Cuny, who was a civil engineer, could be considered among the first humanitarian engineers in the modern era. He used his engineering skills to respond to earthquake disasters in various parts of the world (Simoes, et al., 2007). Yet Fred's and the other individuals' humanitarian engineering efforts were not sufficient to introduce humanitarian aspects within academic engineering education programs.

The formation of "Médecins sans Frontieres" (MSF or Doctors without Borders) in 1971 was a turning point for humanitarian work within many scientific fields, including engineering. MSF emerged as a result of dissatisfaction with Red Cross, which was controlled by the national government and could not venture beyond safe boundaries. After the organization was established, hundreds of physicians joined the organization to help people in crises and speak for human rights (Simoes, et al., 2007). Influenced by this idea, pioneer engineers established independent organizations that conduct humanitarian engineering all around the world, including: "Ingenieurs sans Frontieres (France, 1982), Ingenieurs Assistance Internationale (Belgium, c.1987), Ingeniera sin Fronteras (Spain,

1990), Ingeniererunden Graenser (Denmark, c.1992), Ingenjorer och Naturvetare utan Granser Sverige (Sweden, c.1995), Engineers without Borders (UK, 2001), Engineering without Borders (USA, 2002), Engineers without Borders (Australia, 2003), Ingenieureohne Grenzen (Germany, 2003), Ingenera senza Frontiere (Italy, c.2005), and others" (Vandersteen, 2008). In 2003, a number of these groups organized "Engineers without Borders — International" as a network to promote "humanitarian engineering…for a better world," now constituted by more than 41 national member organizations (Vandersteen, 2008). Influenced by this movement, many other humanitarian engineering organizations have been established under different names. NGO's recently called for involving engineers in community development, after noticing the contribution of humanitarian engineers and their high potential in solving global challenges. UNESCO published a report titled "Engineering: Issues, Challenges and Opportunities for Development" to emphasize the role of engineering in community development (UNESCO, 2010). At the same time, many organizations related to engineering education started to review engineering education systems from social justice perspectives. In a recent National Academy of Engineering survey, engineers are given very little credit for improving the general quality of life, saving lives, protecting the environment, or caring about their community (Vandersteen, 2008). The same organization released a report in 2005 titled "Educating the Engineer of 2020: Adapting engineering to the new century" that presents the challenges that engineering professions will face in the future. The report has predicted a dramatic increase in the world population, especially in the developing world. The organization called for "Reengineering engineering education" to prepare engineers who can meet global challenges (The National Academy PRESS, 2005). Responding to those calls and the challenges that the engineering profession faces, academic accreditation organizations like ABET included among the list of accreditation criteria items related to humanitarian engineering principles and values. Few pioneer engineering professors have taken the initiative to open humanitarian engineering programs at their universities (e.g. Arizona State University, Penn State University, Ohio State University) Universities nurtured those initiatives because they realized the high potential in humanitarian engineering concepts and practice to enhance student learning, meet engineering education challenges and serve developing communities.

RESULTS

In order to engage a wide number of HE practitioners from various disciplines in answering this question, this research used an online survey. It was decided to send the survey to practitioners participating in a leading HE organization that has conducted many local and international projects, to ensure the quality and validity of respondents' answers. After studying various HE organization profiles, Engineering Without Borders (EWB-USA) was chosen. EWB has initiated more than 684 community development projects in 39 countries and has impacted more than 2.5 million lives around the world since it was established in 2002. It was chosen because it meets the criteria of the research

and it offers easy access to many branches of the organization. Choosing EWB in the research does not necessarily imply that it is the most successful organization in the HE field. The multiple-choice questions were analyzed based on the number of respondents for each option. For the open-answer questions, inductive analysis procedures were used to construct patterns that emerged from the participants' responses [5]. In order to analyze data from each question, all similar responses were categorized together and major themes that participants emphasized were identified. Then all the emergent common themes were organized and categorized into a table, and information was extracted from the participants' viewpoints or statements. The strength of the survey results does not rely on the individual experience of each respondent, but rather on the collective experience and knowledge of all the respondents, among them 46 professional mentors and two faculty advisors. This experience was not only limited to successful projects but also the comments from participants about previous experience with project failures were very valuable. Moreover, criticisms raised by some respondents to existing shortcomings in their EWB branch's performance were as valuable as the comments about positive aspects in the organization.

Q1: What is your role at EWB?

Table 1
Answers for Q1

Position at EWB	Number
Faculty advisor	2
Professional mentor	46
Student volunteer	139
Total	187

Q2: What is your academic major?

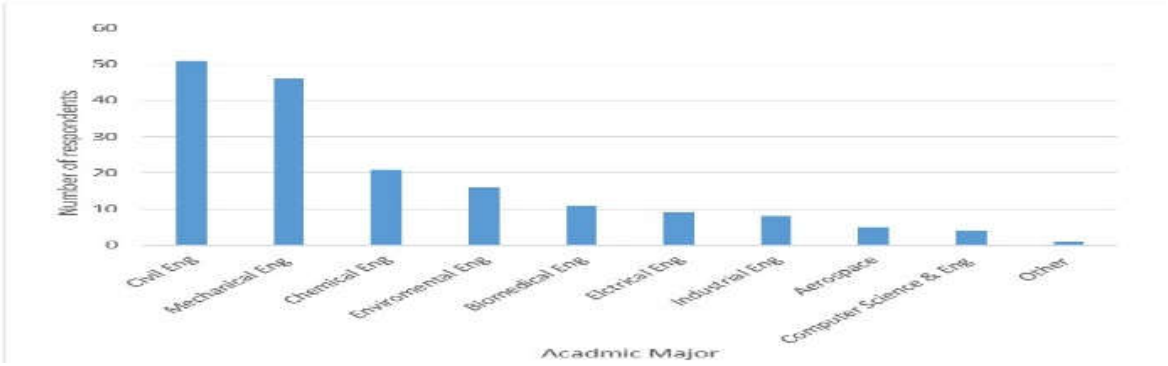

Figure 4. Respondent's Academic Majors

Analysis: The responses show that there is a lack of diversity within the organization. There were mainly two engineering specializations (civil and mechanical) that comprise more than half of the survey responses. This domination could be due to the work of the organization, which is mainly related to construction and civil engineering. In

another part of the survey, many respondents asked for an increase in the level of diversity by recruiting members from various engineering and non-engineering disciplines.

Q3: What is the most important reason that motivates you to join EWB?

Table 2
Answer for Q3

Answer	Number	Percentage
Networking and friendship	10	5.3%
Helping people in need	154	82.4%
Learning some skills	14	7.5%
Other	9	4.8%

Analysis: In the survey, almost 83% of respondents joined EWB primarily for helping people in need. This result challenges the stereotype that engineers do not care about community service. Therefore, HE organizations should focus on showing the humanitarian aspects of their work for the participants and the community. Alternately, this result could also have a negative implication for HE work. Once a humanitarian agent has in mind that he or she works mainly to help people in need, it is difficult to build a partnership between the agent and the local people. HE curricula and training programs should prepare students to be facilitators for development and change, not service providers or helpers.

Q4: Do you believe that engineers should use their engineering expertise to help people in need?

Table 3
Answer for Q4

Answer	Number	Percentage
Yes, it is a moral and professional obligation	147	79%
Not necessary	36	19.6%
No, they do not have suitable expertise	1	0.5%

Analysis: The majority of the respondents agreed that it is a moral and professional obligation for engineers to help people in need, using their engineering expertise. Only one person claimed that engineers do not have adequate expertise. 19.6% (36 people) said that it is "not necessary," possibly intending that not every engineer should necessarily use his or her engineering expertise to help others. The answers referred to the sense of social responsibility among the organization participants, which highlights the cultural reform that could take place within the engineering field due to HE work.

Q5: Do you think your work with EWB has enhanced your academic engineering study at school?

Table 4
Answer for Answer for Q5

Answer	Number	Percentage
Yes strongly	78	42.9%
Slightly	76	41.0%
Academic study does not relate to EWB work	12	6.6%
Other	16	8.8%

Analysis: Around 84% stated that EWB work has enhanced their academic study to some degree. Almost half of this group stated that EWB work has enhanced their academic study strongly, while the rest stated that it enhanced their study slightly. Around 7% of the respondents mentioned that they do not see any relation between their academic study and their work with EWB. This question shows that the majority of the students benefited academically by being involved in HE organizations. This benefit could be directly related to their major, or they may have learned some life skills that helped them in their academic life.

Q6: What is the best way to include humanitarian engineering concepts in engineering education?

Table 5
Answer for Answer for Q6

Answer	Number	Percentage
A separate engineering major	1	0.5%
A minor	27	14.6%
Elective course or design project	72	38.9%
Included in teaching all engineering courses	38	20.5%
No need to teach HE at school	3	1.6%
All options should be offered	43	23.2%

Analysis: The majority of the respondents prefer humanitarian engineering concepts offered as an elective course or as design projects. The option of offering humanitarian engineering concepts in all possible forms is the second highest option chosen by respondents, showing that there is also an interest in studying it as a separate major or as a minor.

Q7: What is the most difficult challenge of HE work ?

Table 6
Answer for Answer for Q7

Answer	Number	Percentage
Cultural challenge	60	32.4%
Technical challenge	25	13.5%
Communication	68	36.8%
Other	32	17.3%

Analysis: The survey responses show that critical challenges in humanitarian engineering relate more to soft skills rather than technical ones. This could be because engineers are usually well prepared in technical knowledge as opposed to soft skills, or it could be due to the nature of the humanitarian work itself. It is critical to balance the technical and non-technical contents in HE educational programs. People who referred to other challenges indicated financial, organizational, political, bureaucratic and logistical considerations

Q8: Should humanitarian engineers focus on doing international projects, domestic projects, or both?

Analysis: Whether humanitarian engineers should be involved in local or international projects is a controversial issue among humanitarian engineering leaders. In the survey, 93.6% (175 people) of those surveyed chose to do local and international projects. 3.7% (7 people) chose international and 2.7% (5 people) chose local. Offering local and global opportunities could be the best solution to this question.

Q 9: What are the most important attitudes in humanitarian engineering?

Table 7
Answer for Answer for Q9

Attitude	#	**Remark from respondent answers**
Ethics/Morality	35	Morality and ethics were emphasized, especially compassion (18) and empathy (11).
Spirit of service	26	Willingness to help, selflessness and humbleness
Flexibility and adaptability	22	This includes flexibility (13) in changing plans or solution methods and in adapting (10) to new environments and project outcomes.
Patience and persistence	32	HE engineers should have the will to work longer than usual and in complex situations. This requires patience (16) and strong persistence (12).
Positive attitude and optimism	10	Ability to keep up morale through prolonged struggles
Openness	31	Openness (21) to different ideas, and respect of different cultures.
Passion to work and learn	17	Passionate (10) about making a lasting impact with engineering skills and willing to learn through practice.

* **Note:** In tables 7, 8, and 9, the second column shows the number of times the attitude, skills or practices were mentioned by the respondents. The third column presents details related to the attitude mentioned by the respondents.

Q10: What are the most critical skills for Humanitarian Engineers?

Table 8
Answer for Answer for Q10

Skill	#	Skills emphasized
Communication	46	Communications (38), listening and language skills. A clear and consistent point of contact with the community is important.
Project management	12	Planning, risk management, project-oriented work, "Lean" project initiatives, resource management and implementation.
Cultural awareness	43	Cultural awareness and sensitivity (26) is the most difficult challenge.
Global awareness	11	International development, legal issues, politics and governmental systems in the served community.
Participatory development	10	HE projects should be based on collaboration, not only providing service.
Leadership and teamwork skills	22	Organization, leadership (13) mentality, focusing on the target, employing members' strengths, facing challenges, teamwork skills (8), work within a multidisciplinary team
Systematic thinking	13	Seeing the big picture / creating holistic solutions and deep appreciation for sustainability
Innovation and creativity	19	Designing innovative and practical solutions, both technical and non-technical.
Resourcefulness	12	Making the most out of scarce resources.
Problem solving	17	Defining and dissecting the problem, coming up with multiple solutions, then implementing the optimal one and sustaining the gain
Technical competency	29	Sound technical knowledge, especially in appropriate technology, engineering knowledge

Q11: What are the best capacity-building practices for humanitarian engineers?

Table 9
Answer for Answer for Q11

Program/Practice	#	Objectives
International & local HE projects	12	Enhancing all critical attitudes and skills.
Professional & faculty mentorship	7	Enhancing leadership, technical competency, system thinking.
Build multidisciplinary team	15	Fostering innovation, enhancing technical competency, system thinking, respect and openness.
Establish network between HE Org/University	17	Fostering innovation, sharing expertise, enhancing HE academically and practically, improving performance.
Collaborative learning & team work	9	Participatory development skills; teamwork, leadership, communication; humbleness, respect, openness.
Excellent leadership	6	Exploring talents; skills; teamwork, organization.
Courses / workshops / seminars related to HE concept and practice	19	Cultural awareness, global awareness, technical knowledge, leadership, communication, teamwork, ethics.
Dialogue and reflection	6	Attitude: empathy and compassion; Skills: communication, technical knowledge, collaboration.
Involve volunteers in tasks	14	Attitude: spirit of service, humbleness; Skills: project management

A COMPREHENSIVE MODEL FOR FOSTERING HUMANITARIAN ENGINEERING EDUCATION AND PRACTICE

Around Analysis of the respondents' answers and the scholarly literature assures that traditional academic engineering programs are not enough for preparing humanitarian engineers to conduct their mission. This part of the paper suggests a comprehensive model for fostering humanitarian engineering education and practice. The research findings suggest that a comprehensive humanitarian engineering program should include four phases: 1) Creating a philosophical framework for humanitarian engineering education and practice; 2) Reforming contents and methods of teaching engineering in universities; 3) Enhancing humanitarian engineering education and practice outside traditional classrooms and 4) Humanizing the culture of engineering education and practice.

Creating a Theoretical Framework To Guide Humanitarian Engineering Education and Practice

Formulating a theoretical framework for HE education and practice is a very important step in creating a basis for the educational reform and cultural change within engineering. Since there is already a code of ethics for the engineering profession, it will be helpful to start evaluating this code from a humanitarian point of view and then build on it. Much research shows that most traditional and current engineering codes of ethics were mainly formulated for private sector interest (Simoes, et al., 2007, Riley, 2008). As a result, ethics related to business, leadership, and management have been emphasized, while ethics related to community development and humanitarian work were ignored (Simoes, et al, 2007, (Downey, et al., n.d.). According to Catalano, who reviewed many of the current codes of ethics in the US, the current engineering codes lack "areas relevant to social justice, such as impact on poverty reduction or enhancement" (Kabo, 2010). In addition, Herkert, who analyzed the content of engineering ethics instruction, found that the research and teaching on this topic focus mainly on "micro ethics" (Kabo, 2010). These studies and others indicate a need to extend and modify the current engineering code of ethics to make it suitable for humanitarian engineering programs.

Humanitarian philosophy and professional ethics could be used as two pillars to formulate a philosophical and ethical framework for humanitarian engineering. Conventional humanitarian philosophy has been established to promote human welfare, particularly for marginalized peoples (Simoes, et al, 2007). The ethical framework for HE should address topics related to: humanitarian engineers' interventions in foreign countries, the discipline and ethics that humanitarian engineers should maintain during their work, rules of HE work humanitarian engineers' rights and responsibilities, plus critical ethical dilemmas. There should be a system to ensure that engineers, corporations and governments involved in HE projects understand and follow this framework.

Developing a theoretical framework that addresses the issues mentioned in this section will guide humanitarian engineering practice, and enriching the engineering code of ethics will require the collective effort of a multidisciplinary professional team.

Reforming Academic Engineering Program Content and Teaching Method

The following four points are critical to the humanization of academic engineering programs based on the research findings:

- ***Teaching ethics and professionalism:***

Teaching the modified engineering codes of ethics and professionalism concepts in engineering education would be an effective way to introduce HE concepts to engineering students, since professionalism and service are intimately coupled (Passino, 2009, Bixler, et al., 2014). Highlighting service and community development concepts in the codes could encourage students to do humanitarian work and improve their perception of the engineering profession. Engaging students in discussing engineering codes of ethics and comparing it with the codes of ethics from other professions is a great way to introduce humanitarian engineering concepts. It is also an excellent way to enhance critical thinking and broaden the students' perspective on their major.

- ***Required or elective courses related to humanitarian engineering:***

Many engineering programs require their students to take courses in humanities and social sciences. However, this is not very effective, because it is difficult for engineers to learn about areas of social sciences and then integrate them with their engineering background (Bixler, et al., 2014). Integrating social science and engineering concepts in courses such as appropriate technology, sustainable development, technology and society, engineering and social justice, would be more effective. In addition, enabling engineering students to take business courses related to humanitarian engineering, such as social entrepreneurship, leadership, and humanitarian work management, would be very helpful to empower engineers to find solutions to global challenges. Moreover, teaching humanitarian engineers topics related to humanitarian philosophy, development theories, and the history and culture of the engineering profession is beneficial in providing a theoretical and ideological basis for their practice. Design courses, including designing engineering projects related to humanitarian needs, give students practical involvement with the humanitarian engineering concept. Some universities have succeeded in designing a minor or complete degree in humanitarian engineering. However, it is critical to make the courses related to HE accessible to students from various engineering and non-engineering majors without requiring the completion of a complete certificate or degree.

• ***Modifying teaching methods:***

In addition to modifying engineering curriculum, changing teaching methods is also a critical step to prepare humanitarian engineers. Traditional engineering education questions are presented as well-structured problems with given parameters that are stated, and students are asked for the correct solution (Kabo, 2010,Vanderstee 2008). This method is no longer adequate to prepare young people for facing complex, real world problems. In HE, problems are not presented as well-structured but as ill-structured; they are not given with stated constraints or parameters, and they usually have multiple solutions and numerous ways to be solved (Amadei,Sandekian, 2009). With traditional problem-solving methods, students usually learn how to manipulate data to reach the correct numerical solution, but they rarely understand the underlying concepts (Kabo, 2010). Mainstream engineering education is characterized by what Freire called "banking education." In banking education, the relationship between teacher and student is clearly hierarchical, where knowledge is transmitted through a top-down approach. As a result, "the scope of action allowed to the students extends only as far as receiving, filing and storing the deposits." (Freire, 1970). This type of education creates a culture of silence that is obvious in engineering classrooms.

Instead of banking education, problem-posing education should be used to break the hierarchical relationship between students and teacher and develop critical consciousness. Freire described the situation in the problem-posing classroom as follows: "The teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialog with the students, who in turn while being taught also teach. They become jointly responsible for a process in which all grow. In this process, arguments based on 'authority' are no longer valid." (Freire, 1970) Dialogue, which is a missing teaching method in engineering classrooms, is a critical part in the problem-posing classroom. HE educators need to integrate also new methods that enhance teamwork and emphasize different ways of thinking, such as Problem-Based Learning (PBL). In this method, problems are presented in real life scenarios, and the students are asked to work in a group to formulate solutions. In this format, students learn to define the problem, analyze their own learning process and those of the other students in their group. Moreover, they learn organization, teamwork skills, communication and dialogue, and the hierarchical relationship in the learning process between the teacher and students is challenged. Another method suitable for humanitarian engineering is called Project Based Learning. There are three variations of this method: design project, case study, and service learning. Alternating between the three types is useful since each method has defining features, and they may overlap.

• ***Special accreditation criteria for Humanitarian Engineering programs:***

Recently, ABET added to the general accreditation criteria terms of HE. For example, Criterion 3: "An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical,

health and safety, manufacturability, and sustainability" (Amadei,Sandekian, 2009). ABET has established detailed criteria for each engineering discipline; but HE does not yet have special ABET accreditation criteria, since it is an emerging field. In the case of HE, more criteria are needed in cultural understanding, critical thinking through a social justice lens, and an ability to engage with people from different cultures. Creating ABET criteria for HE could ensure the quality of humanitarian engineering programs. This will encourage more universities around the world to recognize this emerging field and establish HE programs.

Enhancing Humanitarian Engineering Education and Practice Outside Traditional Classrooms

In humanitarian engineering, there is no substitute for practical experience. Students cannot learn skills such as risk management, project management, communication, teamwork, etc. by only reading books and solving problems in exams. Therefore, hands-on experience through organizations and settings outside the classroom should be an essential part of HE programs. The survey respondents mentioned some capacity-building programs. This section briefly explains these programs and states some critical points related to informal learning in the HE organization.

- ***Leadership and teamwork:***

Having excellent leadership in an HE organization plays a major role in the success of an informal learning experience. Leadership is not limited to assigning tasks to volunteers; it also includes exploring the talents of the volunteers, engaging every member of the organization, and offering inspiration. It is also beneficial to rotate role positions to give most members a chance to lead the group.

- ***Professional and faculty mentorship***

Guidance from mentors elevates student performance and enhances the learning of various skills. This has often been highlighted in the survey results. It is useful to involve the mentors when evaluating students' performance and the organization's achievements. One respondent emphasized the importance of having rules and policies to ensure mentors' independence and impartiality. In some organizations, the students fund their mentors' field trips, which could influence their evaluation of the students' and organization's performance.

- **Comprehensive problem solving methodology:**

Many humanitarian engineering projects fail because they lack comprehensiveness in the project design (Parsons, n.d.). An example of a comprehensive problem-solving tool is the DMAIC methodology, which consists of four phases. In the first phase, "Define," the problem is defined, as well as the potential resources, the project goal, the customers and their needs. In the second phase, "Measure," data about the current state of the situation is

collected. Then the collected data is interpreted during the "Analyze" phase, to know the cause-and-effect relationships. Next, solutions are developed during the "Improve" phase to target the root causes. Finally, during the "Control" phase, metrics are developed to monitor and assess project performance and to ensure that improvements and gains are sustained. This last step is usually missing in humanitarian engineering projects. (George, M. 2002).

• ***Community development through collaboration:***

The goal of community development is to "create self-reliant and self-sustaining communities" (Passino, 2009). There are three main dimensions for community development: economic (e.g. jobs), physical (e.g. roads, parks, buildings), and social infrastructure (e.g. network of relationships, better inter-member interactions, and cooperative problem solving). Humanitarian engineers have to consider these three dimensions in their work to create a lasting system of development rather than a temporary service. Participation of the local people is a critical factor for success in any community development project. It is also important to teach them how to sustain the gains from the HE project in the future.

• **Project management skills:**

Project management is a very important skill in humanitarian engineering. Organizing various on-campus activities could be a useful way to give students a chance to learn how to develop a project plan, schedule and timeline, risk analysis, follow-up meetings, etc. However, HE projects require more than ordinary projects in terms of management skills due to various challenges in developing countries. Therefore, it is important to train humanitarian engineers how to manage humanitarian projects in unusual situations.

• ***Communication:***

Communication is critical for the success of humanitarian engineering projects. Engineers should have direct communication with a local partner from the targeted community throughout the project and after completion to follow up on the results. Difficulties in communication with people in a developing country, due to potential time differences or lack of communication on-site, force engineers to find creative ways to communicate. Humanitarian engineers should be trained to use appropriate words when relating with people in need. For example, it is not appropriate to call them "poor," rather it is preferable to use words such as customer/client/stakeholder/partner.

• ***Multidisciplinary***

Engaging students and faculty from various majors enhances the creativity in the team and produces comprehensive solutions. There could be a need for a specialized humanitarian engineering organization in certain engineering fields. However, it is very

important to have multidisciplinary organizations that pool talents from various engineering and non-engineering disciplines and not limit the work of humanitarian engineering to infrastructure projects related only to civil and environmental engineering.

• ***Considering cultural differences:***

Based on the survey, cultural differences are considered the most difficult challenge that humanitarian engineers face in their practices. There is usually a cultural and socio-economic gap between the engineers and the target community (Passiono, 2015). The priorities of the served community are usually different from those of the engineers. Therefore, engineers should first listen to local people and make sure that they understand their needs. Local people are experts when it comes to their community and the problems they face. Learning indigenous knowledge could be helpful in proposing suitable solutions.

• ***Humanitarian dialogue and reflection:***

Continuous dialogue and reflection about the humanitarian side of engineering projects is a pedagogical method that is useful in fostering a spirit of volunteerism and empathy. Organization meetings should not only be about discussing technical problems and assigning tasks. Organizing social events is important for team building, encouraging humanitarian engineers to think about their motivations, and sharing humanitarian thoughts.

• ***Integrating informal learning work with research and academic institutions:***

Many engineering research topics and creative solutions could emerge from HE practice. Establishing a link between academic engineering study and HE organizations would benefit schools, organizations and communities. This could happen through establishing a center for this mission at each university offering an HE program. The goal of such a center would be to establish HE educational courses, to coordinate between HE organizations on campus and off campus, to organize seminars and conferences on humanitarian engineering, etc. The office should work as a bridge between the engineering school and the HE organization work. It could organize international HE projects as study abroad or capstone courses. It should not only serve the students but also coordinate engineering faculty and alumni involvement in HE work and research (Passino, 2009). Alumni and professionals should be encouraged to participate in humanitarian engineering organizations.

Humanizing Culture Within The Engineering Education Setting and Profession

Reforming engineering education would help to humanize the culture within engineering, but it is not enough. The Institution of Engineers in Australia states, "The Review of Engineering Education is recommending no less than a culture change in

engineering education." (Kabo, 2010). The following points give concepts and practices for reforming the culture within the engineering education and profession.

• ***Teach critical theories and critical thinking skills:***

According to Vesilind, "The engineer is sophisticated in creating technology but unsophisticated in understanding its application. As a result engineers have historically been employed as hired guns, doing the bidding of both political rulers and wealthy corporations" (Downey, et al., n.d.). Many engineers have accepted neoliberalism and globalization without critical understanding or utilizing critical thinking skills. As a result, they work within neoliberal constraints to respond to market forces without considering taking action to make structural change (Kabo, 2010).

Teaching critical theories will encourage students to ask "why" questions, instead of asking only "how" questions while ignoring the context and consequence of their actions. Also, teaching critical theories and critical thinking skills will enable the student to question dominant engineering culture and practice. Critical thinking is not merely thinking rationally or clearly but having the ability to see beyond what is considered "common sense" (Riley, 2008). According to Donna, "Critical theory poses questions that can help us reframe the problems that face engineering now and help us define new ones. Critical theory employed in an engineering classroom can deconstruct authoritative engineering texts, enable students to encounter problems that go beyond 'given: find,' and lead students to examine their education, including learning objectives, the course syllabus, and the textbook itself." (Riley, 2008).

• ***Transform objectivism to subjectivity in engineering and science:***

Many engineers tend to see their work in positive terms. They take for granted that their work is objective (Kabo, 2010). They focus only on the technical side of problems. This mindset typically results from two other common perspectives in engineering: reductionism and technological determinism Reductionism suggests that a problem could be solved by breaking it down into smaller components. Then, analyzing the components can explain the whole system. This method is used in the problem-solving teaching methods of engineering. (Riley, 2008). Technological determinism emphasizes that technology on its own can further development and solve problems without considering the social, political or other contexts.

Teaching engineering as an objective field of knowledge is not a valid option. Technology and engineering are socially-constructed fields. "Our attitudes toward technology hinge, in a large part, on what we believe about the nature of the knowledge underlying it. Unlike scientists, engineers are working with a world of their own creation, and the act of creation cannot be understood in positivist terms." (Mcisaac, Morey, 1998). An emphasis on subjectivity will encourage engineers to question their belief in

technological optimism and to think about cultural aspects and context when developing technological solutions.

• ***Transformative Learning Theory ("TLT"):***

Engineers tend to do work without questioning their motives and perceptions, which are two significant aspects of HE work. This notion could be challenged through transformative learning. According to Mazirow, Transformative Learning Theory focuses on "how we learn to negotiate and act on our own purposes, values, feelings, and meanings rather than those we have uncritically assimilated from others—to gain greater control over our lives as socially responsible, clear-thinking decision makers." (Kabo, 2010). Transformative Learning Theory will enable humanitarian engineers to question their motivation, whether it is for helping people in need, getting connections, learning, or any other reason. In addition, it will enable volunteers to examine their point of view toward undeveloped communities. Do they view them as "less than us?" Ignorant? Lazy? Do they really need our help?

• ***Holistic education to challenge market ideology and military mindsets within engineering:***

Neoliberal ideology and military mindsets are dominant in engineering education and professions. Pawley studied questions such as "who defines engineering problems, who benefits from the engineering problems, and who benefits from the engineering solutions." She also asked who is left out of engineering solutions. She found "engineers work overwhelmingly in private, profit-oriented organizations and on industrial, commercial, and military problems." Most engineering problems tend to be large-scale problems with small-scale problems exiled outside of the engineering profession. This military and market-based education influences how conventional engineers define problems and evaluate engineering solutions. (Riley, 2008)

The implications of these mindsets could in some ways contradict the objective of HE work. Thus, there is a need to provide a more holistic ideology that enhances spirit of service and humanitarian ethics in engineering education. Integrating holistic education theory in engineering courses could serve this need very well. The goal of holistic education theory is to challenge the dominant reductionist culture within the educational system. It relies on five main principles that relate directly to HE. First, holistic education theory puts human development as the primary purpose of education. It emphasizes deepening the relationship between self, family, local community, global community, the planet and the cosmos. Second, holistic education honors each learner (or person in need) as unique and inherently creative, with individual needs and abilities. Third, experimental learning is a core part of the educational process. Fourth, multidisciplinary curriculum is key in holistic education theory. Fifth¸ holistic education theory emphasizes that each individual is a global citizen. (Mahmoudi, et al.,2012)

• ***Encourage diversity to challenge conservative views and white male dominance:***

For a variety of historical reasons, the engineering profession in the US is largely under white male dominance (Mcisaac, Morey, 1998).Sally Hacker, who observed engineering classrooms at various universities, states, "At the most and least prestigious institutions, the institute, and the community college agribusiness program, educators presented a conservative ideology." (Riley, 2008) A study done to identify the political identities of United States faculty members in various disciplines found that engineers have the highest percentage of conservative people. Only 20% of engineers in the study considered themselves left of center, and more than half considered themselves right of center(Riley, 2008). The lack of ethnic, gender and ideological diversity within the engineering profession does not give engineers the opportunity to develop cultural understanding skills, which are critical issues in HE. Engineering schools should design programs to increase diversity especially within humanitarian engineering programs. This could happen, for example, by giving scholarships and integrating global non-western thought in engineering subjects.

• ***Service learning theory:***

Service learning theory could be used to enhance a spirit of service in engineering. Service learning is defined as "a course-based, credit-bearing, educational experience in which students (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility" (Parsons, n.d.). There are four criteria for successful service learning in engineering education: reciprocity, relevance, respect, and reflection. Reciprocity means both student and community should benefit from the service. Relevance indicates that the service provided to the community should be related to engineering skills and knowledge. During the service, there should be mutual respect between the engineers and the community. Finally, reflection is an important step since the objectives of social service activities are usually unclear. (Oakes, 2012).

CONCLUSION

This paper concludes that creating a comprehensive HE program requires a model with four phases. First, creating a philosophical framework for humanitarian engineering education and practice. Second, reforming contents and methods for engineering education in universities. Third, involving students in extracurricular humanitarian engineering work, and creating a loop to integrate the extracurricular work with research and education in the universities. Fourth, humanizing the culture of engineering education and practice.

The most important attitudes that the program should enable students to acquire include, but are not limited to: ethical behavior, especially empathy and compassion, plus spirit of service; flexibility and adaptability; patience and persistence; positive attitude and optimism; openness, and passion to work and learn. The most critical skills that the program should enhance, in addition to the engineering technical background, include: communication, cultural awareness, teamwork, leadership, resourcefulness, collaboration, system thinking, problem solving and understanding the local and global context. The best pedagogical practices to enable humanitarian engineers in acquiring the above skills and attitudes include (but are not limited to): international and local placement, organizing events, guidance from faculty advisors and mentors, taking courses related to HE, working on multidisciplinary teams, sharing lessons among humanitarian engineering organizations, and dialogue and reflection.

Traditional engineering curriculum and teaching methods are not adequate to equip students with these attitudes and skills. Therefore, new courses that integrate technical and non-technical subjects should be offered, using methods that enhance different ways of thinking. Moreover, the dominant mindset within engineering professions that oppose the humanitarian engineering objective should be challenged using social pedagogical theories and practices such as critical theories, holistic education theory, transformational learning, service learning and emphasizing subjectivity. The outcomes of this research could help in designing a comprehensive humanitarian engineering program. Further studies for existing HE educational programs and organization can highlight important points and enhance the research result.

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Research Article

Meaningful Learning and The Integration of Responsible Management Education in the Business School Courses[1]

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Abstract:

In recent years there has been an increasing interest in responsible management education. Integration of the principles of responsible management education (PRME) within the core curricula of business schools and management education-related institutions calls for the creation of innovative pedagogies and educational approaches. Responding to the inherent challenges associated with the development and implementation of education for sustainability within existing business-related education, this paper seeks to discuss a teaching initiative of introducing Model United Nations (Model UN) as a classroom activity for undergraduate students. The main purpose of research presented in this paper is to explore students' experience of engaging in Model UN debates around topics related to the sustainable development goals as defined in the UN 2030 Agenda for sustainable development (for example, youth unemployment, climate change, poverty, etc.). Model UN is traditionally known as an extra-curricular educational simulation of the United Nations where students play their roles as delegates from different countries and endeavour to solve real world issues using the policies and perspectives of their assigned country as well as policies and procedures of the United Nations. In this paper Model UN is proposed as a classroom engagement activity which assists undergraduate students in recognising the complexity of international negotiations and reflecting on challenges associated with the decision making process and how it affects the sustainability agenda on the individual and societal level. This paper seeks to provide a useful insight into the practical value of Model UN simulation as a means to facilitate meaningful learning on the course. It is suggested that experience of introducing Model UN as a core curricular activity, rather than one that is extra-curricular, will be of particular interest for educators who are involved in delivering sustainability-related courses or wishing to teach sustainability-related topics in globally responsible business-related education programs for undergraduate students.

Keywords: Responsible management education, meaningful learning, sustainability

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INTRODUCTION

In the era of the post-2015 UN Sustainable Development Goals there has been an increased attention to the integration of the skills and concepts of sustainability in higher education curricula. Many universities and business schools worldwide are now exploring possibilities of incorporating principles of sustainability and responsible management into their teaching, research and enterprise activities. Towards the end of the 20th century, the global debate on mankind's role in causing irreversible changes within the atmosphere and various elements of the biosphere has gathered considerable momentum. The United Nations Framework Convention on Climate Change formally recognizes the unfavorable effect of human activity on the environment and stipulates its member states to work collaboratively in addressing this grave problem. Various intergovernmental panels and conventions have acknowledged the credibility of the body of scientific evidence that suggests a direct correlation between the industrialized way of life and the damages suffered by the ecosystems and the wider human society (Earth Council, 2000; Paris Agreement, 2015). The vision set out by the Brundtland Commission (1987) can only be realised if everyone across the board, from a lay individual through to global governmental systems truly understand the dynamic interdependence between the human and natural systems (Dale & Newman, 2005). As highlighted by Vemury et al. (2013, 2015), it is incumbent upon Higher Education (HE) and Further Education (FE) institutions to engender among their students as well as the wider community, an understanding of the dynamic nature of earth's ecosystems and a responsible way of engaging with them.

Nowadays, there are multiple perspectives on the way teaching professionals can promote and deliver sustainability teaching and learning. It has been recognised that creating learning environments in which students can meaningfully learn about sustainability and sustainable development presents significant challenges for higher education professionals. Students on business-related programmes at universities should be given the opportunity to learn about sustainability and sustainable development to a sufficient level of rigour so in the future they can then take informed decisions and actions driven not just by ambitions of increasing bottom-line profits and shareholder value, but by a sense of environmental consciousness and socio-economic equity throughout their professional career. It has been argued that delivering principles of sustainability requires dedicated HE institutions to adopt pedagogic strategies that are cross-disciplinary and broad enough to show a good balance between the environmental and social equity issues (Jucker, 2001; Mulder et al., 2012).

This paper presents discussion and reflection on the importance of a teaching and learning concept called meaningful learning. The overarching aim of the study is to provide a useful insight into the practical value of Model United Nations activities in the classroom as a means to facilitate meaningful learning on business-related university

courses. To illustrate pedagogical opportunities and challenges related to sustainability education informed by the UN Principles for Responsible Management Education (PRME), data drawn from first year undergraduate students at Newcastle Business School (Northumbria University, UK) has been analysed.

Responsible Management Education and Meaningful Learning

The United Nations' Principles for Responsible Management Education (PRME) is a global initiative which seeks to embed principles of sustainability and responsible management in business school teaching, research and enterprise activities. The PRME represents a set of voluntary standards to which business schools agree to adhere to and incorporate universal values into curricula and research. Acting as 'a catalyst and as a facilitator' for the development of a new generation of business leaders, the PRME calls for a more systemic understanding of the mission of management education in society (Alcaraz & Thiruvattal, 2010). Since its official launch in 2007 more than 650 leading business schools from over 85 countries have become PRME signatories (UNPRME, 2016). Higher education institutions involved in the PRME are guided by the following six principles:

1. Purpose: Developing the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.

2. Values: Incorporating into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact.

3. Method: Creating educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership.

4. Research: Engaging in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value.

5. Partnership: Interacting with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges.

6. Dialogue: Facilitating and supporting dialog and debate among educators, students, business, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability (UNPRME, 2016).

As discussed by Waddock et al. (2009), PRME presents a unique opportunity to business schools and educators to critically reflect upon and form their own perspectives

of the numerous challenges faced by humanity and to help them develop pedagogic strategies that address these challenges. Muff et al. (2013) call upon educators to amend their instruments of imparting management education so they contain greater emphasis on inclusivity and environmental consciousness. Given the nature of their expertise, business educators may not have adequate level of initiative and understanding to deliver PRME without receiving additional training in sustainability matters (Cezarino, 2016). This calls for the leadership team of a business school to clearly set out its vision and plan for achieving PRME and seek the active support of its academic staff and students in this endeavour.

Model United Nations (Model UN) is known as an educational simulation in which students can learn about international relations and the United Nations role and responsibilities. Model UN is one of the world's most popular extra-curricular educational simulations where students play their roles as delegates from different countries and endeavour to solve real world issues using the policies and perspectives of their assigned country as well as policies and procedures of the United Nations (Levy, 2016).

Increasingly, research demonstrates a wide range of benefits which Model UN can bring to support students' learning journey in the university (Obendorf & Randerson, 2012). For example, Philips and Muldoon Jr (1996) argue that the students participating in Model UN are likely to develop an ability to view complex problems with a perspective which is broad and more global in its essence. This, in their opinion, prepares business students really well to function and succeed in the business environment which is characterised by the interdependence of various national and international governmental and non-governmental organisations. Despite the evidence of the educational potential of Model UN, there has been little research on how Model UN simulations can support sustainability education in the university context. The study presented in this paper begins to address this research gap.

In this paper Model UN is proposed as a classroom engagement activity which assists undergraduate students in recognising the complexity of international negotiations. It also encourages reflection on the challenges associated with the decision making process and how it affects the sustainability agenda on the individual and societal level. Design of the "International Business Environment" module which is used as a case study in this paper has been informed by the principles for responsible management education. This module incorporates Model UN simulation as a core learning activity to facilitate meaningful learning.

Meaningful Learning

Meaningful learning is one of the educational topics which has been built upon the ideas of Ausubel (1963,1968, 2000) and which has been extensively discussed in academic literature over the last fifty years. It is generally agreed that meaningful learning occurs

when the learner interprets, relates, and incorporates new information with existing knowledge and applies the new information to solve novel problems (Cortright, Collins & DiCarlo, 2005). Some researchers link meaningful learning with the reflective practice of the learner, allowing for reconstruction of a person's view of him or herself. From this perspective meaningful learning can be defined as a realisation of a person's weaknesses, strengths, and potentials (Taniguchi, Freeman, & Richards, 2005).

According to Ausubel (1968), new information is meaningful to a learner to the extent that it can be related to what is already known. In this sense, there is a clear distinction between the idea of meaningful learning and rote learning or memorising. Considering that knowledge stored in our brain consists of networks and propositions, when meaningful learning takes place "new concept meanings are integrated into our cognitive structure to a greater or lesser extent, depending on how much effort we make to seek this integration, and on the quantity and quality of our existing, relevant cognitive structure" (Novak, 2002, p. 551). Being accompanied by the creation of multiple mental models, meaningful learning results in the acquisition of knowledge that is well integrated with everything else that the learner knows, as Michael (2001, p.147) explains. In contrast to meaningful learning, if we learn by rote memorising "no integration of new concept meanings occurs, and existing cognitive structure is not elaborated or reconstructed" (Novak, 2002, p.551).

When it comes to factors that promote meaningful learning in the classroom experience, it is argued that one of the powerful ways to facilitate meaningful learning is to get students' to talk about subject matter by discussing it with one another, justifying and explaining their points of view as opposed to simply listening to the tutor's explanations (Michael, 2001). Therefore, for meaningful classroom experiences students should play an active role in exploring the interaction opportunities provided by learning activities. In addition to student interactions, the relationship between the new content and students' prior knowledge can be enhanced by scaffolding students' learning and providing them with support when and where it is needed. As Michael (2001, p.155) puts it "meaningful learning… is possible, but students need our help to get there." Furthermore, it has been suggested that facilitation of meaningful learning in the classroom requires teaching professionals to learn new ways of interacting with their students by clearly articulating meaningful teaching as a major objective of their course.

It is argued, that the integration of sustainability in higher education curricula requires critical thinking about re-orientation of existing didactical arrangements (Wals & Jickling, 2002). New didactical arrangements call for the exploration of new ways of teaching and learning. This will require moving from rote learning towards more creative and meaningful learning practices. However, to date there has been limited research exploring the relationship between sustainability education and meaningful learning. In

what follows next, we will begin to address this gap by discussing opportunities and challenges associated with facilitation of meaningful learning in the classroom.

METHOD

In this study, we have examined to what extent Model UN, as a pedagogical method, can be effective to promote meaningful learning through facilitating student participation in classroom discussion and increasing student interaction. In order to get students' feedback on the success of the chosen teaching approach, the leading author who is a module tutor of a core undergraduate module "International Business Environment", collected 302 questionnaires from the first-year undergraduate students studied on this module in 2015-2016 academic year. For the purpose of this paper we have analysed two open-ended questions from these questionnaires: To what extent have the Model UN activities been beneficial to your learning on the module? What is the most important skill you have learned during the Model UN seminar sessions? To explore and understand the phenomenon of meaningful learning we utilised an inductive approach based on the principles of grounded theory which allowed us to interpret 'real' experiences of the students involved in Model UN simulations (Strauss and Corbin, 1998).

RESULTS

Students' resistance

Students' feedback provided in their questionnaires has been an eye-opening experience for a teaching team as it suggests that a lot of students have been challenged by the Model UN classroom activities. Most of the learning expectations of the first year undergraduate students are based on a mix of traditional rote learning activities, and students are experiencing difficulties when meaningful learning activities (such as Model UN) are introduced in the class. Our research has shown that it is not an easy task for the first-year students to move from the traditional approaches which emphasise rote learning to teaching and learning patterns where meaningful learning prevails. At times, for example, we were faced with students' dissatisfaction which have been highlighted in the comments such as "Model UN is irrelevant to my learning", it "did not spark my interest", "I wasn't interested, if I wanted to do Model UN discussions I would've opted for politics". Thus, implementation of the innovative teaching methods can cause some resistance from particular groups of students. Therefore, as teaching professionals, we have to learn how to identify possible areas of resistance and how to address them in order to support students' learning journey.

Benefits of Model UN simulation

On the other hand, many students consider that Model UN activities have been beneficial to their learning on the module. Positive comments of the students in relation to Model UN included their appreciation of "similarities and differences between countries"

during the classroom discussions, as well as the possibility of "learning in depth about certain countries" they "had little previous knowledge on". Students' responses also highlighted their interest in the work of the UN which they consider as important knowledge for international business managers. In addition, students mentioned that Model UN discussion has been one of "the best and most interesting ways to learn" about international business. Model UN discussion has been recognised as an informative activity which has provided students with the opportunity of "consolidating" their own knowledge and thus contributed to the development of their course work. One of the students wrote "It was my first time experiencing something like that [Model UN activities] and it was very interesting to think of solutions to today's problems. It broadened my understanding and I've become more interested in similar issues and UN approach".

Importance of critical reflection

Our data suggests that some of the students expect to see relevance of the Model UN classroom activities to their assessment only, rather than to be challenged by in-depth discussions about global business issues in the class. Moreover, several comments were quite disappointing as they showed that students did not see any relevance of classroom discussion to their future, as one of the students mentioned "It was a good experience… however, I don't think it would benefit me in the future". We also observed that meaningful learning requires both the facilitators and the students to exercise sufficient levels of critical reflection throughout the learning period. As teaching professionals we should find new ways of active engagement with our students in order to get more in-depth insights in their learning experience on the course. Our active engagement with students can help us to consider what ignites their interest in subject matter and facilitate their meaningful learning by creating teaching materials and environment that support their objectives in personal and professional development.

Role of tutor's guidance and tutor's support

We have also collected interesting comments which allowed us to shed some light on the important role of tutors in guiding and supporting students' participation in Model UN simulation. Students were specific in their criticism of the Model UN terminology and procedures which they said they have found confusing. For example, one of the students mentioned being " a bit lost at the start", while others were much more explicit saying that they simply "did not understand all the UN activities". Several students pointed out that they foundthe Model UN related tasks "quite difficult" as "they never done anything like that before". Obviously, these comments suggest that innovative teaching approaches might hinder meaningful learning when students have a lack of clarity in new terminology and have difficulties in linking it to their previous learning experience. Thus, students need careful guidance and support from the teaching staff during their first exposure to Model UN simulation.

Model UN simulation and students' skills development

When asked "What is the most important skill you have learned during the Model UN seminar sessions? " 26 % of students highlighted that one of the most important skills they've learned during their Model UN experience is research skills. Team-working skills have been developed by 21% of respondents. Students highlighted their expectation of active engagement from their peers, at the same time our data suggests that this was not always the case. One of the students put this explicitly by observing that "not everyone participating in the debate were taking the task seriously, therefore at times it wasn't productive". Similarly, another student mentioned "people did not give the activity their all, this led to only a few people contributing". Public speaking and academic writing have been recognised as important skills developed during Model UN discussions by 10% and 11% of the students respectively. Students also mentioned the importance of other skills such as communication, leadership and presentation skills.

CONCLUSION

There is a growing number of scholars emphasising the importance of the re-orientation of the existing business curricula towards sustainability teaching and learning. This paper helps to understand better how meaningful learning can help to facilitate and support sustainability education. This study provides a useful insight into the practical value of Model UN as a means to facilitate meaningful learning on business-related courses. It provides a useful analysis of the challenges and complexity related to the delivery of Model UN simulation as a classroom engagement activity. It is important to acknowledge that the current study has been conducted in one British university and data has been collected from one cohort of undergraduate students. Considering the importance of meaningful learning on sustainability-related programmes, more research is required to explore a range of factors that may limit or facilitate meaningful learning in the classroom.

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Research Article

Test the Effect of Perceived Satisfaction, Motivation and Anxiety on Second Life Environment in Distance Learning Model: Structural Equation Modeling[1]

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Abstract:

The main purpose of the present study is to predict the relationship between motivation , anxiety, perceived satisfaction and Second Life within asynchronous learning environment specifically in EFL course. Data of the present study were collected from undergraduate students - Sudan University of Technology and Science (SUST) in Sudan. The Questionnaire was conducted manually. Structural Equation Modelling (SEM) Version 16 and SPSS Version 11.5 were used. A hypothesized model was tested for model fit in the present study. The convergent validity and discriminant validity were conducted. The exogenous variables showed that Motivation was positively and significantly related to anxiety statistically level was 0.29 and Motivation was positively and significantly related to second life statistically level was 0.32 , anxiety positively and significantly related to Second Life statistically level was 0,25 whereas, perceived satisfaction was excluded in this study because did not satisfy statistical requirement. Therefore, the study was conducted in asynchronous learning environment, particularly in EFL course which is offered to undergraduate students at Deanship of Distance Education - Sudan University of Technology and Science (SUST) - Sudan.

Keywords: Motivation, perceived satisfaction, anxiety, second life, asynchronous learning

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INTRODUCTION

Nowadays. the use of Virtual worlds for educational purposes increasing dramatically. The users in the second life enable to interact as an authentic world and communicate with each other through avatar. Furthermore, second life developed by Linden Lab in 2003 as free program. In fact, second life offers on line virtual houses either the participants reside or rent in them. Second life is environment designed by 3D animation that appear in a real life world. The role of participants can more freely and share ideas as well as real life and chat and send messages. Baleikanli (2012), postulates that second life a play ground people can augment their interaction via constructive play /work, equally, scientists and researchers examine and proof effectiveness of second life environment in teaching and learning. SL has provides various merits learners active constructors of knowledge who bring their own needs, strategies and skills, beside that they constructs a perfect context to meet all such learners needs. moreover, learning environment that provides opportunities for learners to collaborate, to discuss new information.

Distance Education in the Sudan

There is no doubt that the 21st century is the age of innovation of the World Wide Web (WWW). Instant Information and Communication Technologies (ICTs), which are used in many Fields of knowledge such as science, medicine and education, is no exception. It has been acknowledged that the Internet in educational arena has changed the role of the teachers from transmitter of information to the learners, as well as shifting the role of the learners from information and memorizing it to effective participants. Therefore, the internet has increased instructors engagement with students specifically in the online interaction course also it has enhanced self - directed learning among students. According to Rosenberg (2001), e-learning provides three benefits namely: Networks which facilitate instant update, storage, retrieval and sharing of information and it is delivered via computer using standard internet technology.. Azhari (2009) postulates that in the earlier of 1960s the national T.V had attempted to disseminate educational learning English language program throughout the capital city – Khartoum the program had functioned for a limit period approximately two years. Furthermore, during that time University of Khartoum endeavors to offer distance education program in 1963 for vocational discipline as well as technicians in order to improve their responds and motivation to the societal needs. In fact, in the earlier of 1990s Sudan took series steps toward distance education and established Open university of Sudan as well as some higher institutions which began to adopt the philosophy of distance education. Currently there are some strategies have been adopted to implement electronic learning across Sudanese universities.

Anxiety

Anxiety can be defined into three ways : State, trial ,situation – specific. The people experience moment in reaction to certain situation as an individual personality .Thus, anxiety is central motivation as potential factor ,Spielberger (1983)defines anxiety as subjective feeling of tension ,apprehension ,nervousness and worry associated with aroused of the auto – nomic nervous system .

Motivation

Motivation is the direct reason to cause, inspired system some sort of human behavior and people can be divided into three categories achievement , social and impression. Motivation is a word that can be used to label or identify the relationship between how someone performs and what is expected of him, and the degree to which environmental events affect his behavior as expected (Solane & Jackson, 1974, p.5). Motivation study deals with the processes that give behavior its energy and direction (Reeve, 1992, p.7). Reeve (1992) explained that motivation can be self-regulated or environmentally regulated. A motivational study needs to control both of these variables in order to be effective (p. 13).

Perceived satisfaction

Satisfaction has been addressed to be a very important component for the successful completion of the learning courses in different environments. Perceived satisfaction is known to be of great value in understanding students' perceptions and evaluations , repeatedly showing itself to be an important indicator of future students' behavior.

Problem statement

English language in distance education program seems to be problematic specifically at Deanship of distance education - Sudan University of Technology and Science (SUST) due to lack of oral communication, a conducive environment and social interaction among the learners during consultations hours. Furthermore, learners may increase their English language oral communication by many means such as animation interactive environment and mitigate their anxiety towards oral communication. They will to increase their motivation. Moreover, there is a serious lack of research on the utilized Second Life as English Foreign Language learning environment (Aydin, 2013).

Figure 1: Conceptual framework adopted from Christopoulos, (Aydin, 2013).

Research question

The major research question of this study is as follows:

1. Is there statistically positive relationship between perceived satisfaction, anxiety and motivation in second life (SL) environment?

Objective of the study

1. To explore the relationship between perceived satisfaction, anxiety and motivation in second life (SL) environment.

Hypotheses of the study

The following hypotheses of the present study are:

H1: Student anxiety will be positively related to Second Life.

H2: Student motivation will be positively related to Second Life.

H3: Perseverance satisfaction will be positively related to Second Life.

H4: Student motivation will be positively related to Second Life via perseverance satisfaction.

H5: Student anxiety will be positively related to Second Life via perseverance satisfaction.

Past studies have been conducted on the relationship between perceived satisfaction and Second Life. They verified that ability to motivation, anxiety, and perceived satisfaction related to Second Life. Wehner, et al (2011) virtual worlds could be valuable resource to lower student anxiety and increase their motivation to learn a foreign language. Wang et al (2012) the study showed that the result showed that SL served appropriately both as a language learning and a motivation factor. The scholars Wang et al (2009) conducted a study and the result showed that the audience integrated SL into an EFL program. Balcikanli (2012) the result showed that SL served as a good bridge for cultural competence. SL contributes to authentic interaction with native language Petuson (2012) SL appeared to enhance discourse engagement and provides social interaction and language practice. Wang, et al (2012) the SL in EFL language program had a positive impact on students' EFL learning. Li et al (2012), the result shows motivation has effects on the learning outcomes in second life, in addition, Kruk (2013) the result shows students have high level of motivation to learn English in second life and a lower level of anxiety. In summary, motivation and can be used in learning languages in order to increase lowers motivation and lower anxiety of languages fields.

METHOD

This study was used the quantitative survey research approach Rence (2004), a survey approach is appropriate technique to ask people about self-report, beliefs or behaviours and for statistical analysis the Structural Equation Modelling (SEM) with AMOS software were used in order to develop a model that reflects the relationships among the variables of the present study, namely: Perceived satisfaction, motivation and anxiety. The data of this study were collected through the questionnaires which were second life dimension was adapted from Christopoulos, A (2013), motivation anxiety and perceived satisfaction adapted from Yousef (2011).

Research participant and data collection

The data were collected via traditional questionnaire. In this study the respondents were selected by utilizing stratified technique random sampling. The Structural Equation Modelling (SEM) was used to address the objectives of the present study. Descriptive research method involves data in order to reflect the attitudes, opinions towards a specific social event, also investigates the relationships numerically.

Table 1
Demographic information of the participants (N=331)

Variable	Scale	Frequencies (%)
Gender	Male	45.6
	Female	54.4
Age	20 -24 years	15.7
	25- 29 years	32.0
	30 -34years	29.0
	35- 39 years	11.2
	Over 40years	12.1

Instrumentation

A questionnaire employing the 5-point Likert scale with 1 = Strongly Disagree) and 5 = Strongly Agree was used. The questionnaire comprised 51 items which measured four major constructs. The questionnaire was adapted from Christopoulos, A (2013) and Yousef M. (2011). A pilot study was conducted in 2015 at deanship of distance education Sudan University of Science and Technology (SUST) to establish the reliability of the questionnaire. The Cronbach alpha index obtained as α = 0.90 overall, with Motivation, Anxiety, and Second life reporting α = 0.90, α = 0.90, and α = 0.90 respectively. The questionnaire was attached to 331 respondents who interact in face to face program. To avoid the ambiguity of the items. The questionnaire was emerged fully fledge after many abortive test, in reality, every aspect of a survey has to be tried at beforehand to make sure that it works as intended (Oppenheim (1992, P.47).Some scholars agree that when a

researcher conduct pilot test to assess internal consistency and they believed that the value of Cronbach Alpha is greater than 0.60 – 0.70 in exploratory studies, in other words, the range of Cronbach Alpha between 0.00 to 1.00 and close to 1.00 is perfect or is higher reliability, whereas, a score of Cronbach Alpha 0.90 is acceptable. Kline (2005), Gray (2004) Hair et al (2010).

Data Analysis

Structural Equation Modeling (SEM) was used in order to estimate the hypotheses. Version 16 of AMOS was employed, two ways were conducted firstly: Test measurement model via Confirmatory Factor Analysis (FCA) to obtain reliability and validity of the items in other words, to test the relationship between observed variables and latent variables. Secondly: Structural model employed to test the relationship among latent variables.

Convergent validity

The convergent validity (CV) of the questionnaires of present study was carried out based on Fornell and Larcker (1981), CV loading > 0.7, CR > 0.7 and AVE should be > 0.5. These requirements are presented in the table (2) as illustrated below.

Table 2
Summary of discriminant validity for second life

Construct	1	2	3	4
Second Life	0.779			
SL2	1.784			
SL3	1.115	1.585		
SL4	0.943	1.011	1.462	
SL5	0.885	0.949	0.803	1.478

Note: *Diagonals represents the average variance extracted, whereas the other matrix entries represent the square correlations.*

Discriminant validity

The discriminant validity of this model evaluated based on Fornell and Larcker (1981) criteria, square root of the (AVE) values were carried out for each dimension separately. In addition, Teo (2009) proposed that to assess discriminant validity for factor should compare the square roots of average variance extracted (AVE) to teach factor with connections between that construct and all other constructs.

Table 3
Summary of discriminant validity for anxiety

Construct	1	2
Anxiety	0.732	
An2	1.564	
An3	0.718	1.413

Note: *Diagonals represents the average variance extracted, whereas the other matrix entries represent the square correlations.*

Table 4
Summary of discriminant validity of motivation

Construct	1	2	3
Motivation	0.707		
Mot1	1.788		
Mot 2	0.705	1.686	
Mot 3	1.453	1.453	1.453

Note: *Diagonals represents the average variance extracted, whereas the other matrix entries represent the square correlations.*

Table 5
Summary of discriminant validity for factors of anxiety, motivation and second life

Construct	Indicators	Factor Loading	CR	AVE
Anxiety	An2	0.763	0.828	0.536
	An3	0.700		
Motivation	Mot1	0.700	0.742	0.500
	Mot 2	0.700		
	Mot3	0.700		
Second Life	SL2	0.763	0.846	0.607
	SL3	0.868		
	SL4	0.765		
	SL5	0.714		

RESULTS

The present study was used Analysis of Moment Structure (AMOS) version 16 to estimate model fit by using Maximum Likelihood (ML). According to Davy & Savla (2010), Byrne (2010), Hair, et al (2010) emphasized that to measure model fit indices through three types of models : Incremental model which includes these fit indices TLI > .90 close to 1, CFI and NFI > .90 AGFI close to zero, while absolute model measures separately and fit indices chi square value < 3, GFI zero to 1.0 and great value is accepted, RMSEA < 0.05

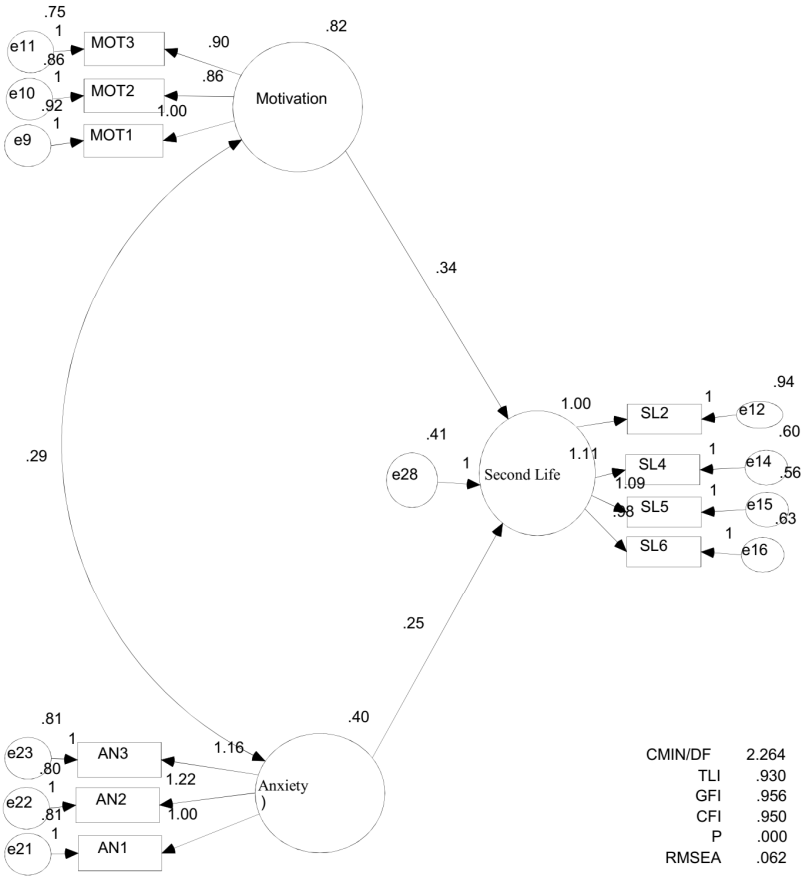
to 1.0 is acceptable fit .The structural model of the this study was estimated to determine the factors of present study motivation , perceived satisfaction, anxiety significantly influence second life, whereas perceived satisfaction was excluded because shown weak statistical significant .The result in general was yielded that a poor fit of the model which motivated the researchers to revise the model until figure out the fit model . In addition the model was revised by excluded some items for instance perceived satisfaction in order to gain fit model and the fit indices had shown Chi/df 1.876, TLI = 0.887, GFI= 0.893, CFI = 0.905 and RMSEA = 0.052 (Figure 3).The second estimation had done and explained good model fit in terms of fit indices for instance Chi/df 2.230, TLI = 0.947, GFI= 0.957, CFI = 0.962 and RMSEA = 0.061 (Figure 4).

DISCUSSION

The present study attempts to participate in the body of knowledge in terms of perceived satisfaction, motivation, anxiety and second life in synchronous learning environment. First, this study found out that hypothesis H1 Student anxiety will be positively related to Second Life online learning. This result indicates that students in asynchronous learning environment, whenever they interact they will be able to lower their anxiety within any academic course and EFL is not an exception. Furthermore, this finding of the present study is supported by previous research studies such as, Wehner, et al (2011), which tested the relationship between motivation, anxiety and virtual worlds could be valuable resource to lower student anxiety and increase their motivation to learn a foreign language. In addition, Wehner (2014) tested the relationship between motivation, anxiety and virtual worlds in Spanish language learners, the findings found out that there was statically significant relationship between avatar presence affected their anxiety and motivation for learning Spanish. While, Li, et al (2012), conducted a survey study on flow and motivation in second life and the result showed that immersion experience and motivation have effects on learning outcomes in second life. But, Kruk (2013), found out that the relationship between level of motivation and anxiety. The result shows students have high level of motivation to learn English in second life and a lower level of anxiety.

Moreover, Gazza & Huntor (2014), the findings indicated that students anxiety in second life environment. The relationship between students anxiety and second life environment are related at (SUST). Lower student anxiety in second life environment might lead students to be effective and interactive with the virtual life and develop their English language. SUST can mitigate and eliminate students anxiety to be retain and continue in pursuing their academic disciplines specifically in EFL courses. H2- Student motivation will be positively related to Second Life. Also the present study attempts to test direct relationship between Student motivation will be positively related to Second Life. This hypothesis did not support directly with previous research studies Gump (2015), tested relationship between motivation and second life with a second language acquisition in Spanish classroom the result showed positive perceptions of virtual world leads to less

anxiety when learners interact with the target language. In the present study, motivation is a good predicator in second life environment. While Kruk (2016) focuses on the relationship between motivation, anxiety and boredom in learning English language in second life. The result showed students declared a quite high level of motivation to English language in second life environment and a low anxiety. Moreover, Kamali (2012) the result found out that the second life experience provided students to gain motivation and overcome their anxiety related to speaking English. Therefore, the previous research studies verified that motivation can enhance students learning English language. In contrast, the present study confirms that motivation and anxiety are positively related in second life environment. To retain students in second life environments and increase their knowledge in EFL, there is a need for a collaborative staff, conducive online environment, interactive forums with the students, and low their anxiety in order students can advanced EFL skills, via blackboard system, retrieve and navigate information. The result interpreted from students motivation items, anxiety items are showed students willing to interact with second life in online learning and develop their English language skills until gain the degree. Thus, the findings of the present study provided various implications of online interaction learning and motivation and anxiety in second life. The major result was that students motivation and student anxiety are good predictor of students interaction in second life at (SUST); means that high level of interaction, feedback and conducive environment within second life environment might lead students to be motivated and gain advanced English skills.



LIMITATIONS AND RECOMONDATIONS

The present study was conducted among the undergraduate students at deanship of distance education – Sudan university for science and technology (SUST) in the Sudan in 2015- 2016 academic session, the limitations of the study were: The respondents were only asynchronous learning students, and the study was focused only on face to face course, which was English language course EFL. In addition, this study was tested only two exogenous factors of students anxiety and students motivation, whereas the mediator factor which was perceived satisfaction was excluded because showed poor statistical loading according to fit model. Therefore, the findings might not be generalized to asynchronous learning or face to face interaction courses; for instance English Foreign language course. Further research studies should test in the future why students at (SUST) did not satisfy with second life and did not prefer content interaction via second life environment, and why perceived satisfaction showed very low statistical significant between perceived satisfaction and second life. Instructors at (SUST) should be concerned with positive feedback throughout their delivered courses, and also take into account that variety of learning resources such as online forums to boost students motivation toward English language and lower their anxiety. Also the instructors should invigorate their students during study English foreign language via online learning interactions.

CONCLUSION

Motivation and anxiety are widely used in asynchronous learning courses, particularly relevant to student academic achievement and second life environment Motivation and anxiety are. carried out from quantitative research approach. This study tested the relationship between motivation, anxiety and second life environment within asynchronous learning environment. Two exogenous variables were presented: Motivation and anxiety, while endogenous variable second life environment was tested within the original theoretical framework which was adapted from Christopoulos, A (2013) study.

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Research Article

The Effects of Judical Bodies' Interpretation Forms Of Legal Rules in Turkey on the Education Freedom in Universities[1]

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Abstract:

The freedom of conscience and belief can be defined as the freedom of people in what they wish to believe without the compulsion of political power and other people by means of laws and other means. The belief of religion that can be accepted as the natural extension of the freedom of conscience and belief is to be free in doing the requirements of the religion that the people believe in with its rituals. While it is not possible and effective to make restrictions in freedom of belief, today, there are some restrictions in some judical systems in freedom of worship. With the principle of secularism which is settled among the principles that the alteration of which are not even be proposed, there have been some different decisions about the administrative acts that cause the violation of belief and worship freedom in the implementation of the right of education which is secured with Constitutional Law in Turkish Constitution. In this study, the effects of the incompatible decisions of administrative jurisdiction about the implementations of the administration related to the education right of students at universities, which is secured by the Fundemental Law, on the freedom of education, especially for the last ten years, will be examined.

Keywords: Freedom of belief, freedom of worship, secularism, decisions of administrative jurisdiction

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INTRODUCTION

After founded in 1920, Turkish Grand National Assembly adopted some legal arrangements in public and private law mostly by way of borrowing them from western states. Many reforms were introduced in various fields after the proclamation of the Republic. As for clothing, western civilization was adopted. In 1928, the provision declaring that the "Religion of the State is Islam" was removed from Turkish Constitution, which was followed by adding the expression "secularism" to the Constitution in 1937. Being considered by subsequent constitutions as one of the unchangeable features of the State, this principle has existed to date.

There are some discrepancies in interpretation of Constitutional provisions which are the fundamental norms in the applicable law system in Turkey. After 1995, interpreting and applying the secularism principle in different ways led to segregation throughout the country. Misunderstanding the mentioned principle and sometimes some artificial factors resulted in breach of the right to religion and conscience of the students, public officials and even the citizens on the street. The problem was exacerbated, let alone solved, after applications made for legal remedy of such breaches due to unilateral point of view of the courts. Starting from 2007, interventions to the clothing preferences of the university students came to an end as the heads of some public institutions were changed. Thanks to the actual reconciliation adopted in Turkish Grand National Assembly in 2013, the issue was off the national agenda without any amendment to the Constitution.

In this study, the consequences of judicial decisions on students and educators will be examined, especially in the last 20 years in Turkey, with reference to the court rulings on the understanding and implementation of the secularism principle concerning the clothing preferences of the individuals.

Constitutional Court's Stance on the Limits of Right to Education

As for the lawsuit filed with the argument that the Law no. 3511 which states, "covering neck and hair with a cover or turban because of religious beliefs is allowed in higher education institution" is in conflict with the Constitution, in its Ruling of 07.03.1989 no. E. 1989/1, K. 1989/12, K., Constitutional Court briefly stated that, "In the secular state, the sacred religious sentiments can never be confused with the legal arrangements. Whilst arranging the clothing of women in higher education institutions counted as public institutions, whatever their appropriateness to religious necessity, they are valid because of their religious beliefs in the use of headscarves and contradict the principle of secularism by basing an arrangement in the field of public law on religious principles. Any rule that is set according to the religious rules has no legal characteristic. Legal order is a state which excludes religious order and builds and maintains its existence on law. The laws cannot be based on or bound by the religion." In this ruling, secularism was defined

as an ideology and it was underlined that principle of rule of law in a law state take its strength from secularism, and Turkish revolution makes sense with secularism.

With regard to the provision which reads, "Clothing is free in higher education institutions, as long as it is not in breach of the applicable laws" that is inserted to the Law on Higher Education Board by Law no. 3670, in its ruling of 09/04/1991 and no. E. 1990/36, K. 1991/8, K, the court underlined that "it is not contrary to freedom and autonomy that the state sets rules of order, just as it is not related to freedom and autonomy to join the classes with the clothes and covers that are not compatible with contemporary appearance, and that State affairs and politics cannot be interfered with religious sentiments as required by secularism principle" and ruled that the statement "as long as it is not in breach of the applicable laws" must be construed as, as long as it is not in breach of the Constitution which is the most powerful law, and the law amendment text was not in conflict with the Constitution by referring to its former decision of 1989. Mentioned Constitutional Court decision was defined as "dismissal with a comment" (Limoncuoğlu, 2008).

The secular nature of the state requires that it does not prevent enjoying religious freedoms, but on the contrary, it helps facilitate religious freedoms by laying the ground for their fulfilment. Nevertheless, in its reasoned ruling of 7.3.1989 and no. E: 1989/1, K:1989/12, Constitutional Court interpreted secularism principle in the opposite direction where it stated that "It is unthinkable that the state power makes special contribution to religious belief in education.". It is argued that in Western democracies, partial support to religions is not contrary to impartiality, provided that the state does not distinguish between different religions and sects (Erdoğan, 2004).

In the decisions of Constitutional Court, secularism has been described as a contemporary organizer of social breakthrough, political, social and cultural life, far beyond being a legal principle. High court used the reform laws concerning the founding philosophy of the Republic as supporting benchmark norms, and some of its decisions made the impression that it considers them superior the Constitutional rules (Özkul, 2014).

Constitutional Court acknowledges limitless freedom of religion and conscience and states that any worship which go beyond the spiritual life of an individual and affect social life can be restricted (Özbudun, 2004). It is necessary that those who participate in religious rituals and ceremonies have not intended to overthrow the secular republic so that this freedom can be regarded as a fundamental right. It abolishes the opportunity to use of any civil or political right supporting, either individually or collectively, any political program which is inspired by religion or includes religious concepts, and it provides no ground for referring to any religious values and symbols during political activities (Erdoğan, 2004).

Clothing is not just a formal look, it is a way of reflecting personality. The Constitutional Court admits that the issue of clothing is limited to the principles of the Turkish Revolution and Atatürk, and thus is not related to freedom of conscience. It recognizes that it is not possible to argue that wearing a turban, which is contrary to the secularism principle and secular educational rules of the Constitution, is a "democratic right" (Limoncuoğlu, 2008).

Stance of European Court of Human Rights

The European Convention on Human Rights (ECHR), to which Turkey is a party, states that no one can be deprived of his right to education, everyone has freedom of thought, conscience and religion. This right also includes freedom to express one's religion or faith by way of worship, teaching, practice and rites, either alone or together, along with the freedom of changing religion or faith. There is a provision which reads, "freedom to express one's religion or faith can only be restricted, in a democratic society, by law and compulsory measures with the aim of ensuring public order, public health or ethics or others' rights and freedoms."

European Court of Human Rights (ECtHR) found that banning turban in universities to be in conformity with ECHR. Leyla Şahin, a student of the Istanbul University Cerrahpaşa Medical School, was not able to take part in lectures and exams, nor be enrolled in the university due to wearing a turban, and her lawsuits against these acts turned no result in domestic law. The student took the issue to ECtHR and argued that such practice was in conflict with some rights governed in ECHR, namely protection of private life and family life, freedom of thought, conscience and religion, freedom of expression, prohibition of discrimination and right to education. During its examination, ECtHR acknowledged that the intervention had legitimate aims for the protection of the rights and freedoms of others and public order, pointing to the existence of a legally prescribed interference in a right protected at the ECHR, and stated that the ban was necessary in a democratic society. The rationale of the decision which reads, "In democratic societies where a considerable number of religions coexist in one and the same population, it may be necessary to limit the freedom of the individuals to show their religion or belief, in order to reconcile the interests of various groups and ensure that everybody's believes are respected" is interesting. ECtHR underlined the rightfulness of such restriction in a democratic society in its following evaluation: "There are extremist political movements in Turkey trying to impose their religious symbols and a society concept based on religious dogmas on the whole society, and the parties may take attitudes based on historical experience against such political movements in accordance with the contractual provisions…" and it concluded that such practice was not in conflict with ECHR.

Administrative Judiciary's Stance

As for making decisions on clothing, it may be said that administrative judiciary refer to the decisions made by Constitutional Court, and the decisions of administrative judiciary are, in essence, in the same direction as those of Constitutional Court. The decisions made by administrative judiciary may be divided into two in terms of the public officials benefiting or wishing to benefit from education service and those working in the education services.

Stance of the administrative judiciary on students regarding their clothing

Article 4 of Higher Education Law no 2547 which governs higher education in Turkey states that the purpose of higher education is to raise the students in line with the Ataturk's Reforms and Principles, as citizens of Ataturk Nationalism. In Article 5 of the mentioned law, furnishing the students with the awareness to serve Ataturk nationalism in line with the said principles is listed among "main principles" of higher education.

In her lawsuit petition, the plaintiff who is even not yet sure whether or not she will be a graduate student but wants to become a student and who has graduated from the faculty of theology and thus entering the Postgraduate Education Entrance Examination argued that she abided by the rules taught to them throughout her education and wore a headscarf, entering the exam would not change her legal status, and prohibiting wearing a headscarf was illegal. 8th Chamber of Council of State stated in its decision of 27.09.2005 no. 2004/867 E., 2005/3796 K., "In the preamble of 1982 Constitution, commitment to Ataturk's Principles and Reforms and secularism is adopted as a principle; in article 2, it is stated that Republic of Turkey is a democratic, secular and social state of law built on the fundamental values stated in the preamble. In article 42 of the Constitution, it is set as a rule that such principles are also valid for education, and it is stated that freedom of education will not relieve the duty of loyalty to the Constitution.

In parallel to those provisions which are included in the Constitution and which reflect general will of the Republic of Turkey, it is stated in article 4 of Higher Education Law no 2547 that; the purpose of higher education is to educate the students as citizens of Ataturk nationalism in line with Atatürk's Reforms and Principles. In Article 5 of the mentioned law, furnishing the students with the awareness to serve Ataturk nationalism in line with the said principles is listed among "main principles" of higher education. The statement in the Guide for Postgraduate Education Entrance Examination prepared in the framework of such arrangements which reads, "The candidate will not be allowed to take the exam unless she is bareheaded and her/his clothing is in line with the applicable legislation. The exam of the candidates wearing headscarves will be considered invalid even if they have taken the exam" is clearly not unlawful. The court ruled dismissal of the case by stating, "Besides, it is obvious that the provision in the guideline is required by a

legal obligation in that the candidate can easily be recognized and the parallelism with the identity to be arranged in the future can be achieved."

In terms of public officials working in education services

When the public official who was appointed as the Kindergarten manager of another school when she was working as a primary school teacher went to see the school he was just appointed to and to take the office, she was not allowed to the school since she had a photo on her id wearing headscarf, and she was not allowed to take the office as manager. Moreover, an inquiry has been filed and a disciplinary penalty was imposed following the report prepared as a result of the investigation. In addition, she lost the manager position and was appointed as a teacher to another place in the province. In her statements taken during the inquiry launched against her, the plaintiff teacher expressed that she was not wearing headscarf in the school where she works, but the witnesses stated that she covered her head from time to time when she was coming to and leaving the school.

In its decision of 26.10.2005 no. 2004/4051 E., 2005/3366 K., 2nd Chamber of Council of State stated that; according to article 176 of the Constitution, the Preamble which includes fundamental views and principles that the Constitution is based on falls under the scope of the Constitution, and the said preamble is a source which sets out the purpose and direction of the Constitutional articles as it includes fundamental views and principles that the Constitution is based on. In the preamble of the Constitution, it is stated that, in line with the reforms and principles introduced by Ataturk; no thought or idea shall be protected against Ataturk's reforms and principles as well as civilizationism, and that sacred religious feelings shall absolutely not be involved in state affairs and politics, as required by the principle of secularism; every Turkish citizen has an innate right and power, to lead an honorable life and to improve his/her material and spiritual wellbeing in a civilized order and the rule of law, the letter and spirit of the Constitution must also be respected in this respect and it must be interpreted and implemented with an absolute loyalty.

An order which is based on "contemporary education principles" stipulated in article 130 of the Constitution cannot be an environment where principle of secularism is ignored. It is unthinkable that this article, which prohibits any act against existence and independence of the State, integrity and indivisibility of the country, to exclude secularism considering its contribution to nationalism, independence and national integrity. The individuals who will participate in any scientific study steered by logic and observation should be raised by ensuring that they are not faced with any factor other than scientific requirements. An education shaped by scientific requests is only possible by keeping it away from dogmas and any effect in conflict with science. It is unquestionable that education will be performed in line with the reforms and principles of Ataturk and the contemporary science and education principles under the supervision and inspection of

the State, and no education institution in conflict with the mentioned principles can be opened.

On the other hand, article 2 of National Education Law no 1739 sets out the overall objective of Turkish National Education as to ensure that all individuals of Turkish Nation are the citizens who are committed to the reforms and principles of Ataturk as well as Ataturk's nationalism as referred to in the Constitution and who assume and fulfil their duties and responsibilities towards the Republic of Turkey, a democratic, secular and social state of law based on human rights and the fundamental principles referred to in preamble of the Constitution.

It is obvious that during providing education service the public officials working in a education-related field must avoid any act and behavior which may be in conflict with these fundamental principles included in the legal arrangements referred to and explained above, since the educators influence the students not only with their knowledge and manners and behaviors but also with their look.

Accordingly, although it is stated that the plaintiff is not wearing headscarf while she was at school, it is also stated that she sometimes wears headscarf at, coming to or leaving school, and considering that the plaintiff was already imposed two disciplinary punishments for similar behaviors before (otherwise this offence would fall under the scope of remission of disciplinary punishment) and that the students of the school where she was appointed as the manager are too young to make a rational evaluation and inference; the plaintiff who should be setting a good example both in education environment and outside of it which education is reflected on somehow violated these fundamental principles included in the legal arrangements referred to and explained above, even though only when coming to and leaving the school. Therefore, the court has ruled that the transaction which orders her appointment as manager to be annulled and to remove her from her older school at city center and appointing her as child development teacher in a village school is not illegal, nor is it in conflict with public benefit and the requirements of public service.

In its decision of 2.5.2005 no. 2004/4552 E., 2005/1547 K., 2nd Chamber of Council of State stated, with regard to a lawsuit filed by a teacher working in an Imam-preacher high school, that; the plaintiff teacher not assisting the school management in ensuring that the By-law on Clothing of the Officials and Students at the Schools Affiliated to Ministry of National Education and Other Ministries is respected, the public official working in an educated-related field not providing due assistance to the change occurred in mixed education regarding their clothing, i.e. the female students in Imam-preacher high school removing their headscarves, their any attitude which may violate secularism principle would result in administrative and forensic liability.

CURRENT SITUATION

In Turkey, general regulatory transactions on the clothing of the students and the women working in education-related fields and in other public institutions and organizations are governed in by-laws. According to article 5 of 'the By-law on Clothing of the Personnel Working in Public Institutions and Organizations' set by the National Security Council following the coup in 1980, the women working in public sector is obliged to be bareheaded at all times.

Starting from 2007, interventions to the clothing preferences of the university students came to an end at different times at different universities, as the heads of some public institutions were changed. However, radical change started in 2013. Thanks to the actual reconciliation adopted in Turkish Grand National Assembly in 2013, the by-laws with no power of law which restrict fundamental rights and freedoms regarding freedom of faith and worship were amended, without any amendment to the Constitution. Therefore, the issue was off the country's agenda.

By-law on Clothing of the Personnel Working in Public Institutions and Organizations of 25.10.1982 was amended in 2013, and the public officials, except for those working in security services, judges, prosecutors, Turkish Armed Forces, and those working in education institutions were allowed to wear headscarves because of their religious believes. On the other hand, the By-law on Clothing of the Officials and Students at the Schools Affiliated to Ministry of National Education and Other Ministries which was effected by the Decision of Council of Ministers of 22/7/1981 no. 8/3349, which governs the clothing of students was abolished. In addition, Council of Higher Education abolished any arrangement which restricts the persons covering their heads because of their religious believes. Thus, it may be argued that it was not until 2013 when the principle of secularism referred to in Constitution is implemented with its true meaning, except for some exceptional duties. However, the Constitution was not amended despite these changes. Therefore, there is no guarantee that this issue will not come up in the future. In brief, 5 years ago, disciplinary procedure was initiated against the student joining the classes wearing headscarf or the professors allowing them were subject to disciplinary sanctions, today disciplinary and criminal procedures are launched and punishments are imposed against the professors who are not willing to allow the students wearing headscarves to their classes. What is contradictory is the limitations on the restrictions on the fundamental rights and freedoms in Constitution is only possible by law, whereas the restrictions on the freedom of faith and worship is made by the regulatory transaction of the executive body having the power of by-law and the transactions of the administration implementing such restrictions are considered legal by the judicial bodies.

CONCLUSION

In Turkey, official interpretation of secularism does not provide any assurance in favour of the individuals, especially those made by the Constitutional Court, and an ideological meaning, rather than a legal meaning, is attributed to the term secular republic. In other words, secularism which should secure human rights constitutes the mainstay of the hierarchical understanding built on human rights. In Turkey, secularism has been interpreted as an ideology which legitimizes government control over religious life by means of judicial bodies. Enjoying fundamental rights has been considered as a potential threatening government authority. Turkish Constitutional system is clearly different from western constitutional democracies which are based on universal principles of human rights in such that it prefers State over free individual. Hence, Constitution of 1982 envisages a limited democracy which is based on the principles set out in the Constitution.

In its decisions, Constitutional Court interprets any arrangement offering freedom in clothing as allowing wearing headscarf for religious reasons and regards an arrangement in the field of public law as a violation of secularism principle based on religious principles. Whereas legal order is a state which also respects religious rules, not a state that excludes religious order.

ECtHR is mistaken to believe that the women of a country 99% of whose population is Muslim wear headscarves to show their religious faith, not because they listen to the voice of their conscience. Moreover, the Court recognizes the likely indeterminate oppression on other elements of religious diversity over the preferences of the persons covering their head.

The comment by the Council of State, where it is stated that the reason for the individuals covering their heads in universities to prefer such clothing is because they are under the influence of the traditions, should be considered a compulsion and discrimination to read people's minds.

There is no arrangement in any article of the Constitution which allows restriction of right to education due to wearing headscarf. By-laws restricting religious freedoms are also in conflict with the Constitutional provision which stipulates that fundamental rights and freedoms can only by restricted by law.

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Research Article

Occupational Burnout Levels of Workers employed as Regular and Permanent Workers in the Affiliated Institutions of Konya Provincial Directorate of Family and Social Policies

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Abstract:

The purpose of this study is to examine the occupational burnout levels of Personnel Employed in Provincial Directorate of Konya Family and Social Policies and its Institutions according to different variables. The sample of the study is the Provincial Directorate of Konya Family and Social Policies and affiliated organizations. Maslach Burnout Inventory was used in the study. As a result of the research; it is observed that burnout sub-levels of Konya Family and Social Provincial Directorate employees was significant in the level of personal achievement according to age status and it is observed the presence of desensitization in gender category. In other categories, no findings were found in the name of burnout.

Keywords: Responsible management education, meaningful learning, sustainability

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INTRODUCTION

Nowadays it is necessary to communicate and face to face interaction in many professions. It is observed emotional burnout reactions on the people who work face to face interaction intensely (Cordes and others 1997). In particular, burnout is a situation that reveals itself in the feeling of exhaustion felt in physiological and emotional areas as a result of the inability to cope with living stress due to the nature of profession as when working in occupational groups that require intensive communication with people (Antoniou 2000). The notion of burnout has been intensively studied in recent years with regard to different fields of business. It is propelled that burnout is three-dimensional. One of the most accepted theories on burnout is Maslach and Jackson's three-factor burnout model. Maslach and Jackson identify fatigue as emotional burnout syndrome, depersonalization, and lack of personal accomplishment (Maslach and Jackson, 1981).

Burnout emerges as a problem that threatens the working life in terms of both individuals and organizations. The concept which is defined as "job burnout" or "staff burnout" in English is expressed in terms of "burnout- burnout syndrome- occupational burnout" in Turkish. The burnout that can be expressed as "energy exhaustion in spiritual and physical terms in the individual" arises in the organization as a result of the long-term effect of organizational factors, both job-related and organizational factors. Here, it is considered as an important reason why the individual cannot remove the causes of stress with the resources he has. The main factor that distinguishes stressful sources of exhaustion from others is that it is a consequence of the individual's interaction in the working environment (Maslach 2003; Ashforth and Lee 1997; Budak and Sürgevil 2005; Özdemir and others 2003; Singh and others, 1994).

The researches to determine burnout factors shows that interpersonal relationships, motivation, overwork and the success of a person in coping with stress are related to burnout. The internal contradiction in the workplace and the stress from this struggle causes the workers to get exhausted. The researches that emphasize the importance of stress and motivation in burnout suggest that those who have low motivation despite high work stresses are burned out. The overloading of the individual due to his work and the prolonged period of this high stimulation results in emotional exhaustion (Wright and Bonett 1997). Emotional burnout is also related to the success of the employee in coping with stress. Despite the fact that work stress is at the same level, it is known that individuals who fail to cope with stress are more likely experience emotional exhaustion (Verbeke 1996). Burnout causes people to feel helpless, trapped and exhausted. For this reason, burnout represents a much more negative situation than stress (Levinson 1996). Burnout causes very important changes in the structure of the organization. These changes can be summarized as decrease in job participation and job satisfaction, increase in job separation, decrease in performance, decrease in group affiliation, increase in physical and emotional symptoms, increase in health expenditures and collapse of family life

(Golembiewski and others 1998). The reactions are the types that point to exhaustion in the separation of retirement and retirement of experienced employees (Wright and Bonett, 1997).

METHOD

The study has been made with 850 individuals who work at Konya province directorate of family and social policy and the institutions which are connected to directorate, as regular personnels and service workers. From this environment, 560 individuals have been contacted for this study by using easy to access sample method.

In this research, Maslach Inventory of Exhaustion which is developed by Maslach and Jackson(1985) is used. The scale (MTE) that consists 22 clauses at total, evaluates exhaustion in three different subclasses. First subclass which is "emotional exhaustion", second subclass which is "desensitization" and third subclass which is "personal achievement" , consist 9, 5 and 8 clauses, respectively. By using form of Maslach Inventory of Exhaustion which is translated to Turkish by Ergin(1992), with 5 options, clauses are evaluated with a grading system which has 5 differend grades, 1=Never, 2= Rarely, 3=Sometimes, 4=Usually, 5=Always (Çam, Ergin 1992).

To solve the subproblems in this study, descriptive statistical methods and techniques are used. While analysing the data which is gathered from the surveys, SPSS (Statistical Packet for Social Studies) 15.00 program is used. Related to subproblems, frequency(f), percentage(%) and arithmetic mean (Mean) are calculated. To find the relation between demographic varinats and exhaustion t-test and one sided variance analysis(F) are calculated. Tukey test is made for the results which have significant and meaningful p value.

RESULTS

Table 1
Comparison between gender and exhaustion level of employees

	Gender	n	Mean	Ss	Sd	t	P
Emotional Exhaustion	Female	277	19,44	6,80	558	-1,330	0,184
	Male	283	20,28	7,98			
Desensitization	Female	277	8,36	2,87	558	-3,801	**0,000***
	Male	283	9,39	3,52			
Personal Achievement	Female	277	31,99	4,53	558	0,540	0,589
	Male	283	31,77	5,18			

*$p<0,05$

According to Table 1, emotional exhaustion level related to gender is observed at most at males with the value of (20.28). Mean of females is (19.44). In the light of the analysis which is made for to find the relation between gender and emotional exhaustion

level of employees, the result is not significant and meaningful [F(558) = 0,184; p < 0.05].

Desensitization level is observed in male employees with the value of (9.39), however this level is observed in females with the value of (8.36).In the light of the analysis which is made for to find the relation between gender and desensitization level of employees, the result is significant and meaningful [F(558) = 0,000; p < 0.05].

If the personal achievement level is considered, the value of female's (31.99) are slightly higher than males value (31.77). In the light of the analysis which is made for to find the relation between gender and personal achievement level of employees, the result is not significant and meaningful [F(558) = 0,589; p < 0.05].

Table 2
The comparison between ages and exhaustion levels of employees

	Age		**n**	**Mean**	**Ss**	**Sd**	**F**	**P**	**Tukey**
Emotional Exhaustion	A	20-30	162	20,00	7,79	3 556 559	0,377	0,770	
	B	31-40	214	19,91	7,66				
	C	41-50	138	20,01	7,03				
	D	51 and above	46	18,76	6,16				
Desensitization	A	20-30	162	9,05	3,38	3 556 559	1,297	0,274	
	B	31-40	214	8,76	3,22				
	C	41-50	138	9,11	3,23				
	D	51 and above	46	8,13	3,00				
Personal Achievement	A	20-30	162	30,52	4,86	3 556 559	7,577	**0,000***	A<B A<C A<D
	B	31-40	214	32,04	5,18				
	C	41-50	138	32,67	4,34				
	D	51 and above	46	33,56	3,69				

**p<0.05*

According to Table 2, those results are achieved from the analysis. According to data which is based on age, emotional exhaustion level (20.01) is observed mostly at the employees whose ages are between 41 and 50. Minimum emotional exhaustion age interval is the age of 51 and above with the value of (18.76) .When we look at the relation between the emotional exhaustion and ages of employees, difference between emotional exhaustion and ages is not meaningful, in other words the result is not significant [F(3-556) = 0.377; p < 0.05].

The highest level of desensitization is in the age interval of 41-50 with the value (9.11). However, minimum level of desensitization is in the age interval of 51 and above with the value (8.13). When we look at the relation between the desensitization and ages of employees, difference between desensitization and ages is not meaningful, in other words the result is not significant [F(3-556) = 1,297; p < 0.05].

If personal achievement is considered, the age interval 41-50 has the highest value with (32.67). The group of personal achievement with the lowest level is 20-30 age interval with the value of (30.52).A meaningful relation is observed in the analysis that has been made of between the personal achievement levels and ages of employees [F (3-556) = 0.000 p < 0.05]. Ages of employees have significant role on the personal achievement levels.

Table 3
The comparison between level of education and exhaustion levels of employees

	Level of Education	**n**	**Mean**	**Ss**	**Sd**	**F**	**P**
Emotional exhaustion	Primary school	75	19,36	7,94	5 554 559	1,363	0,237
	Junior High School	63	20,39	8,11			
	High School	190	19,26	7,81			
	Associate Degree	81	19,13	6,41			
	Undergraduate	131	20,95	6,79			
	Graduate	20	21,75	7,01			
Desensitization	Primary school	75	9,00	3,93	5 554 559	1,898	0,093
	Junior High School	63	9,63	3,32			
	High school	190	8,65	3,16			
	Associate Degree	81	8,23	2,90			
	Undergraduate	131	9,06	3,07			
	Graduate	20	9,75	3,36			
Personal Achievement	Primary School	75	32,60	4,82	5 554 559	0,758	0,580
	Junior High school	63	31,23	5,90			
	High School	190	31,61	5,34			
	Associate Degree	81	32,20	4,23			
	Undergraduate	131	32,00	3,90			
	Graduate	20	31,65	4,90			

According to Table 3, emotional exhaustion considering level of education of employees is mostly observed at junior high school grads with the value (20.39). Associate Degree is the group of the lowest level of emotional exhaustion with the value of (19.13). The result of the analysis that has been made with emotional exhaustion and level of education of employees is not meaningful and significant [F (3-554) = 0,237; p < 0.05].

In the view of desensitization, group of master students (Graduate) has the highest level of desensitization with the value of (9.75). Pre-undergrads (Associate Degree) is the group with the lowest level of desensitization with the value of 8.23. The result of the analysis that has been made with desensitization levels and education level of employees is not meaningful and significant [F (3-554) = 0,093; p < 0.05].

If personal achievement is considered, the highest value which is (32.60) is observed in the primary schools grads. Junior high school grads are the group of the lowest level of

personal achievement with the value of (31.23). The result of variance analysis that has been made with personal achievement and education level of employees is not meaningful and significant [F (3-554) = 0,580; p < 0.05].

Table 4
Comparison between type of institution of employees and exhaustion level

	Type of Institution	n	Mean	Ss	Sd	t	P
Emotional Exhaustion	Day worker	99	20,84	7,62	558	1,446	0,149
	Boarding worker	461	19,65	7,38			
Desensitization	Day worker	99	8,91	2,77	558	0,119	0,906
	Boarding worker	461	8,87	3,35			
Personal Achievement	Day worker	99	31,60	4,68	558	-0,625	0,532

According to Table 4, emotional exhaustion considering type of institution of employees is mostly observed at day worker's group with the value (20.84). However, the lowest level of emotional exhaustion observed at boarding workers with the value of (19.65). The result of variance analysis that has been made with personal achievement and institution type of employees is not meaningful and significant [F558) = 0,149; p < 0.05].

In the view of desensitization, while group of day workers has the highest level of desensitization with the value of (8.87), boarding workers have the lowest level of desensitization with the value of (8.87). The result of variance analysis that has been made with desensitization and institution type of employees is not meaningful and significant [F (558) = 0.906; p < 0.05].

Analysis of personal achievement level shows that the group of boarding workers has the highest value (31.94) and the group of day workers has lowest value (31.60). According to variance analysis that has been made with personal achievement and institution type of employees, relation between type of institution and personal achievements of employees has been found meaningless and not significant.

CONCLUSION

Whether we are aware or not, our most important resource is our labor in order to be able to sustain the continuity of our lives. Every morning we go out to present our workforce to the service of our community. That's why it's very important in our lives. However, the conditions of today's modern life have negative affects on labor force, in other words, human labor. One of the concepts that we use to describe negativities experienced is 'Burnout Syndrome'. Burnout Syndrome consists of three subtitles as Desensitization, Emotional Exhaustion and Personal Achievement. These subcategories describe the situations of the effects or changes that are reflected to the lives of exhausted individuals (Cemaloğlu Dilek ve Şahin 2007).

The aim of this study is to measure the burnout levels of permanent staff and personnel working with service procurement in Konya Family and Social Policies Provincial Directorate and in affiliated organizations. When we look at the results of the study, it is shown that there is a desensitization on the burnout level of the gender difference. This situation can be explained by the difference in the personality structures of men and women and the role they play in social life (Cemaloğlu Dilek and Şahin 2007). Nevertheless, it was observed that there was no effect of gender on the level of personal success and emotional burnout.

When it is looked at the effect of age on burnout level, the level of personal success is meaningful depending on the age, whereas desensitization and emotional exhaustion can not be observed. The age group with the highest personal achievement level is 51 and above. The reason for this arises from that older people are more advantageous in terms of experience, knowledge, maturity, patience and maturity than young people. According to the research done and obtained data, there is no effect with the Burnout Syndrome in terms of education level and the institutions that is worked in.

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