Personality Factors Test for New Entrants to the UTXJ

REYES-FUENTES, Matilde∗†, GARCIA-ROMERO, Francisco, GUZMAN-FLORES, Erik and GASPAR ARANDA, Beatriz

Universidad Tecnológica de Xicotepec de Juárez. Av. Universidad Tecnológica No. 1000, Tierra Negra, 73080 Xicotepec de Juárez, Puebla

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Abstract

At present educational institutions have the serious problem of dropping out of school and low levels of academic performance, during the first few quarters large numbers of students truncate their studies due to different causes, whether personal, economic or vocational, the Most of the casualties are not for academic reasons. Due to the experience that has had in the last years as far as the desertion that is had in the Universidad Tecnológica de Xicotepec de Juárez specifically in the Academic Area of Technologies of the Information and Communication it is proposed the implementation of a computer tool that allows To carry out the personality analysis of the students who are entering in the period September - December in order to provide a useful instrument that helps the area of psychopedagogy and the teacher-tutor to prevent school dropout. Due to the analysis made to various personality traits, the questionnaire of 16 Personality Factors will be implemented.

Desertion, 16 Personality Factors, Tool


∗ Correspondence to Author (email: matyr_14@hotmail)
† Researcher contributing first author.
1. Introduction

The project is a proposal for the implementation of a computer tool that manages to prevent and avoid the high dropout rates initially in the Academic Area of Information Technology for later and based on the results obtained can be presented to the various Academic Areas They integrate the Universidad Tecnológica de Xicotepec de Juárez and be implemented with their new students.

The desertion to higher level at present has been a great problem that has been had in all the academic areas, it has tried to reduce implementing some techniques such as tutoring, counseling, socioeconomic studies, regularization classes, vocational courses, implementation of techniques of studio, among others. However, it has not been possible to lower the figures for the school dropout indicator.

Within the classrooms, the teacher meets different personalities and concerns of the students, each one presents problems of a different nature as well as different behaviors and reactions, which sometimes makes it difficult to recognize the weaknesses and strengths of each one of them students, in addition to that it must be considered that the training of teachers at a higher level is not towards pedagogy, but towards an area of specialization, which makes it difficult to understand and know the strategies to achieve significant learning for the student (Diez de Tancredi, 2009), which would help students find the teaching-learning model attractive and thus not join the ranks of school dropouts.

On the other hand, there is a great variety of behaviors denominated with the common label of "desertion"; but not all school dropouts should be defined with this term, nor should all dropouts deserve institutional intervention (Tinto, 1989).

Therefore, it is necessary to know the factors and causes that encourage the student to leave their higher education and, sometimes, to integrate into the labor field. By knowing the possible causes, higher education institutions can propose strategies and tools to achieve the permanence of students within each educational program.

1.1 Justification

The application of ICTs to improve and provide solutions to the various productive, entertainment and educational sectors in the public and private spheres is not something new, in particular the development of applications has had a great boom as tools that help in making of decisions.

In addition to the implementation of technology in the institution, socioeconomic and vocational studies have been implemented that help provide important data so that the teacher-tutor takes a reference of the conditions in which the students enter the university, however it is necessary to complement the information with the personality traits that make the students unique and provide important factors for making decisions regarding assigned activities and work teams that are formed during the course of the race, besides that this information can be of great usefulness for the area of psychodagogy since they can implement in a more concrete way adequate support techniques for each of the students according to the result of their personality. The results obtained through this personality test will allow the tutor to provide certain information relevant to the behavior or reaction of the student to each of the teachers who teach subjects within the group, so that they can implement their teaching techniques. learning more according to the needs of the group.
It is known that the theory of learning styles requires teachers to reflect on their teaching practices and even to revise and adapt their teaching strategies according to the necessary competences of each disciplinary field (Ventura, 2011).

Attrition is the subject of which all educational institutions must deal with since a large part of it is dependent on social factors, so the relationship that may exist between tutors, teachers and the area of psychopedagogy to implement techniques in the process is important of teaching and learning that can help prevent a student from dropping out of school and achieve the goal of completing a university degree.

1.2 Problem

The Academic Area of Information Technology in recent years has presented a large dropout during the first and second semester but said desertion is mostly due to vocational, economic, social, family or personal issues and in its minority due to academic issues.

Currently when students begin their career in the UTXJ during the first weeks the area of psychopedagogy performs an activity with each group in which a file of each student is integrated in which they consider some aspects of personality and vocation, however they do it to Through activities on paper and due to the large number of students you have for each academic area and the little staff that has the department of psychopedagogy the result of this activity takes a little time to reflect the personal situation of each student and unfortunately, on some occasions the student has already processed his withdrawal before being able to receive the necessary support to continue with his studies.

Due to the aforementioned, there is a need to automate the application of the Test of 16 Personality Factors in which the interpretation of the result will be carried out automatically, which will make it easier for the Psychopedagogy staff to identify the red spots that may occur in some student, giving to know the tutor and the teachers the situation that is presented and at the moment to be able to implement from the beginning of the semester some method of support to avoid the desertion.

1.3 Objectives

1.3.1 General objectives

Develop an information system that allows to determine the personality of a student evaluating the theoretical, economic, aesthetic, social, political, religious, etc.

1.3.2 Specific objectives

- Analyze different personality tests to select the most appropriate one.
- Analyze the application process of the selected test.
- Analyze the way to show the interpretation of the results.
- Apply data collection techniques.
- BD design.
- Design of Interfaces.
- Conduct Tests.

2. Theoretical framework

The questionnaire 16 personality factors (16FP) begins with a process of selection and elimination of synonyms that qualified the personality. The work of development by Allport, GW and Odbert, HS (1936), in which more than 4000 words in English describing the personality were identified, gave guidelines for Raymond Cattell to synthesize.
In 1943 (Birkell Cattell H. 1989) 171 terms from the original list with the help of a group of students from the University of Illinois, who took on the task of evaluating his colleagues, Catell analyzed the answers in a factorial way, achieving a reduction to 36 dimensions, continuing with analyzes of this type, achievement to reduce 16 dimensions or basic factors the description of the personality.

3. Software Development Methodology

For the development of the application, the "Basic SW Development Model" (Alpizar, Luis, et al., 2014), created in the UTXJ and used to create information systems using the agile SCRUM development methodology, was used. Development that were considered are the following:

**Analysis:** The software requirements were elaborated taking into account the opinion of the area of psychopedagogy of the UTXJ, with this a planning was achieved where the implementation of the questionnaire is projected to new students of the academic area of Information Technologies.

**Design:** User interfaces were created considering 3 types and privileges (Psychology department, students and administrator).

**Development:** The application was programmed using PHP, MySQL, JavaScript, JQuery and BootStrap

**Tests:** Tests have been carried out locally in order to detect errors, however in the month of September the test will be conducted with students who will enter the Academic Area of Information and Communication Technologies.

3.1 Development

The proposed tool to obtain information from students once they enter the university is an information system that was developed based on the work of Raymond B. Catell on the questionnaire 16FP (16 Personality Factors) which does not neglect aspects of the personality because it considers this as a total being all its dimensions important, the 16 personality factors that are considered in this questionnaire are:

A: Emotional expressivity  
B: Intelligence  
C: Strength of the self  
E: Dominance  
F: Impulsivity  
G: Group loyalty  
H: Situational fitness  
I: Emotivity  
L: Creativity  
M: Cognitive attitude  
N: Subtlety  
O: Consciousness  
Q1: Social position  
Q2: Individual certainty  
Q3: Self-esteem  
Q4: State of anxiety

The questionnaire consists of 187 questions and is evaluated according to two templates called A-B and C-D, both cover all the factors. The score values that are handled in the answers are 2 or 1, the punatajes are added and a qualification called gross score is obtained to then obtain standard-normalized ratings from a table that is provided in the commercial version of the questionnaire.

4. Results

As a result of the development of the application to implement the test of 16 personality factors, a menu is displayed in which you have the options of personnel, students, activate evaluation, record and follow-up. (Figure 1).
Figure 1 Main Menu of the Application

The staff section and the student section allow you to record the data of both the employee who will use the application and the student who will apply the test.

Figure 2 Register of Personnel and Students

Once the test is done, the results can be filtered by selecting the test and the academic area.

Figure 3 Test report

Once the test is done, the application shows the result obtained by shading the box corresponding to each of the aspects considered, giving the option of printing or returning to the test Figure 5.

Figure 4 Follow-up

Once the report is generated, the list of students who applied it is displayed and allows to see the result obtained Figure 4. Once the test is done, the application shows the result obtained by shading the box corresponding to each of the aspects considered, giving the option of printing or returning to the test Figure 5.

Figure 5 Results

Conclusions

In order to decrease dropout rates in the Academic Area of Information Technology and Communication, the application of this test will be implemented in September and the result will be provided to the area of Psychopedagogy in order to be able to detect early students to defect and be able to support them by improving the quality of teaching and the resources and tools that support the teaching-learning process according to the need they can present and according to the result that can identify that area.

May be propose the application to the other Academic Areas of the Universidad Tecnológica de Xicotepec de Juárez, besides that it will be a support tool for the group tutor and the teachers who will teach them class.

References


