Article **ECORFAN-Spain Journal**
December 2018 Vol.5 No.9 26-32

Group cohesion, key strategy to reduce the dropout rate to the first school cycle in higher education

La cohesión grupal, estrategia clave para disminuir el índice de deserción en el primer ciclo escolar en la educación superior

GARZA-MOYA, Luis Roberto†*, TOVAR-ROSAS, Claudia Rocio, ARREOLA-BURCIAGA, Josué Mizraim and RODRÍGUEZ-ALANÍS, Francisco de Borja

Universidad Politécnica de Gómez Palacio

ID 1st Author: *Luis Roberto, Garza-Moya* / **ORC ID**: 0000-0002-5740-1476, **CVU CONACYT ID**: 68866

ID 1st Coauthor: *Claudia Rocio, Tovar-Rosas* / **ORC ID**: 0000-0002-8238-7493, **CVU CONACYT ID**: 745074

ID 2nd Coauthor: *Josué Mizraim, Arreola-Burciaga* / **ORC ID**: 0000-0002-2722-1386, **CVU CONACYT ID**: 769055

ID 3rd Coauthor: *Francisco de Borja, Rodríguez-Alanís* / **ORC ID**: 0000-0002-2949-1785, **CVU CONACYT ID**: 719064

Received September 20, 2018; Accepted December 10, 2018

Abstract

The classroom is a micro-society whose essential purpose is to elaborate shared knowledge in a framework of interaction (Roselli, 2011). For Roselli, the success in the generation of knowledge is linked to the adequate interaction between students, the group activity and the application of collaborative learning techniques. Through the adequate organization of work groups by teachers, it facilitates the approach and realization of a common task, which promotes the interaction and distribution of responsibilities in order to achieve a goal. In this way, cohesion, the sense of belonging and, consequently, the generation of identity through recognition in a social sense are favored among the members of the classroom. This article presents an analysis that questions whether the lack of group cohesion in higher education students motivates them to make school dropout decisions. A study is shown with the results obtained when considering group cohesion as an element to decrease the dropout rate.

Group Cohesion, Dropout Rate, Collaborative Learning

Resumen

El aula de clase es una micro sociedad cuya finalidad esencial consiste en elaborar conocimiento compartido en un marco de interacción (Roselli, 2011). Para Roselli, el éxito en la generación del conocimiento está ligado a la adecuada interacción entre alumnos, la actividad grupal y la aplicación de técnicas de aprendizaje colaborativo. A través de la adecuada organización de grupos de trabajo por parte de docentes se facilita el planteamiento y realización de una tarea común, que impulsa la interacción y distribución de responsabilidades con la finalidad de alcanzar un objetivo trazado. De esta manera se favorece, entre los integrantes dentro del aula, la cohesión, el sentido de pertenencia y por consiguiente la generación de identidad desde el reconocimiento en un sentido social. En este artículo se presenta un análisis que parte de cuestionar si la carencia de cohesión grupal en los estudiantes de educación superior, les motiva a tomar decisiones de abandono escolar. Se muestra un estudio con los resultados obtenidos al considerar la cohesión grupal como elemento para disminuir el índice de deserción.

Cohesión Grupal, Índice De Deserción, Aprendizaje Colaborativo

Citación: GARZA-MOYA, Luis Roberto, TOVAR-ROSAS, Claudia Rocio, ARREOLA-BURCIAGA, Josué Mizraim and RODRÍGUEZ-ALANÍS, Francisco de Borja. Group cohesion, key strategy to reduce the dropout rate to the first school cycle in higher education. ECORFAN Journal- Spain. 2018, 5-9: 26-32.

* Correspondence to Author (email: lgarza@upgop.edu.mx)
† Researcher contributing first author.

Introduction

Increase enrollment with the entry of new students, trying to keep them in school until the completion of their studies, is one of the main concerns of educational institutions today. In this sense, institutions of upper secondary level pay special attention to indicators such as terminal efficiency and the dropout rate. While terminal efficiency is understood as the proportion of students who completed a program in relation to those who initiated it, dropout is defined as the student's abandonment of courses or courses to which he or she has enrolled, leaving attend classes and comply with previously established obligations, which affects the terminal efficiency of the whole.

The polytechnic university of Gómez Palacio (UPGOP) is continually implementing strategies to reduce the dropout rate and, consequently, improve the terminal efficiency. It is not an exceptional concern, other institutions such as the Faculty of Human Medicine of the Santo Toribio de Mogrovejo Catholic University in Peru have been busy studying and addressing this problem (Nervi, 2015).

Also in the UNAM, in 2016 an analysis called "individual and collective tutoring: a strategy to reduce school dropout at the higher level" was made, which identifies tutoring as an activity focused on the accompaniment and guidance for the tutoring in its school trajectory, before the impact that it means to reach the top level in a technical career.

The previous studies, have among other objectives, reduce the risk of abandonment observed in the transition of the first two semesters that 10 years ago reached 20%. Some of the previous investigations revealed that the truncation was due in large part to the lack of orientation and early identification of the student with Civil Engineering.

The tutors are teachers preferably from the same technical area, grouped in a Tutoring Program, who through individual and collective sessions, complement the student's technical training in aspects of personal improvement and extracurricular humanistic orientation, with which since August 2004, on the one hand, the cases of imminent interruption of the school itinerary and on the other hand, a greater rootedness of the students of the first semesters with the career they have chosen (Álvarez, 2016). According to Álvarez, it is important to highlight that in the UPGOP, mentoring is already considered key to reduce the risk of abandonment.

On the other hand, according to Jimenez (2013) an accreditation process means recognizing the technical competence of an organization to carry out certain well-defined activities of conformity assessment, unlike a certification that is more oriented to the evaluation of the degree of compliance of products and / or services with respect to predetermined standards. In Mexico, the accreditation of a higher level academic program is the public recognition of its quality, which is granted either by an accrediting body, non-governmental and formally recognized by the Council for the Accreditation of Higher Education, AC, (COPAES) or by the Inter-institutional Committees for the Evaluation of Higher Education (CIEES).

The evaluation processes, in general, entail the connotation of revision, feedback and continuous improvement (Cruz, 2016). Aligned to what was described by Jimenez and Cruz, IES higher education institutions must comply with adequate levels of terminal efficiency and continuously monitor this parameter to improve it. Likewise, the current dropout levels of the polytechnic of Gómez Palacio, should be reflected, so that currently are studied strategies that contribute to decrease school dropout and increase terminal efficiency.

The strategies of student retention have become relevant in the educational field, due to the felt need to generate alternatives for the promotion of permanence and graduation of students of the higher education system.

Pineda (2011) affirms that the lack of preparation of the human talent of a nation undoubtedly affects their social and economic development, limiting the possibilities in the generation of knowledge for the resolution of the problems that afflict it, and, in general, can verify that in the nations with low graduation rates, the conditions of poverty and lag of their inhabitants tend to perpetuate. In communion with the above, one of UPGOP's concerns is to generate value in its students and equip them with relevant competencies, so that upon graduation, they can be integrated into the labor and professional field of their specialty area, thus belonging to the labor force that contributes to give value to the Mexican economy.

A student retention program includes the actions carried out by the educational system in an institution to guarantee the accompaniment of the student during his academic career, in such a way that he can successfully complete it.

ISSN: 2444-3204

According to the OAS[1], the objective is to provide the necessary tools for the completion of the different cycles and stages in the established times, and additionally to ensure the necessary knowledge and the development of competences and attitudes indispensable to develop in life. UPGOP implements student retention programs suited to its student community, such as group cohesion.

The terminal efficiency has been defined by the SEP[2] (2012) as the ratio between the number of students who enter and those who graduate from the same generation, considering the year of admission and the year of graduation according to the duration of the curriculum. On the other hand Martínez (2001) defines to the terminal efficiency as the proportion of students that finishes a race in relation to those that initiated it and considers that it is a dimension of the quality that must be taken into account since of it the cost depends of the products of higher education. Likewise, UPGOP is concerned with increasing terminal efficiency and considers this indicator as a key factor for the institution's continuous growth.

The low rates of terminal efficiency in HEIs that teach engineering careers represent a complex problem that is not well attended (Rodríguez & Osada, 2015). In the last decade, UPGOP has established strategies to maintain high rates of terminal efficiency, this factor is correlated with the school dropout rate, since the latter is inversely proportional to the first.

Martínez (2001), states that terminal efficiency is a dimension of educational quality measured in relation to production costs, Villarruel (2010) adds other elements to indicate that quality in education should be the living expression of values, achievements and aspirations to which a community is legitimately entitled and that its relevance is not in the numbers, nor in the diagnoses that feed ideals of achievement lacking in meaning, but in the will of those who aspire to be better and converge in a common project to make it.

The profile of students in the UPGOP is mostly low-income, and 7 out of 10 students are the first in their nuclear families[3] to study for a university degree. From this last statistic it is derived to provide the students, suitable environments that contribute to maintain their aspirations to be professional citizens.

In addition to the reasons explained in previous lines in relation to reducing student desertion, the government budget assigned to a public university is directly proportional to the number of students enrolled, so one of the main concerns of UPGOP is that maintain a constant growth in the number of students who aspire to enroll in their academic programs as well as keep students already enrolled in their curricula. For this reason, decreasing the dropout rate among students is one of the main concerns of UPGOP.

According to Durkheim (1965), UPGOP students must be sufficiently integrated into society. Durkheim argued that individuals who were not sufficiently integrated into society tended to commit suicide, either because their values did not correspond to their own or because their interactions with the rest of their members were insufficient. The voluntary abandonment, as the case of suicide exposed by Durkheim, is related to the lack of integration of the student to the social system of the university.

This is expressed in a low level of social interaction with peers, teachers and in low participation in extracurricular activities, as well as in disagreements with the main values of the institution. On the other hand, if what motivates the abandonment are problems of performance in learning, failures of integration to the academic system cause the involuntary abandonment of the student when not fulfilling the conditions to sustain his administrative status as a regular student within the institution.

The degree of commitment of the student with the goal of obtaining the university degree also allows predicting the definitive abandonment of the transitory by transfer to another institution. A high commitment on the individual level can lead to the transfer to another institution with higher or lower academic demands (Fanelli & Deane, 2016). In UPGOP, students are prevented from making the decision to transfer to other educational institutions.

The university transition is a multifactorial process that manifests itself especially during the first academic year. Students must face a new educational system, which generates levels of anxiety depending on the adaptability of each one. Under this context, and considering that the formation of support networks is a key factor in university permanence (Fuentes, 2016).

[1] Inter-American Agency for Cooperation and Development [AICD], 2006.
[2] Ministry of Public Education in Mexico.

[3] The nuclear family is the cohabiting family formed by the parents and their children. If the children are part of another nucleus (if they are married or if they have children) they are not part of the initial nucleus.

ISSN: 2444-3204

Although in the UPGOP there have been partial studies by career to identify the different reasons for academic desertion, it is necessary to identify and strengthen global strategies that contribute a considerable decrease in the dropout rate. Therefore, in the present study group cohesion is proposed as a general strategy to contribute to the reduction of the dropout rate and as a consequence to improve the terminal efficiency.

Although the retention of students is a concurrent issue for some universities, there is no evidence of analysis that considers group cohesion as a transcendental factor to reduce the rate of terminal efficiency in educational institutions. For this reason, the present study called "Group cohesion, a key strategy to reduce the dropout rate in the first school cycle in higher education" is carried out, which more than a new student retention proposal is proposed as a complement to the techniques already existing programs that seek to achieve the permanence of students in educational institutions.

Methodology

Resources Used

The strategies of group cohesion were implemented in four groups of students of the career of information technology comprising two different generations of the UPGOP. The results obtained were contrasted with a generation more integrated by two groups of the same specialty to which group cohesion techniques were not implemented.

A measuring instrument designed to measure group cohesion was applied, which is validated by the Likert scale and is made up of 34 items. The results obtained were contrasted with historical indicators of previous generations obtained from the institutional statistics registers of the UPGOP.

Activities performed

As part of the methodology, a series of activities to be followed for research were implemented, among which are the following:

a. Measurement of the dropout rate at the end of each four-month period and over three years and four months, which is what a generational cohort of students lasts from entry to graduation for a curriculum of ten semesters.

b. Application of a "permanency survey" of students who remain within the staff of students of the university. Sometimes "exit surveys" cannot be applied to students who drop out of school because there are cases in which they no longer return to report their absence, so, in contrast, the reasons for permanence of the student will be counted the students who maintain their university studies.

c. The measurement instrument that was used in the research is through the application of anonymous and periodic questions to measure the degree of group integration and trends through quantitative parameters considered in the measurement variables. This measurement instrument was designed because anonymous answers facilitate the sincerity in the results, so the origin of the data collected is truer, avoiding bias in the answers.

d. The data will be analyzed quantitatively through statistical methods such as linear regression analysis to find the agreement between the dependent and independent variables of interest.

e. Implementation of strategies to improve the integration in the classroom inside and outside the classroom, in such a way that the correlation between group integration and attrition can be denoted in comparison to other generations where these types of cohesion strategies have not been applied group.

f. Measurement of both school attendance and group dropout rates in the interest groups.

g. Open feedback of periodic ideas, as part of the strategies, so that members of the same study group propose improvement activities for group cohesion.

h. Application of personality tests to monitor their continuous behavior, in order to monitor personality changes as a result of an integration or lack of individual integration into the community of the group.

ISSN: 2444-3204

i. The group integration treatment will be received by a community of students divided into two generations by fourth groups of students, as a form of control to validate the technique, there will be two other alternative groups that will not receive the treatment, which can be isolated if it is the treatment and not the characteristics of the individuals in the group (or other factors) which influences the result.

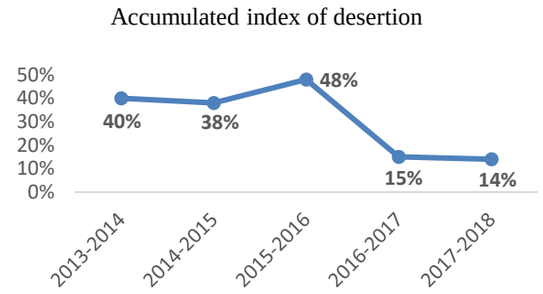
As a pilot plan, the above strategies will be applied to a population of 150 students, consisting of two generations subdivided by two groups per generation, which make up the 2016-2019 generation and the 2017-2020 generation of the UPGOP information technology specialty. There is a preliminary advance, since since September 2016, the strategies described in the methodology section are being implemented by the main author of this article.

Eventually, auxiliary teachers and one of the psychologists of the educational institution collaborated. Subsequently, as a second stage, the methodology will be applied to the other four additional careers of the university (bachelor's degree in international business, engineering in manufacturing, biotechnology engineering and engineering in animation and visual effects) covering a population of more than 1,600 students.

Results

The results that are presented below are originated from the implementation and analysis of a measurement instrument for group cohesion designed by the author of this article, likewise, said instrument was applied in two different moments, the first intervention was done before to implement group cohesion techniques and the second application was made after performing the cohesion techniques in the study group.

To contextualize the results it is important to point out that, statistically it was identified that traditionally in the UPGOP the highest dropout rate was located in the first year of academic training, consisting of first, second and third semester for the academic program of engineering in technologies of the information of the UPGOP (Graph 1).



Graphic 1 Academic desertion of the generations that entered in the years of 2013 to 2018
Source: Self Made

After applying group cohesion strategies, a considerable decrease in the dropout rate is identified, it is observed in illustration 1 that in the first year of training for the generation that entered in 2013, the accumulated index is 40%, as well same, the one entered in 2014 is 38%, the one entered in 2015 is 48%.

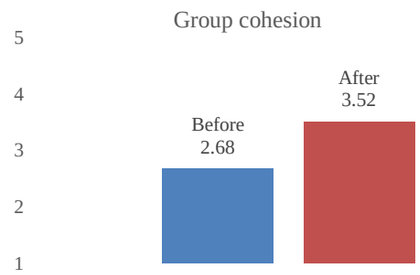
There is a considerable decrease of 15% for the generation entered in 2016 and 14% for the generation entered in 2017, the difference is considerable. For the generations admitted in the years 2013, 2014 and 2015, the average is 41.7%, so the difference for the generation entered in 2016 is more than 26 percentage points. It follows that this notable difference is due to the group cohesion strategies applied to the last 2 generations (2016 y 2017).

The results obtained by applying the measurement instrument in the 2016 generation before applying group cohesion techniques, indicated a low level of cohesion since in the related questions to measure this independent variable, the fashion for the answers oscillates between the categories of " rarely "and" sometimes ", interpreting these responses as a low cohesion, the average in the questions of this category results in an average of 2.68 (Graphic 2) with an average variance of 1.02 and an average standard deviation of 1.18.

In contrast, after applying group cohesion techniques, the results showed that group cohesion improved markedly, a fashion was identified in the answers "almost always" and "sometimes", which establishes a greater cohesion in relation to the first application for this same study group, the average in the questions in this category results in an average of 3.52 (Graphic 2) with an average variance of 0.97 and an average standard deviation of 1.05. The Cronbach's alpha obtained to measure the reliability of the scale for the questions designed to obtain the independent variable "group cohesion" is 0.83, which reflects an acceptable level that allows accepting the hypothesis of reliability in the scale.

ISSN: 2444-3204

The measuring instrument measures the perception of the student in relation to academic performance and achievement, as well as the student's attachment to the specialty in information technology. From these results, greater compliance and academic performance is identified when there is greater group cohesion. Likewise, the student has a greater rootedness with the specialty when he feels more cohesive with his fellow students.



Graphic 2 Group cohesion measured for the 2016 generation before and after applying group cohesion techniques
Source: Self Made

The preliminary results shown in illustration 1, indicate a tendency to decrease the dropout rate, so an improvement in terminal efficiency is predicted, associated with the group cohesion strategies applied to the object of study. The proposed research must continue in its maturation process in order to demonstrate the following hypothesis. Is group cohesion a key factor that contributes to improving university terminal efficiency?

Conclusions

In the results of the research, the influence of applying group cohesion to decrease the dropout rate in two different generations of students was identified. As a possibility of improvement, different group cohesion techniques should be applied according to the nature of the personality of the study groups.

It is established that group cohesion is a strategy that motivates the student of higher education not to abandon university studies.

Group cohesion should be implemented as a strategy to reduce the dropout rate in students of all the careers of the Polytechnic University of Gómez Palacio, derived from the above, take the strategy as an example to be implemented in other IES.

Complement the implementation of strategies to improve terminal efficiency, with additional alternatives proposed in other studies, generating synergies to improve terminal efficiency and identify group cohesion as an addition to these already established strategies.

The study is limited to the profile of students of the Polytechnic University of Gómez Palacio that usually belong to low-income families, so there will be no evidence that the strategy works in private universities where the economic, social and environmental of belonging is different among learners, so that the field of action could be broadened in future research works towards other universities with different student profiles.

References

ALVAREZ, Leonardo y SUÁREZ, M. A. (2013). La Tutoría Individual Y Colectiva: Una Estrategia Para Disminuir El Abandono Escolar En El Nivel Superior. Clabes Iii.

Apaza, E., & Huamán, F. (2012). Factores determinantes que inciden en la deserción de los estudiantes universitarios. Apuntes Universitarios, ISSN-E 2225-7136, Vol. 2, No. 1, 2012, Págs. 77-86, 2(1), 77–86. https://doi.org/ISSN: 2225-7136

Benitez, Jaime, (1950). Razón de ser de la universidad. Puerto Rico: Universidad de Puerto Rico.

Cañizares Hernández, M. (1999). Entrenamiento Psicológico para el mejoramiento de la eficiencia grupal del equipo deportivo. Tesis para optar por el grado Científico de Doctor en Ciencias Psicológicas. La Habana, ISCF Manuel Fajardo. Cuba.

Carrillo, R., Rivera, E., & Benjamín, L. (2010). Vigotsky : la escuela y la subjetividad. Pensamiento Psicológico, 8(15), 135–145.

De Fanelli, A. G., & de Deane, C. A. (2016). Abandono de los estudios universitarios: dimensión, factores asociados y desafíos para la política pública. Revista fuentes, (16), 85-106.

Domínguez Pérez, D., Sandova Caraveo, M. del C., Cruz Cruz, F., & Pulido Téllez, A. del R. (2013). Problemas relacionados con la eficiencia terminal desde la perspectiva de estudiantes universitarios. Revista Reice. Revista Iberoamericana Sobre Calidad Y Cambio En Educación, 12(1), 25–34. https://doi.org/10.1017/CBO9781107415324.004

Fuentes, R. C., & Yáñez, A. M. (2016, Noviembre). Programa de inducción como estrategia de adaptación a la vida universitaria. In Congresos CLABES.

García Arias, N., Quevedo Arnaiz, N., & Cuenca Díaz, M. (2015). Mikarimin. Revista Científica Multidisciplinaria ISSN 2528-7842 CONSIDERACIONES ACERCA DEL TRABAJO GRUPAL PARA UN APRENDIZAJE DESARROLLADOR, 43–52.

García, A. Y., Adrogué, C., García De Fanelli, A., & Adrogué De Deane, C. (2015). Abandono De Los Estudios Universitarios: Dimensión, Factores Asociados Y Desafíos Para La Politica Pública. Revista Fuentes, 16, 85–106. https://doi.org/10.12795/revistafuentes.2015.i1.04

Martínez, B. H. (2015). Causas del bajo rendimiento escolar origina un alto nivel de deserción escolar y habilidades para estudiar ayudan a mejorar el rendimiento escolar. Revista Iberoamericana para la Investigación y el Desarrollo Educativo ISSN: 2007-2619, (11).

Martínez, F. (2001). Estudio de la eficiencia en cohortes aparentes. En ANUIES, Deserción, Rezago y Eficiencia Terminal en las IES. Propuesta metodológica para su estudio. México: ANUIES.

Mercer, N. (2000). Words and Minds. How we use language to think together. London: Routegle.

Morris Lazo, A. (2016). Actividades para recuperar la cohesión grupal en el equipo de Karate-do escolar de la EIDE Héctor Ruíz Pérez de Villa Clara. Universidad Central "Marta Abreu" de Las Villas, 1, 68.

Nervi, C., Rodríguez, J., & Osada, J. (2015). Deserción universitaria durante el primer año de estudios. FEM: Revista de la Fundación Educación Médica, 18(2), 93-93. https://doi.org/10.4321/S2014-98322015000200003

Organización de Estados Americanos (OAS), Agencia Interamericana para la Cooperación y el Desarrollo (AICD) (2006). Estrategias y materiales pedagógicos para la retención escolar. Ministerio de Educación, Ciencia y Tecnología.

Patiño Garzón, L., & Cardona Pérez, A. M. (2012). Revisión de algunos estudios sobre la deserción estudiantil universitaria en Colombia y Latinoamérica. Theoría, 21(1), 9–20.

Pineda-Báez, C., Pedraza-Ortiz, A., & Moreno, I. D. (2011). Efectividad de las estrategias de retención universitaria: la función del docente. Educación Y Educadores, 14(1), 119-135.

Pineda-Báez, C., & Pedraza-Ortiz, A. (2011). Efectividad de las estrategias de retención universitaria : la función del docente 1 The Effectiveness of College Retention Strategies : The Teacher's Role Abstract Efetividade das estratégias de retenção Palavras-chave. Universidad de La Sabana, 14(1), 119–135.

Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=112611591&lang=es&site=ehost-live

Roselli, N. D. (2011). Teoría Del Aprendizaje Colaborativo Y Teoría De La Representación Social : Convergencias Y Posibles Articulaciones. Revista Colombiana de Ciencias Sociales, 2(2), 173–191. https://doi.org/https://doi.org/10.21501/issn.2216-1201

Vigotsky, L. S. (1996). El problema de la edad. Madrid: Aprendizaje Visor.

Villarruel, M. (2010). Calidad en la Educación Superior: Un Análisis Reflexivo sobre la Gestión de sus Procesos en los Centros Educativos de América. REICE. Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación, 8(5), 110-118.