# Counseling and Tutoring, tools to reduce desertion at the TSU level

# Asesoría y Tutoría, herramientas para disminuir la deserción en el nivel TSU

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**Abstract**

Derived from the increase in dropout rates during the year 2020-2021 at the TSU level in Information Technology, the implementation of strategies that effectively address this problem is proposed. The most frequent causes in the students who dropped out of the career were analyzed to determine the elements to consider, these being the lack of identification with the educational program and personal problems. Counseling and tutoring strategies were implemented by the teaching staff and complemented by the support of external specialists in the different areas of the curricular plan, as well as psycho-pedagogical support. The results obtained are favorable by reducing the number of dropouts from 15 to 1 in the next cycle, in addition to strengthening soft skills in students. Additionally, a projection of these strategies is displayed as part of a didactic model for the reinforcement of technical and soft skills in the university community.

**Counseling, Tutoring, Desertion**

**Resumen**

Derivado del incremento en los índices de deserción durante el año 2020-2021 en el nivel de TSU en Tecnologías de la Información, se propone la implementación de estrategias que enfrenten de manera eficaz esta problemática. Se analizaron las causas más frecuentes en el alumnado que desertaba de la carrera para determinar los elementos a considerar, siendo estos la falta de identificación con el programa educativo y problemas personales. Se implementaron estrategias de asesorías y tutorías por parte del personal docente y se complementó con el soporte de especialistas externos en las diferentes áreas del plan curricular, así como con apoyo psicopedagógico. Los resultados obtenidos son favorables al disminuir el número de deserciones de 15 a 1 en el siguiente ciclo, además de fortalecer las habilidades blandas en el estudiantado. Adicionalmente se visualiza una proyección de estas estrategias como parte de un modelo didáctico de reforzamiento de competencias técnicas y blandas en la comunidad universitaria.

**Asesoría, Tutoría, Deserción**

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## Introduction

The Technological Universities are decentralised organisms of the governments of the states of the Mexican Republic. Since 1991, they began to be created throughout the national territory, seeking to offer a new educational alternative that would favour the effective insertion of their graduates in the labour market by providing training linked between the University and the companies.

In 1998, the Technological University of the Southwest of Guanajuato (UTSOE), located in Valle de Santiago, was the third to open its doors to students from the state of Guanajuato, as its name indicates, from the southwest region, offering 4 careers. Currently, it offers 11 Technical University Degrees (TSU) with its corresponding continuity at the Engineering level. One of them is Information Technologies, which offers the area of Multiplatform Software Development and the area of Virtual Environments and Digital Business (recently created), its first generation is currently in its ninth semester.

On the other hand, as part of the teaching strategies not only in the educational programme, but also in the institution and the subsystem itself, there is counselling and tutoring (Romo, 2011), which play a crucial role during TSU training, since in addition to providing guidance in the school environment, they allow academic support, which often goes beyond the mere review of student performance and the resolution of doubts in the subjects that require it, going beyond, for example, in the development of projects and participation in various forums.

With the implementation of this work, the aim is to motivate the students of the Information Technologies educational programme to complete their training, by means of tools such as assessment and tutoring.

## Problem statement

In the Information Technologies degree programme, there is a constant drop-out rate due to apathy or lack of identification with the subjects being studied; likewise, it has been perceived that the influence that one student can have on another is very high.

## Justification

Tutoring and counselling are elements that are incorporated as part of the activities carried out by the Full-Time Lecturer (FTE). The PTC has time to dedicate to the group in charge, establishing at the beginning of the term what the plan to be developed will be.

Regularly the activities that are carried out can be group or individual, developing explanations of topics of different subjects, motivational talks, integration dynamics, diagnostic tools for detecting the student's needs for attention, whether medical, psychological, economic, academic, personal, etc.

In summary, it could be stated then that tutoring and counselling become tools to avoid desertion, allowing to complement not only the time, but also the activities that can be developed in a combined way, for the achievement and obtaining of learning and expected results.

## Development

### State of the art

Quinteros (2018) in his article on counselling and the didactics of accompaniment in higher education, considers that effective, constant and relevant counselling allows the orientation of favourable attitudes for learning, the use of available resources, applying them based on their characteristics, motivations and abilities.

For their part, Hernández *et al.* (2019) in their work on peer counselling conclude that due to the results obtained, the programme should be strengthened for its implementation in the following periods in order to consolidate it, and they also highlight the importance of the active participation of teaching staff in a collegial manner.

Carranza *et al.* (2020), in their research on the study of university students' perceptions of tutoring, found that there is a difference in how they perceive the results obtained by students when receiving virtual tutoring compared to face-to-face tutoring, the latter being the one that generates greater satisfaction.

Finally, Núñez *et al*. (2021), in their article on face-to-face and virtual academic writing tutorials, conclude that it is necessary to delve deeper into the use and functions of multimodal aspects in virtual tutorials and thus address the influence that factors such as the projection of the text on the screen, the use of the digital whiteboard or chat in the videoconferences themselves may have. It is also worth asking whether virtual tutoring, which has increased considerably during the pandemic, can become not so much an isolated alternative, but a useful option for accompanying the writing process for university students in writing centres where it was not a common practice.

**Objective**

To reduce the drop-out rate of students from the Information Technologies educational programme through tutorials and advice based on the methodology of the Applications Development Club.

**Methodology**

For the development of this work, the following stages were carried out:



**Figure 1** Working methodology
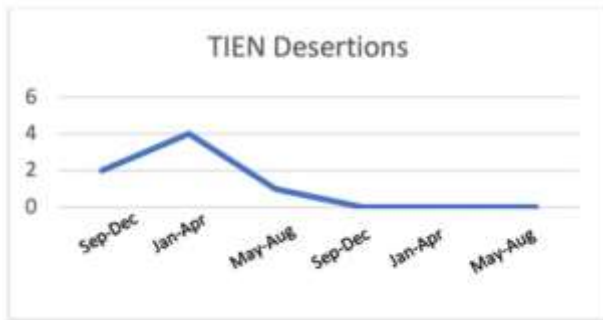*Source: Own Elaboration*

1.  Beginning. In the May-August 2021 term, in a working meeting with the Career Management, the behaviour of the groups with regard to academic performance and the number of drop-outs was presented.

2.  Planning. The work structure was generated by adapting the methodology of the Applications Development Club (Rodríguez *et al*, 2017) to the conditions that were occurring at the time, the schedule of activities was drawn up, and the resources and steps to be taken were determined.

3.  Execution. Work began in the September-December 2021 four-month period, inviting groups to participate, evaluating project ideas, following up on them through the work methodology and attending to the established progress review dates.

4.  Monitoring. This was carried out considering the schedule of activities and the deliverables corresponding to each project at each stage, providing timely feedback and ensuring that the observations received were attended to.

5.  Closure. A comparison was made of the results obtained after the implementation of the improvement proposal (year 2), with respect to the indices of year 1.

**Results**

Among the results that stand out from the present work are that:

−  The number of dropouts was reduced from 7 in TIEN and 8 in TIDEM in year 1 to 0 in TIEN and 1 in TIDEM in year 2, as can be seen in figures 1 and 2.

−  Soft skills were strengthened in the students, achieving their participation in different forums and academic competitions at state and national level, as well as the elaboration of technical documentation (see figures 2 and 3 below).

**Graph 1** Defections Generation 2020-2022 TSU TIEN
*Source: Own Elaboration*
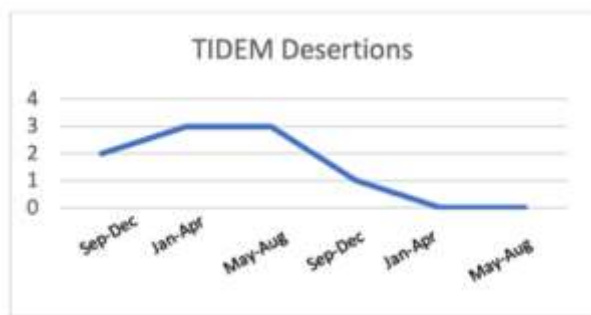


**Graph 2** Defections Generation 2020-2022 TSU TIEN
*Source: Own Elaboration*



**Figure 2** Project development
*Source: Own Elaboration*



**Figure 3** Expo Ciencias Guanajuato 2022
*Source: Own Elaboration*

## Conclusions

Considering that this work was carried out when school activities began to be developed in a hybrid way, it is important to continue the research, therefore, the implementation of this model based on tutoring and mentoring is being carried out in the current period of TSU training, seeking with this, to have a reference that favours the clarity and objectivity of the results.

On the other hand, this model allowed us to broaden the lines of work of the Applications Development Club, which is translating into important results and will surely set a precedent in the short to medium term within the academic activity of the Universidad Tecnológica del Suroeste de Guanajuato.

Finally, after comparing and evaluating the achievements obtained, it is intended to be shared with other universities of the Subsystem, as a good practice.

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