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Asynchronous e-Learning Platform used for Psychological Research in a Military Environment

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Abstract

During the last years, the observed success of e-learning platforms, has created an increasing demand for e-learning suites in universities, academic institutions, schools and companies, which has led to design and development of a large number of commercial and open source synchronous and asynchronous e-learning platforms. Nowadays, more than 650 learning management systems are out in the market, but only a few have more than five percent (5%) market share. Each new e-learning platform presents its own learning model and the comparison between the e-learning platforms becomes more and more difficult. How to choose the most suitable one, even if it is important, is not always an easy task. The choice is like that for any enterprise system and it can change the whole organizational culture. Some of the most popular asynchronous e-learning systems, which are used worldwide are listed and briefly presented with reference to the feedback module it provides to its users. Of course, the main goal of this work is the

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investigation of the Moodle e-learning platform effectiveness during an opinion poll research in the psychology field. During the research its goal is saving: a) money by conducting the specific research online, b) space by electronically storing the questionnaires, c) time by avoiding waste of education time and d) process automation by extracting and processing questionnaire data. In addition to the particular cases relating to the questionnaires distributed to students who are studying in one of the highest military educational institutions of the country, the present work also describes some general points relating to the functionality and the selection of the specific platform.

Keywords: e-Learning; Learning Management System; Moodle; Self-Esteem.

1 Introduction

The increasing needs for lifelong learning have led to the development of distance learning systems. This is an increasingly topical issue due to the continuous development of society and the changes brought about by new technologies. These concepts show that there must be a continued demand for learning and if someone looks at it professionally it is almost an obligation to looking for new knowledge on this field. So people in modern society need not only to be well educated, but also to have a proper education system, which will enable autonomous learning, training, and retraining.

The education system as it was known cannot meet these new requirements and this is one reason why “lifelong learning” and “e-learning” are integral parts of these days’ education and lifestyle. The general aim of e-learning platforms is to provide information and practical opportunities for students in order to help them to increase their knowledge and skills on a particular topic. A Learning Management System (LMS) is a software application for the administration,

documentation, tracking, reporting and delivery of e-learning education courses or training programs to its users (students).

The fact is that students may have different knowledge, needs or motives. In the past few years new e-learning platforms have been designed and developed which each one of them has almost a different solution for a new learning model. Of course there is a question that has to be answered: "What are the criteria for choosing the appropriate e-learning platform?"

The selection criteria which should be analyzed and compared during the selection of an e-learning platform contain functionality aspects as well as pedagogical issues. Particularly, the platform adaptability to user demands plays a crucial role for the effectiveness and efficiency of the e-learning platform.

The aim of the present study is to examine if asynchronous e-learning platforms give the potential to use them in research in general and to investigate if the Moodle platform, which is used for e-learning purposes can support research in the psychological field, as well. According to our experience in previous paper and pencil researches those methods cost a lot in terms of money, time, effort and several missing values during data collection.

The second (II) section analyzes the concept of synchronous and asynchronous education and some of the most famous asynchronous e-learning systems, which are used worldwide by many educational institutions and institutes, are listed and very briefly presented with a reference to the feedback module it provides to its users. Besides, section (II) refers to functions and characteristics of asynchronous e-learning platform Moodle, which has been selected and used in our research. The third (III) section describes the general case. The fourth section (IV) describes the methodology of research on the sample used and presented in section five (V). In the sixth (VI) section there is a presentation of the obtained results from the survey questionnaires. Finally in the seventh (VII) section there is an overview of useful conclusions arising from the aforementioned investigation.

2 Synchronous and Asynchronous Learning

2.1 Synchronous Education

The model of education that prevails nowadays is based on teaching done in classrooms between instructor and students. In synchronous education, the instructor and students are located in the same physical space, whether it is an auditorium, classroom or laboratory for experiments or an internship. The communication of the instructor with students is direct and in real-time, is a two-way relation, fully interactive and audiovisual as students see and hear their instructor and have the opportunity to address questions or have an open discussion with him/her. This training is based purely on the style and method chosen by each instructor in order for him/her to present the lecture, the necessary degree of interaction with the students and the educational material used in each lecture.

Nowadays, in synchronous education, instructors use the board (the most traditional ones still use the blackboard) and slides with educational material which consists of text, mathematical relationships, figures and images. Of course, the introduction of the technology evolution in the education field, has led almost all speakers to mostly use electronic slides, which are presented through a PC and a projector on a projection screen. Regarding the educational material, it can be enriched and animated with three-dimensional and/or multi-colored shapes as well as other audio-visual material such as audio and video files.

Among the most important developments in synchronous education are the new features provided by the technologies of telecommunications and especially the one that Internet offers. Due to the internal network connection (intranet) and internet of auditoriums, classrooms, laboratories, offices of professors and general workplaces, offered a huge advantage in synchronous education. This feature, which did not exist before, is extended in order to cover the needs of education for students located remotely.

In order to be successful synchronous distance learning requires conferencing, audiovisual equipment and very good network infrastructures. This can be done when there is video streaming during the lecture, in order to enable students to watch in real time (on-line) the instructor from distance.

2.2 Asynchronous Education

Another form of distance education is the asynchronous education. Previously, communication was based on correspondence with the classic mail. Firstly, training materials, mainly books and exercise books were sent to the students, who were in another area, usually in a long distance, and then instructors remotely coordinate and monitor the whole education process. Certainly the technology evolution enriches asynchronous education with the shipment of audiovisual material stored on videotapes, CD's and DVD to the students.

The fact is that the most important evolution in both asynchronous and synchronous education, are the new features offered by technology and Internet services. Internet has improved the quality of communication between the instructors and the students. Students have easy and user friendly access to educational material from their home, fast communication via electronic mail (e-mail) or any other type of messaging each other and/or with their instructor. On the other hand, instructors organize and monitor the educational material and coordination from a distance. The use of these new tools and Internet technologies for design and implementation of the asynchronous education is what is called asynchronous distance learning.

Asynchronous education, in contrast to synchronous, does not require the simultaneous participation of instructor and students. The students do not need to be found all together in a place or at the same time, because in the asynchronous e-learning none of the lectures or conversations are performed in real time.

On the contrary, each one may choose his/her personal training time frame to

initially collect the educational material and then to study it and perform any project that been assigned. According to the aforementioned, asynchronous is more flexible than synchronous education. In this type of education belongs self, semi-autonomous and collaborative learning [1].

The student, in self-learning, is trained on his own by using whatever means he/she deems suitable for training such as books, notes, CDs, DVDs, Internet, etc.

Semi-autonomous education is similar to self-learning, only that the instructor has already determined all educational material and moreover there is a specific contact timetable with the responsible instructor either physically (meetings) or via Internet (Skype, e-mail, etc.), or via teleconference (these hours may be considered "synchronous education").

In collaborative learning, instructor and students communicate asynchronously with each other via an asynchronous learning platform. Students study in their own time, the material that has been uploaded in the platform by the instructor, but they follow a specific submission schedule of assignments, quizzes, etc. which have been initially designated.

Bagianos et al [2] have mentioned that "asynchronous distance learning" means that instructor and students do not necessarily coexist in the same physical space neither the platform requires simultaneous participation of both sides. Asynchronous e-learning platforms or virtual learning platforms are software systems that enable instructors to provide the entire course material and besides to communicate remotely and in no real-time with their students.

The majority of these platforms are designed not only to reproduction of the classical educational process in a computer environment, but at the same time the exploitation of the same computer technology in order to provide advanced education tools for instructors and students (eg, self-assessment, quizzes, forums, chat rooms, projects' depository), which implies a total education upgrading [3], [4], [5], [6], [7].

Today, there is a large number of commercial programs and applications for

implementing asynchronous distance learning services. In addition a large number of systems have been designed in the majority of educational institutions and are open source programs and are freely available on internet.

Every or interested party who wishes to install such a system has the ability to customize and enrich it if desired with other applications. Of course, each group which has designed, implemented and supports a platform, periodically presents several additional applications (add-ons applications) increasing and evolving every time features on the provided platforms for the instructors and students.

2.3 Asynchronous e-Learning Systems

Reyes et al [8] mention that in recent years, success of various e-learning platforms has increased the demand for respective e-learning systems both at universities and other academic institutions as well as at companies. These have led to the development of a large number of commercial and open source Learning Management Systems (LMS). Nowadays, the number of the LMS is more than 650 and every year new ones are coming out to the market.

Almost all asynchronous e-learning systems, which are currently available, are based on client-server architecture. It means that a terminal computer (client) uses a web browser to access web pages that are stored on a central server. Some of the most famous asynchronous e-learning systems, which are used worldwide by many educational institutions and institutes, are listed below. Of course, the following list contains only eleven (11) of them and they are very briefly presented with a reference to the provided feedback module to its users.

(a) Integriertes Lern, Informations und Arbeitskooperations-System (ILIAS) [9] is one of the first e-learning systems used in universities and was created at the University of Cologne. It provides personalized and anonymous surveys as well as multiple choice, matrix and open answer types of questions.

(b) Claroline [10] is open source software designed from the University of

Louvain (UCL) in Belgium and is currently used in more than 100 countries and has been translated into more than 35 languages. It provides a survey module which enables the course manager to create surveys for the students. Surveys can be anonymous or not. The questions can be open questions, multiple choices single answer, multiple choices multiple answers or array questions (multiple choice with different values possible for each choice). The survey can be configured to be open only for a given period of time. The results of the survey are accessible (during or after the survey is done) on a web page and they also are exportable as a csv file which can be processed by a spreadsheet software.

(c) Manhattan [11] is a very handy asynchronous e-learning program, which was originally designed for Western New England College e-learning needs. It includes different types of newsgroups, modern communication tools (chatrooms, forums), an internal messaging system among students who participate in the same course, and tools for on-line creating and outsourcing assignments and automatic grading of the students. Manhattan has rather complete capabilities when it comes to the design and delivery of surveys. It allows teachers to create and manage their own surveys. It provides four groups of surveys such as private, public, delivered and www accessible surveys.

(d) DOCEBO [12][19] is an open source e-learning platform, which is used in companies and higher education markets. It supports over 30 languages and can support different on-line models. Docebo allows an instructor to create surveys. A survey is a useful tool that can help the instructor find out what students think about the courses they are attending. Users are free to express their opinion about a course or any other topic, because their answers remain anonymous.

(e) DOKEOS [13][20] is one of the largest and most recognized companies dealing with the development of Learning Management Systems (LMS). Its main product is the learning suites creation, which are used by multinational corporations, federal administrations and universities in over 60 countries. It provides a module for creating surveys for their users. The main advantage of

Dokeos over other platforms is that it provides a free campus, where an instructor can create a survey easily without dealing with the technical issues. They found Dokeos on free campus more user-friendly as the menu was simple to follow and supported by icons.

(f) Atutor [14] is a standards-compliant, Web-based Learning Content Management System (LCMS), developed by the Adaptive Technology Resource Centre of the University of Toronto. It is a free Open Source LMS, used to develop online courses and create elearning content. It is used in various contexts, including online course management, continuing professional development for teachers, career development, and academic research. The software is cited as unique for its accessibility features, (useful to visually impaired and disabled learners); and for its suitability for educational use according to software evaluation criteria established by The American Society for Training and Development (ASTD). ATutor is used internationally and has been translated into over fifteen languages with support for over forty additional language modules currently under development [14]. It provides a survey module and link any survey to the course home page.

(g) GUNET eClass [15][18] platform is a complete Course Management System that supports asynchronous e-learning services via a simple web browser. Its goal is the incorporation and constructive use of the Internet and web technologies in the teaching and learning process without restrictions and commitments. It supports the electronic management, storage and presentation of teaching materials, independently of the spatial and time limiting factors of conventional teaching and creating the necessary conditions for a dynamic teaching environment without requiring specialized technical knowledge. E-Class used the open source software "Classroom online" Claroline of adding new features. The module “Questionnaires” is supported within the framework of e-course. The instructor selects if he wants the questionnaire be completed anonymously or not. That is, in the anonymously option, users login, but not

registered their details when submitting the questionnaire.

(h) Modular Object-Oriented Dynamic Learning Environment (MOODLE) [16] is part of the Martin Dougiamas PhD thesis at Curtin University of Technology, Benten, Australia and has been focused on the way to make as much as possible easier and productive the process of asynchronous education applying the relevant theoretical educational principles. It has been translated into more than 75 languages. It provides a feedback module which allows the user to create and conduct surveys to collect feedback. Unlike the survey tool, it allows the user to write his questions by himself, rather than choose from a list of prewritten questions and unlike the quiz tool, the user can create non-graded questions. The feedback activity is ideal for the likes of course or teacher evaluations. Moodle's feedback module also supports templates for surveys (which would make for rapid sharing/copying of entire surveys, especially handy if the user is standardizing end of course surveys across all disciplines). The analysis tools seem a little better organized and robust as well.

(i) Chamilo [17] is an open-source e-learning and content management system, aimed at improving access to education and knowledge globally. It is backed up by the Chamilo Association, which has goals including the promotion of the software, the maintenance of a clear communication channel and the building of a network of services providers and software contributors. The Chamilo project aims at ensuring the availability and quality of education at a reduced cost, through the distribution of its software free of charge, the improvement of its interface for 3rd world countries devices portability and the provision of a free access public e-learning campus [18]. Chamilo provides survey module and the survey can be completed anonymously or not and it can be send to non-subscribed users as well.

(j) eFront [19] is an eLearning platform. It comes in a number of editions, from an open-source edition to the latest eFrontPro edition [20]. eFront is designed to assist with the creation of online learning communities while offering various

opportunities for collaboration and interaction through an icon-based user interface. The platform offers tools for content creation, test building, assignment management, reporting, internal messaging, forum, chat, surveys, calendar and others. It is translated to more than 40 languages. eFront is commonly included in lists of well-known open-source learning systems or is referred to as a Moodle alternative. Independent comparison matrices between learning management systems often favor eFront, especially under usability characteristics. Several research papers and technology portals describe the system under functionality, usability and standards perspectives. eFront has integrated support for surveys. The survey function is available to the instructor of each lesson. The instructor may create a survey by defining a code, title and the time period where students will be able to answer its questions.

(k) Sakai [21] is a community of academic institutions, commercial organizations and individuals who work together to develop a common Collaboration and Learning Environment. Sakai is also a free, community source, educational software platform distributed under the Educational Community License (a type of open source license). Sakai is used for teaching, research and collaboration. The Sakai Project's software is a Java-based, service-oriented application suite that is designed to be scalable, reliable, interoperable and extensible. In nowadays, Sakai is estimated to be in production at over 300 institutions and being piloted by considerably more.

Sakai provides two choices for creating a survey. If an instructor wants students to respond to a single, simple question, he has to consider using the polls tool. It allows him to post one question at a time for students to vote on. Polls can be set to show the results of a poll always (even before taken), to show results after a response or after the poll has closed, or never. Student responses are anonymous. The second choice is when an instructor wants to create a survey with a set of related questions and then he should use the test and the quizzes tool. The survey type questions provide different types of answers (yes/no) or scales and if he

wishes he can select “anonymous grading only”. Of course, if he wants, he can see who responded (but not their answers).

2.4 Moodle platform

The Modular Object - Oriented Dynamic Learning Environment (Moodle) [16] is an e-learning environment designed in 1999 by Martin Dugiamas, during his PhD thesis, which was developed guided by social constructionist pedagogy, Moodle is an open source software and can be run on any system that supports Hypertext Preprocessor (PHP) and has the potential to be combined with many types of databases (especially MySQL). It is primarily used for asynchronous e-learning needs.

Figure 1: The Asynchronous e-Learning Platform Moodle of the Hellenic Military Academy.

If anyone wants to analyze the specific platform, it could mention the terms that make up the name Moodle. Firstly, the entire environment of the platform composed of separate pieces of code called modules (Modular) that perform

specific functions. Examples of modules are email, chatrooms, forums, quizzes, workshops etc. New modules are constantly made, tested and open for public use by the members of the wide community of scientists and specialists that produce code for Moodle. The environment is Object-Oriented, i.e. it is software driven by user actions (actions performed in environment objects). This feature has the effect of exempting the user from lengthy study and research to know the functions of the platform and makes the system very easy to use. It is also a Dynamic continuously updated environment, which allows the entry and storage of user data (personal profile, monitoring data, grades, etc.) and may present different data for each user due to the existence of an extensive database.

This means that web pages are not static, but dynamic, customized to each user and with the ability for instructors, managers and administrators to modify them through easy forms.

2.5 Why Moodle?

The present work has been carried out with the usage of the open source e-learning platform Moodle. The reasons that led to that choice are:

(a). Moodle is an open source content management system. Unlike other platforms, Moodle can be downloaded for free from in its official site [16]. Since it is an open source program, its development seems to be revolutionary. Programmers, developers and users in general are working for free towards the Moodle improvement. Unlike other platforms which are characterized as free programs (freeware) Moodle offers full support via its forum.

(b). Whether the user is an administrator, instructor or a student, he/she will find Moodle very easy to use because of its friendly graphical user interface. For example, an authorized user can insert a file in a topic by choosing from the list of activities in the specific menu or even easier by dragging and dropping it from any

pc folder. At this point, it could be mentioned, all these icons that have been created and are part of its graphical user interface help the users to understand and use easier the capabilities that the Moodle offers during a course design and construction. The eye icon can show or hide an activity or resource or even a whole topic. The cross moves an activity or resource within a course up or down. The aforementioned mean a user does not need to be a programmer in order for him/her to use the specific platform. Of course, everyone needs to spend some time in order for him/her to familiarize with its functions and to be able to navigate in the Moodle environment. Due to its ease of use, Moodle functionality is oriented toward student learning thus Moodle has been designed with educators in mind. Instructors find the Moodle environment very helpful with the vast array of functions to enhance learning. It could also help the instructors to bridge the content that is taught in the class and the content of the course.

(c). Moodle almost has an endless list of activities and resources. For example, an instructor can assign an enrollment key to filter away those who are not supposed to be included in his virtual class. As for activities an instructor can create forums, quizzes wikis, workshops, feedbacks, assignments, surveys, etc. In addition, since it is not exclusive unlike commercial software, Moodle supports operating systems like Linux and Mac OS X apart from Windows. [16]

(d). Almost nobody asks what is the guide of the learning framework during the creation of an educational software. Most of the programs are oriented towards how many features they would offer to their users and do not address how will the learners learn while using it. On the other hand, Constructivism, Social Constructivism, and Constructionism are all adopted in Moodle as for its pedagogy point of view.

(e). People think that learning occurs wherein there is a classroom, an instructor and a number of students. The usual approach in the class is the instructor gives a lecture, an assignment, a quiz and then the students listen, keep notes, do their assignments, answer the quizzes. Moodle gives instructors an alternative choice

for students to learn independently by giving them the opportunity to study online, from their home and during the time they want. Students learn how to use and process information and also learn to collaborate and interact with one another while using activities like forums, chats, workshops, etc. Furthermore, it offers the capability of instant feedback. Therefore students who take tests, quizzes, projects in Moodle can view their results and grades almost immediately after its submission. Of course, the instructors have to assign how students are to be assessed and have to choose an option of grading. Besides, when the instructors and the students are at the same time log in, they can write and read their comments and replies using the forums and chat rooms in Moodle in real time.

(f). Moodle is an integrated e-learning platform. The activities, resources and the other features are modular which means each one can be a stand-alone application. Of course, these are also designed and developed to complement each other.

(g). Moodle is fully interactive. Whether a user likes to work with a synchronous or an asynchronous e-learning platform, Moodle platform would never be a problem. It is designed and developed to engage users to participate and collaborate with each other through activities like chat and forums which are there to highlight the value of active participation.

3 Self Esteem

Self-esteem is an emotional phenomenon, since a human is experiencing self-esteem as an emotion. Self-esteem is one's overall sense of worthiness as a person [22], [23] and indicates the extent to which the individual believes him/herself to be capable, significant and worthy [24]. Self-esteem is defined as a feeling of self-worth, or a generalized feeling of self-acceptance, goodness, worthiness and self-respect [23], [25] and is distinguished from other related concepts, including dimension-specific self-evaluation, self-confidence, and racial or collective self-

esteem [26]. Self-esteem is a personal evaluation reflecting what people think of themselves as individuals. Self-esteem reflects the degree to which the individual believes in his/hers competence and ability to satisfy his/her own needs [27].

Several evaluations of the self on specific dimensions such as academic ability, social skills, physical appearance, and moral self, are correlated with the feeling of self-esteem, but neither conceptually nor empirically identical [23]. Self-confidence, which refers more to past performance in a specific domain, and especially to one's competence, skill or ability on that specific domain, is also conceptually and empirically distinct from global self-esteem or self-worth [28].

Self-esteem concerning work and organizational experiences plays a significant role in determining employee motivation, work-related attitudes and behaviors. Pierce et al [29], introduces Organization-Based Self-Esteem (OBSE), which is predicted by organization structure, signals about worth from the organization, as well as, success-building role conditions. Additionally, job satisfaction, organizational commitment, motivation, citizenship behavior, in-role performance, and turnover intentions, as well as, other important organization-related attitudes and behaviors are related to OBSE [30]. OBSE is defined as the degree to which an individual believes him/herself to be capable, significant, and worthy as an organizational member. OBSE also reflects the self-perceived value of themselves as important, competent, and capable within their employing organizations. People with strong organization-based self-esteem have a sense of having satisfied their needs through their organizational roles.

4 General Hypothesis

Frequently in many paper and pencil researches with students who are obliged to attend their classes [31], it is observed that the students don't complete the whole questionnaire that they are asked to. It is hypothesized that if people were

free to choose the where and when of their cooperation with the research they would feel less pressure and increase their cooperation and would increase the reliability of their answers and as a result of that the reliability of the whole research.

In this paradigm, the aim of the research was to investigate several variables that concern the students' attitudes towards seeking mental help in a military environment. One variable which is involved in this situation, is self-esteem.

H1. We hypothesize that self – esteem perception increases as the academic term progresses.

5 Method

A ten (10) item questionnaire using a Lickert scale that concerns self – esteem was given to the students in order to examine how much they agree or disagree with the given items. Furthermore, the software IBM Statistical Package for the Social Sciences (SPSS) is used for the statistical analysis of the data according to the rules of descriptive statistical analysis.

Self – esteem was measured with Rosenberg Self-Esteem Scale (RSE) [25]. The Rosenberg Self-Esteem Scale (RSES) is the most widely used measure, has been translated into 28 languages and administered to 16,998 participants across 53 nations, perhaps due to its uncomplicated language, and its brevity (it takes only 1 or 2 min to complete). Participants were asked to answer according to the degree of their agreement or disagreement in a scale from 1-5, where one (1) means "not true at all" and five (5) means "absolutely true" in a ten (10) itemed questionnaire that investigates one's perception of self – esteem. Here are some examples of the items: "Overall, I am satisfied with myself", "I feel that I have a number of good qualities", "I feel that I'm a person of worth, at least on an equal plane with others". However, the score of several questions have been reversed,

such as “At times I think I am no good at all”, “I feel I do not have much to be proud of”, “I certainly feel useless at times”, according to the instructions of the scale initiator.

6 Sample

Fifty (50) questionnaires have been distributed to each of the four classes (four academic years), but only 144 out of 200 questionnaires have been completed. Specifically, a random code was given to fifty (50) students of each academic year in order for those random students to have anonymous access to Moodle. Therefore, these students should have logged in the platform using the given code and not their normal code and complete anonymously the particular questionnaire of the research, in a given time period. The random code gave not only the advantage of participants’ anonymity but also a degree of freedom as far as the time of the questionnaire’s completion. From a technical point of view, there was a restriction to prohibit the participant to move to a question if he/she had not answered the previous one. Thus, there were not any missing questions. Finally, the sample was 144 students from the four academic years. Especially 37 (25,6%) were students from the 1st academic year, 36 (24,8%) were students from the 2nd academic year, 33 (22,9%) students from the 3rd academic year and 38 (26,3%) students from the 4rth academic year.

7 Results

Over the 200 of given random codes, there was a loss of 28% of the codes that have been addressed to the students but they did not use them to answer the questionnaire. Since they were not obliged to participate, this rate is not finally a disadvantage, because at least it is not needed to cancel any questionnaires of the

lots of missing items that in other cases of paper and pencil researches is observed. Additionally, the technique of the necessity of the filling up the previous question in order to go on with the questionnaire preserved the research from missing items.

The results showed that the reliability cronbach's a was 0,824. According to descriptive statistics the results (frequency and percentage) for the perceived self – esteem were given from Moodle (Figure 2) as the following example to the question "Overall, I am satisfied with myself". One (1) means "not true at all", two (2) means "little", three (3) means "enough", four (4) means "a lot" and five (5) means "absolutely true".

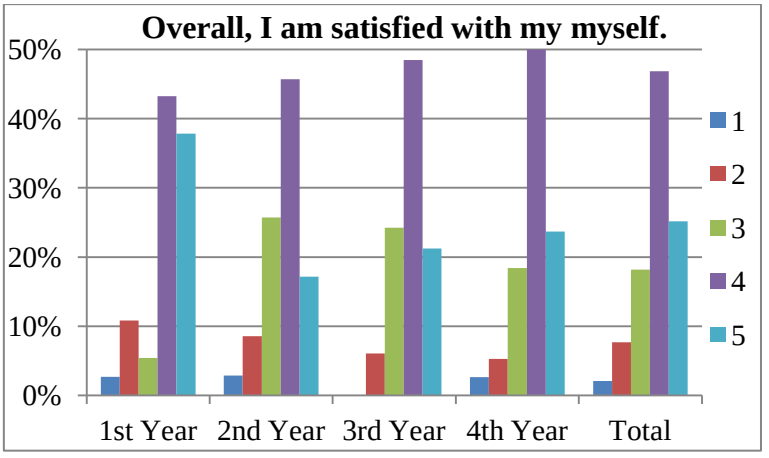

Figure 2: Graphical result of the question "Overall, I am satisfied with myself".

The majority of the students claim that they are satisfied with their selves a lot and that is increased over the years of education, as it observed on Figure 2. On the total over 70% believe as true the statement "Overall, I am satisfied with myself".

Figure 3 shows that over the years the students believe more and more their good qualities and on the fourth year the answer that it is not true at all that they

feel they have a number of good qualities is not chosen by anyone, on the contrary positive beliefs about this statement overcome 90%.

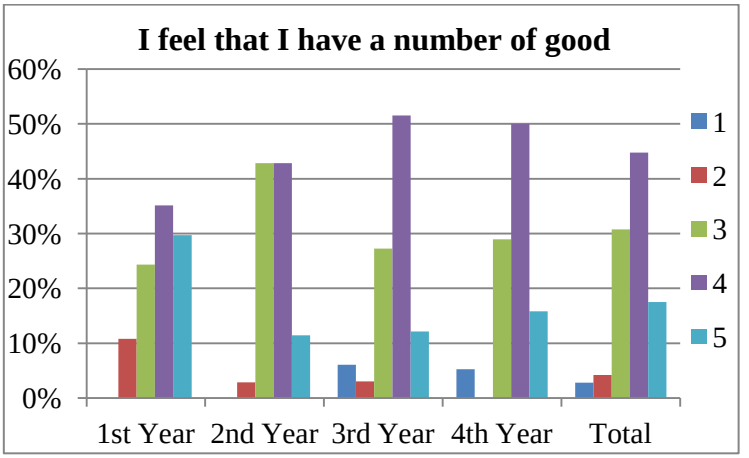

Figure 3: Graphical result of the question “I believe that I have a number of good qualities”.

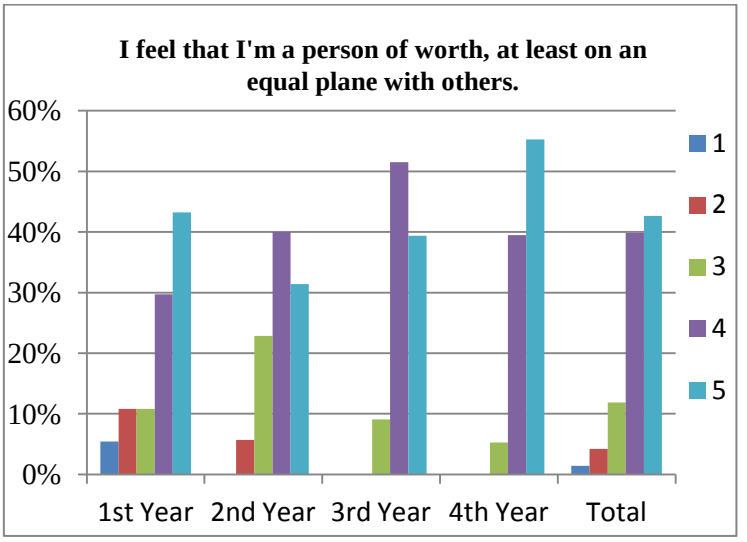

Figure 4: Graphical result of the question “I feel that I'm a person of worth, at least on an equal plane with others”.

On Figure 4 it is observed that students believe on their worth more and more as academic years are passing, especially on fourth year of education the statement "I feel that I'm a person of worth on an equal plane with others" is absolutely true according to the opinion over 50% of the sample. While military education is in the middle of its process this statement, even if it is not absolutely true, according to the opinion of the sample, it is very true for the majority. When military education is completed people feel secure about their abilities and the feeling of self – esteem overcomes 90% of the sample. As academic years pass by statement that this item is not true at all, or that it is a little true disappear.

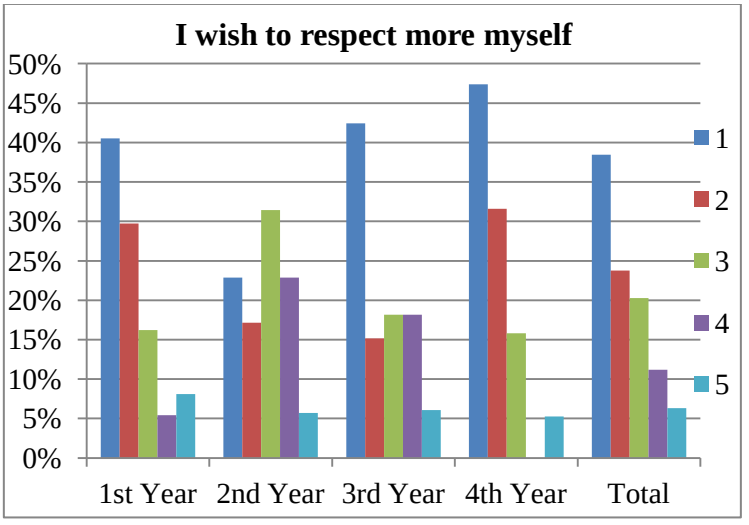

Figure 5: Graphical result of the question "I wish to respect more myself".

According to the results students respect their selves and so the statement "I wish to respect more myself" it not true or it is little true for the 70% of the sample of the 1st year of education, 40% for the 2nd year of education, over 50% for the 3rd year of education, and over 60% for the 4rth year of education. This result confirms that the majority of students respect their selves. On the total, over 60% of the sample believe that this item is not true for them.

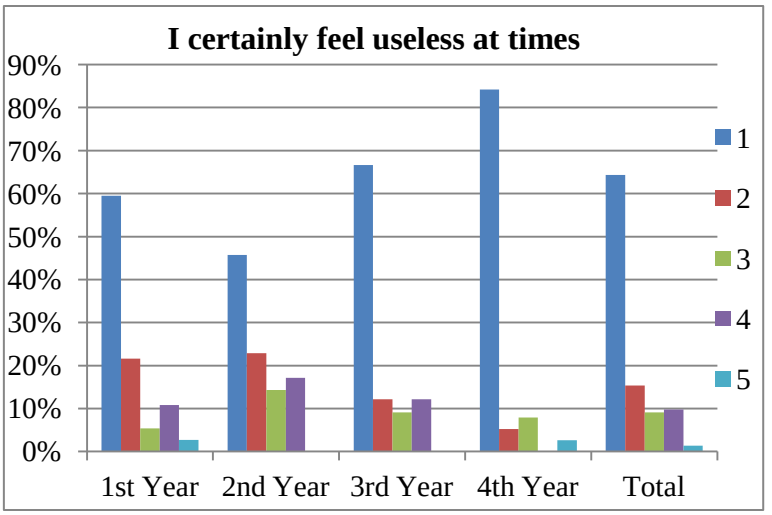

Figure 6: Graphical result of the question “I certainly feel useless at times”.

Results on Figure 6 show that on the total of the sample over 70% do not feel useless at times. It is remarkable that on 2nd year of education no one believes that the item is absolutely true, as well as on the 3rd year of education, even if the percentages that this item is not true are not so high as they are for the rest years of education. Even though those years are the ones with most difficult training the belief that someone is useless is absent.

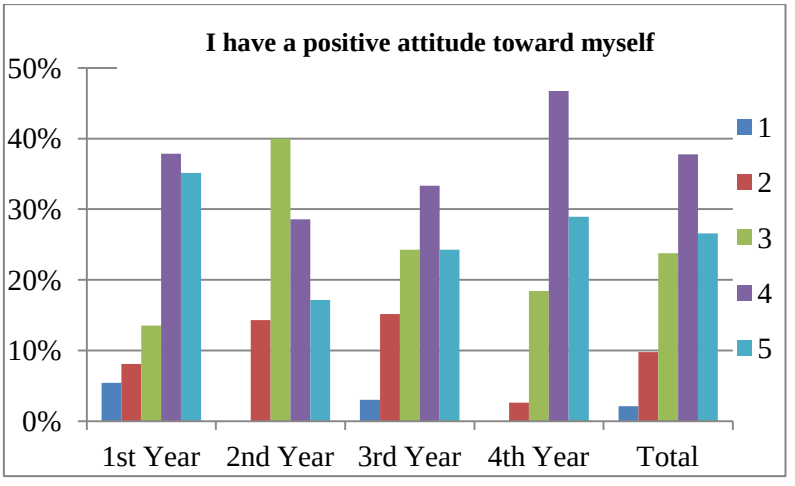

Figure 7: Graphical result of the question “I have a positive attitude toward myself”.

According to the results represented on Figure 7 the statement “I have a positive attitude toward myself” is enough, very or absolutely true over 85% for the total of the sample. On the 1st year of education students have a very strong belief on their positive attitude toward themselves, but this attitude seams to change on the 2nd year of education, when this attitude is not so strong, but on the 3rd and especially on the 4rth year of education students have a very strong belief on their positive attitude toward themselves.

According to the results, perception of self –esteem increases over the academic years, except for the second academic year. In every item students from the second academic year scored lower to the perception of self-esteem comparing to the other three academic years (Figures 2-7). Second academic year is the most difficult year of education, students have adjusted to the military environment and they have to prove that they are capable to be an officer, they build their leadership capacities, but they are not ready yet. The effort is enormous and progressive, the results built their new social identity, the one of military officer. This difficult effort frustrate students several time since they catch up with their tasks.

8 Conclusions

Moodle utilization in conducting an opinion poll for research in the psychology field can offer a large number of benefits in time, place, money, effort and reliability although there is a small loss rate due to the degree of freedom given to the subjects.

On the other hand, it is not observed at all the effect of random questionnaire completion (e.g. creating symmetrical shapes based on the number of response selections or similar questionnaire responses), which it happens quite often in opinion polls with paper and pencil and drive researchers to eliminate many completed questionnaires.

Furthermore, as for saving time, Moodle, except for data automatic insertion, allows the researchers to take automatically descriptive statistics results immediately after the questionnaire completion. The last one confirms the general hypothesis during the selection of the suitability of this particular e-learning platform.

Moreover, this work partially confirms another aforementioned hypothesis about self-esteem feeling which increases as increases the year of studies, as shown by the presented results. However, lower rates are observed in the 2nd year of studies (Fig.3) where education becomes more demanding, alibi adaptation in the academy ceases to be valid and there are another two years to the final completion of the training and obtaining their diploma.

The present study gives us much knowledge about the usage of Asynchronous e-Learning Platform in research. In human sciences, where most of the research is made by collecting data through interviews (structured, semi-structured or free) or questionnaires, it seems that Asynchronous e-Learning Platforms may be used successfully. We assume that there is much more potential for the Asynchronous e-Learning Platform that we have used in this research, and we intend in future research to make more productive the potential of the platform. It is essential that we try in the future to use Asynchronous e-Learning Platform in experimental studies, controlling dependent and independent variables.

Future research could explore how global self-esteem and Organization-based self-esteem are correlated to each other and how they are related to adjustment from civilian to military environment.

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