

ANALYSIS AND PROPOSAL FOR UPDATING THE ADMINISTRATIVE TRAINING PROCEDURE OF THE TECNOLÓGICO DE ESTUDIOS SUPERIORES DEL ESTADO DE MÉXICO

ANALYSIS AND PROPOSAL FOR UPDATING THE ADMINISTRATIVE TRAINING PROCEDURE OF THE HIGHER STUDIES TECHNOLOGY OF THE STATE OF MEXICO.

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Abstract -- This article is developed as a result of the problem at the Tecnológico del Estado de México in which the administrative personnel do not attend the training courses offered, so that the indicator of the proposed annual goal is not met.

An analysis was made of the perception of the administrative personnel, to find out if they are aware of the training procedure implemented by the Tecnológico through the application of a Lickert-type scale with reagents that allow knowing the real situation that currently exists in terms of training at the Tecnológico, added to the analysis of the data on the courses given in the last 5 years by the Institution.

The purpose of this work is to contribute to the development of the training procedure of the administrative personnel of the Tecnológico de Estudios Superiores de Cuautitlán Izcalli, by proposing updating strategies that will allow the personnel to have a greater participation in the training courses, acquire knowledge and skills that they will later put into practice in the activities performed in their jobs. We seek to generate greater knowledge about training in the workplace and how its application contributes to the achievement of institutional objectives and goals.

Based on the analysis of the results, it is proposed to reformulate the needs detection questionnaire to generate a more complete analysis of the needs presented by the administrative personnel and to integrate and update the performance evaluation questionnaire, in order to be able to know the effectiveness of the training procedure and its impact on the achievement of institutional objectives.

Keywords: Training, Needs assessment, Performance evaluation, Training process.

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Based on the analysis of the results, it is proposed to reformulate the questionnaire for detecting needs to generate a more complete analysis of the needs presented by the administrative staff and to integrate and update the questionnaire for the evaluation of performance, in order to be able to know the effectiveness of the training procedure and its impact on the achievement of institutional objectives.

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INTRODUCTION

Human capital is becoming more relevant every day, workplaces must be aware that they are a fundamental and extremely valuable element when it comes to strategic planning and management, since their performance directly influences business productivity, so it is necessary to determine the contributions expected from each worker at an individual level, aligned to the assigned job description, where the expected goals become a parameter to know the contribution to the achievement of institutional objectives. In this way, it can be seen if the human capital has the knowledge, skills and abilities necessary to satisfactorily meet the objectives and expectations, otherwise the work centers must develop strategies to provide their workers with the same. Training is an essential procedure at the time of proposing the strategic guidelines to follow, to ensure that companies provide a quality service or product, allowing the positioning of the same as a leader in its field.

The purpose of training cannot be determined only as that of changing knowledge, but as a work that involves changing knowledge together with the environment in which it survives. This also implies changing the organizations and ingrained uses. And bringing about change in organizations and their embedded social practices is no easy task; It will depend not only on incorporating new knowledge, which is a necessary condition, although not sufficient Gore and Dunlap quoted by Gambetta¹, the change must be in each and every one of the actions within the company, that is, changing the organizational culture in which the staff develops, this will allow to see that what was learned in the training can be applied in each of the jobs, this change must start from the top management and people who exercise leadership and reach the operational areas of the company.

"Training is the process that allows the organization, according to the demands of the context, to develop the learning capacity of its members, through the modification of knowledge, skills and attitudes, orienting it to the action to face and solve work problems" Guiñazú². As the above definition states, this training is a process, learning is not something that happens overnight, it takes a certain period of time for the worker to internalize the concepts or skills acquired and this in turn is put into practice in their job.

Training is the means that allows the organization to interpret the needs of the context. We speak of process because it does not happen quickly and punctually, but over a certain period of time. The action-oriented learning capacity is the aptitude towards an adaptive change expressed through behavior, given that through action the person adapts to the work world by transforming it, that is, by facing and solving the work problems that arise. We speak of modification since when people learn they incorporate something they did not have: knowledge, a skill or an attitude, Guiñazú². By carrying out this learning process, workers transform the theoretical knowledge reviewed in the training course and gradually incorporate it into their day-to-day activities, which leads to the fulfillment of the job, and this in turn contributes to the achievement of business objectives.

The Training Procedure involves the systematization of a series of activities on which all training actions are based. The relevance of having a Training Plan is also supported by the fact that it is a way of improving the use of resources, facilitating synergies and having an organized and planned global vision with well-defined criteria on what is pursued with the different actions. Training planning is therefore based on prior knowledge of the reality (evaluation of the context and detection of needs) in order to organize all the elements involved in the training actions (objectives, contents, activities, methodological strategies, trainers, organization, duration, budget, resources, implementation and evaluation), according to the needs of the organization. Implementation and evaluation), according to the established training paradigms or principles and to the circumstances and possibilities in which such training should be applied. The coherence and adequacy of the elements and phases must be guaranteed by means of the corresponding evaluation of the whole set Colom, Sarramona and Vázquez quoted by Fernández-Salineró³.

According to Werther Jr. and Davis, quoted by García⁴, the preliminary steps that need to be fulfilled in order to have a good training program are: 1) detect training needs, also known as diagnosis; 2) determine the objectives of training and development, in this stage the elements to be considered in the evaluation stage should also be identified; 3) design of program contents and pedagogical principles to be considered during the delivery of the training; 4) delivery to develop skills (aptitudes and attitudes) and 5) evaluation, which can be. Before: during and after the training; the first one to locate the participant in his/her previous knowledge level and from there to provide him/her with the new knowledge; during: to correct any deviation, error or failure in the process.

to avoid that at the end something can no longer be done about it and later: to know the impact, the use and application of the skills developed or acquired in the performance of the function for which the worker was trained.

Gil, Ruiz and Ruiz, refer that "performance evaluation is a tool at the service of the individual, with a more responsible conception of his work and of the company, for the optimization of resources. It is also a technique to systematically appreciate, within the greatest objectivity possible, the performance of a person during a certain time, in relation to his current work and personal characteristics, as well as his contribution to expected objectives" Sanchez and Calderon⁵. We should take into account that personal characteristics influence work performance, not all workers can be treated in the same way, each one has a particular way of reacting to the situations that arise in the day to day, it is necessary that direct managers lead the work team taking into account the differences of each worker, and thus achieve a correct performance of all. The evaluation of employees consists of assessing the quality of their performance, in obtaining the results that are their responsibility Alveiro⁶.

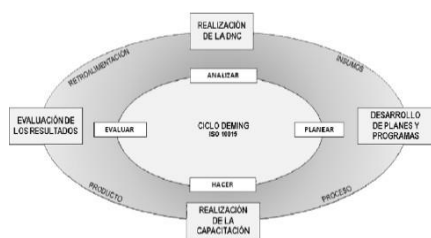


Figure 1: Stages of a training process.
Source: Garcia⁴.

The present work is developed at the Tecnológico de Estudios Superiores del Estado de México, which is focused on Education, whose mission is "To train integrally competitive professionals, teachers and researchers at national and international level, possessing a critical and analytical sense, with humanistic vision and ethical awareness, drivers of economic, scientific, technological and cultural development, with innovative sense, contributing to the growth of the region, the State and the country, in a socially responsible manner within a framework of personal excellence". Its vision is "To be recognized as one of the best institutions of socially responsible technological higher education, with accredited educational programs and certified processes under national and international quality standards, which guarantee the

positioning of our graduates in the globalized labor market".

The number of administrative personnel trained is below the annual indicator, due to the low participation of administrative personnel in the training courses offered in the annual program, which could have as a consequence that their performance is not sufficient to fully comply with their functions and activities and this could jeopardize the fulfillment of institutional objectives and goals.

Currently, the Tecnológico has a training procedure for administrative personnel, which is documented and formalized in the Tecnológico's Integral Management System, the last update was in 2018 in its fourth edition, however, the personnel has a low participation which brings as a problem that the annual goal is not reached. The percentage of trained personnel in fiscal year 2023 was 85%. The advantages of implementing training strategies are that the personnel achieve the competencies, knowledge and skills required to perform the position they hold. According to Gambetta¹ corporate training can also be used as a source of innovation and new ideas. This can help organizations to continuously evolve and maintain the interest of their market, as well as to identify new customers and opportunities through the use of the knowledge, skills and abilities of their personnel", thus allowing a change of perspective towards training in companies, which is not seen as an expense, but as an investment, which allows important advantages, keeping it as a tool for strategic business planning.

General Objective:

Analyze and propose a strategy to update the training program, which will increase the participation of personnel and thus increase the number of trained personnel at the Tecnológico de Estudios Superiores del Estado de México.

Specific objectives:

1. Analyze the training strategies currently implemented.
2. To identify the causes of the low number of administrative personnel trained at the Tecnológico de Estudios Superiores del Estado de México.

DEVELOPMENT

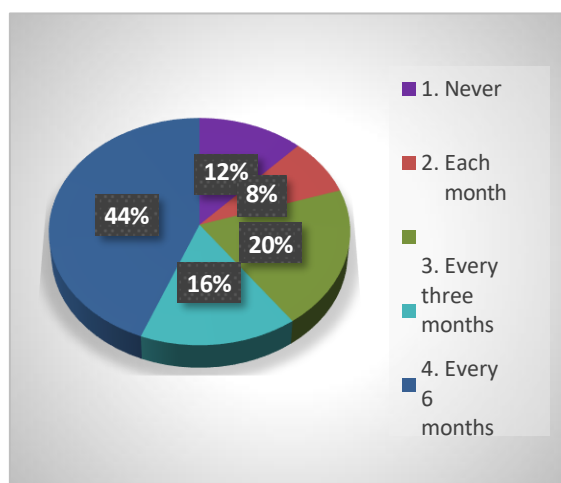
Experimental design: This study will use a descriptive scope with a quantitative approach. For Bermúdez⁷, descriptive research refers in detail and interprets what is. It is related to existing conditions or connections;

practices prevailing; opinions, views or attitudes held; processes in progress; effects felt or trends developing. Sometimes descriptive research concerns how what is or what exists relates to some preceding event that has influenced or affected a present condition or event.

A Lickert-type scale was designed based on the analysis of the training courses that have been offered in the last five years at the Tecnológico, with questions such as "In relation to the courses related to ISO standards/standard 025/ Integral Management System, how much have you put it into practice in your professional or personal life?", as well as courses on soft skills, Excel, programming, etc. in order to know if the personnel have put it into practice in their professional and/or personal life. A Lickert-type scale was applied to 23 employees in the administrative area, in order to know the staff's perception of training.

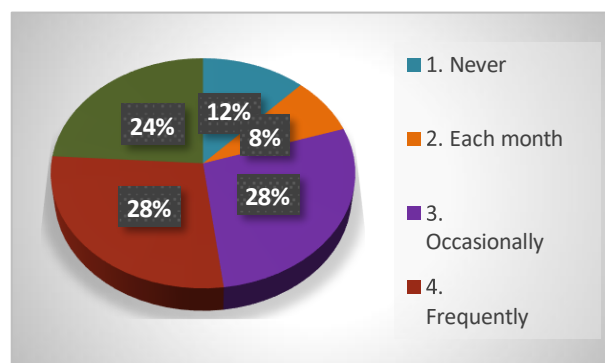
The Cronbach's Alpha statistical test was performed, which yielded a reliability coefficient of 0.68 for the instrument applied, indicating that the scale is "very reliable". Reliability or trustworthiness refers to the consistency or stability of a measure. A technical definition of reliability that helps to solve both theoretical and practical problems is that which starts from the investigation of how much measurement error exists in a measurement instrument, considering both systematic variance and variance by chance Kerlinger and Lee, quoted by Quero Virla⁸. The main purpose of a scale is to determine the value of a variable as accurately as possible Celina H. Field A⁹.

From the results obtained from the application of the Lickert-type scale, the following representative graphs are shown:



Graph of results of item 2. At Tecnológico, when are you asked your opinion about which training courses you would like to participate in? of the Lickert-type scale applied.

Forty-four percent of the sample responded that each year they are asked about which training courses they wish to take for their training, however, the perception of 12% is that they are never asked about training courses.



Graph of responses to item 3. In relation to the courses related to ISO standards/standard 025/ Integrated Management System, how much have you put it into practice in your professional or personal life, of the Lickert-type scale applied.

Regarding training courses on regulations, i.e. those related to ISO standards⁽¹⁰⁾ which are part of the Tecnológico's quality management system, 28% of the sample put them into practice frequently and 28% of the sample responded that they put them into practice very frequently. Therefore, it can be said that this type of courses are the ones with the highest participation, which is a benefit since the administrative processes are governed by these regulations, as mentioned by Gore¹¹ the intention is that the learning achieved can be transferred to the tasks, which does not occur in all cases. The ability to use the knowledge received in a given environment is linked to the quality of the knowledge received, to the particular characteristics of each task and to the relationships between these two contexts, one of the objectives of training is that the content of the courses contributes to their implementation in the workplace and this contributes to the achievement of workplace objectives.

Derived from the application of the scale and the analysis of the results obtained, the present study contributes to determine that the administrative personnel have knowledge about the training program and the courses offered by the Tecnológico, however, not all the topics covered are used by the personnel.

This could lead to the conclusion that the problem lies in the structure of the training procedure, since it does not gather the necessary information to correctly program the topics that are really the training needs of the personnel.

Based on the review of the training procedure for TESCO's administrative staff, it is proposed to update the needs detection questionnaire, which is the first step of the procedure, since the questions that are part of the questionnaire yield incomplete information, which causes the programming of the courses to cover part of the training needs of the staff, as was obtained from the response to the questionnaire applied for this study, This causes the course programming to cover a part of the training needs of the personnel, as was obtained from the response in the questionnaire applied for this study, since there are courses that are put into practice in the day-to-day work of the personnel, however there are topics that have been dealt with that are not put into practice in the activities carried out within the operation.

Therefore, the objective of the annual training program must be aligned with the mission, vision and objectives of the Tecnológico and its management system. The current needs detection questionnaire includes the following questions:

1.- ¿Desde su ingreso al TESCO ha recibido algún curso? SI _____ NO _____

2.- En caso de que le interese inscribirse a algún curso, ¿Cuál sería su disponibilidad de horario?

Lunes	Martes	Miércoles	Jueves	Viernes	Sábado

3.- ¿Estaría dispuesto a tomar otros cursos enfocados a áreas distintas a la suya? (Marque con una "X" y comience)

SI _____ ¿Cuáles? _____

NO _____ ¿Por qué? _____

4.- ¿Qué conocimientos, habilidades y actitudes requiere para desempeñar su trabajo y necesita adquirir?

1. _____

2. _____

3. _____

5.- ¿En qué le gustaría ser capacitado para desempeñar en forma adecuada su actividad en el TESCO?

6.- ¿Considera que la Evaluación posterior a los cursos es importante?

7.- ¿Cree que con cursos de capacitación mejore su trabajo?

Figure 4. Format of the needs detection questionnaire, Source: Training procedure for the administrative personnel of the Tecnológico del Estado de México.

These questions yield limited information, since they do not cover all the information required to carry out a training program that covers the needs of all the areas of the technology center, and therefore not all the training courses are functional for all the personnel in carrying out their activities. That is why it is proposed to update the needs detection questionnaire, with the following questions that complement the information for the analysis of the training needs of the technological staff.

The company's mission, vision and strategic objectives must be aligned with the mission, vision and strategic objectives of the company.

The proposed update of the questionnaire would be as follows:

8. ¿Sobre qué normatividad requiere capacitación para el correcto desempeño de su trabajo?

9. ¿Considera que necesita capacitación en programas/ herramientas/técnicas informáticas? ¿Cuáles?

10. ¿Qué tipo de modalidad le es más conveniente para que usted asistiera a los cursos?

Un foro _____

A distancia _____

Presencial _____

Mixto _____

11. ¿Qué horario le permitiría a usted asistir a los cursos de capacitación?

Mañana (de 08:00 a 12:00 horas) _____

Tarde (de 13:00 a 18:00 horas) _____

Noche (18:00 a 21:00 horas) _____

12. ¿Qué distribución del curso le permitiría asistir?

Sesiones diarias durante 1 a 2 semanas _____

Un día sí y otro no durante 1 a 2 semanas _____

Un día a la semana durante 1 a 2 meses _____

13. ¿Desde su ingreso al TESCO ha recibido algún curso de capacitación?

14. ¿Los contenidos de capacitación y talleres impartidos satisficieron sus necesidades para aplicarlos en su puesto de trabajo?

15. ¿Qué conocimientos, habilidades y actitudes requiere para desempeñar sus actividades para desempeñar su trabajo?

16. ¿En qué le gustaría ser capacitado para desempeñar en forma adecuada sus actividades?

17. ¿Considera que requiere capacitación para conocer en qué parte del Sistema de Gestión Integral impactan sus funciones?

18. ¿Considera que requiere capacitación para conocer cómo contribuyen sus funciones luego de la misión, visión y a los objetivos del TESCO?

19. ¿Considera que requiere capacitación para conocer la normatividad que son aplicables para el correcto desempeño de su trabajo?

Figure 5. Questionnaire with proposed updates. Source. Own.

Questions 1 and 2 will allow us to know the staff's participation in the courses and their perception of the previous year's training program, regarding the usefulness of the courses' contents and their application to their activities. Questions 3 and 4 are focused on probing the courses that the staff is interested in, about skills, abilities and topics they would like to cover, this information contributes to the selection of the courses that will be part of the next training program. Questions 5 and 6 allow us to know the employee's perception regarding the knowledge they have about the Integral Management System and the institutional goals of the Tecnológico, which are of utmost importance to verify if the courses previously given are aligned to contribute to these goals, and that the staff knows the impact of their activities with them.

With respect to questions 7, 8 and 9, they allow us to know if the worker requires training in regulations and tools directly for the activities they perform daily, which are directly related to their position and work area in particular, considering the results of these questions will allow us to include the courses that allow workers to have a better performance in their activities within their department and work area.

By modifying this questionnaire for detecting training needs at the Tecnológico, it will be possible to gather complete information that will allow us to generate a comprehensive training program that will allow workers to receive instruction on the needs they present, that is aligned with the needs of each area and this in turn will contribute to the achievement of institutional objectives and goals.

On the other hand, it is important to incorporate a questionnaire for the evaluation of personnel performance, since only the evaluation of the courses is done separately, however, it is not documented if the courses cause an impact on the performance of the employees of the Tecnológico, which makes it difficult to determine the effectiveness of the training program. As García⁴ mentions, clear, challenging, achievable and measurable short, medium and long term training objectives should be defined and established, aligned with the general strategy of the business, that is, the strategic planning of training should at all times be aligned and subordinated to the integral strategic planning, the objectives and goals to be established should coincide with and support the organizational objectives and goals, Therefore, the evaluation of the performance of the administrative personnel will allow to know if the courses given have been relevant for the personnel, as well as if they allow a change of attitude and of the activities required by each job position and that this contributes to the achievement of institutional objectives and, of course, to the effectiveness of the training procedure.

It is important that work centers and companies have the tools to evaluate the effectiveness of the training program, as well as the impact of the courses on the performance of the workers, so that the budget allocated to personnel training is seen as an investment that will guarantee the effectiveness and efficiency of the integral management system and the achievement of the work center's objectives in the future. In the Tecnológico, the course evaluation is carried out immediately after it is given to the personnel, in order to know their perception of the course content and its delivery; however, it is not enough to validate the effectiveness of the entire training program, since the applicability of the knowledge acquired in the work positions is not verified.

However, this is not integrated to a performance, so the results obtained do not have the relevance to determine actions for the improvement of staff performance, that is why it is proposed that the questionnaire be integrated to the training procedure of the administrative staff, so that it is documented within the

The results of the training program and the results obtained from it represent a variable that contributes to the evaluation of the effectiveness of the previous training program and to the development of the next annual training program.

The performance evaluation questionnaire is structured as follows:

1. Nombre de quien realiza la evaluación *

2. Nombre completo del trabajador o trabajador evaluado o evaluada *

3. Puesto *

4. Evaluación de obtención de objetivos *

5. Cambios que puedan haber afectado al proceso de obtención de objetivos *

6. Comentarios *

7. EVALUACIÓN DE HABILIDADES PROFESIONALES: Las habilidades profesionales del trabajador o trabajadora son evaluadas con los niveles de apreciación correspondientes y a su vez a las necesidades requeridas con más frecuencia por el INCE se recomienda determinar si corresponden a habilidades asociadas con la posición actual del servidor público.

	No satisfactorio	Parcialmente Satisfactorio	Satisfactorio	Sobresaliente	Excepcional
Liderazgo	☐	☐	☐	☐	☐
Organización	☐	☐	☐	☐	☐
Interacción	☐	☐	☐	☐	☐
Comunicación	☐	☐	☐	☐	☐
Creatividad	☐	☐	☐	☐	☐
Compromiso	☐	☐	☐	☐	☐
Clima y ambiente	☐	☐	☐	☐	☐
Capacidad analítica	☐	☐	☐	☐	☐
Tono de decisiones	☐	☐	☐	☐	☐
Proceder	☐	☐	☐	☐	☐
Método de verificación	☐	☐	☐	☐	☐
Adaptación (tema, programa, funciones)	☐	☐	☐	☐	☐

8. Comentarios específicos para la evaluación de habilidades profesionales *

9. Mencione los cursos o talleres de capacitación que considere necesarios para la persona evaluada *

Figure 6. Performance evaluation questionnaire. Source: Tecnológico de Estudios Superiores del Estado de México 2024.

The information collected in the questionnaire does not present clear qualification ranges, since the answers obtained previously are very varied, which makes it difficult to analyze and standardize the information, so the following questions are proposed to update the questionnaire:

QUESTIONNAIRE PARA LA EVALUACIÓN DEL DESEMPEÑO DEL PERSONAL ADMINISTRATIVO

1. ¿(El personal evaluado ha tomado cursos de capacitación en el año en curso)? ¿Cuántos?

2. ¿(Las cosas impartidas a su personal se relacionan con las actividades que desempeña dentro de su área de trabajo)?

3. ¿(El personal aplica los conocimientos, habilidades, actitudes de los cursos en sus labores diarias)?

4. Califique el desempeño de la persona evaluada de acuerdo con la siguiente escala:

ÁREA DEL DESEMPEÑO	MUY BAJO	BAJO	MOSE BAJO	ALTO	MUY ALTO	PUNTAJE
	1	2	3	4	5	
CUMPLIMIENTO						
Realiza su trabajo en el tiempo y forma establecidos.						
Cumple con las tareas que se le encomienda.						
CALEIDAD						
Realiza un volumen adecuado de trabajo.						
Comete errores en el trabajo.						
Presenta capacidad analítica en el desarrollo de sus labores.						
Requiere de supervisión frecuente para el cumplimiento de sus labores.						
Muestra profesionalismo en el trabajo.						
Se muestra respetuoso y amable en el trato.						
RELACIONES INTERPERSONALES						
Se muestra cortés con el personal y con los clientes.						
Brinda una adecuada orientación a sus colaboradores.						
Mantiene adecuadamente los conflictos dentro del trabajo.						
Muestra un correcto manejo de sus emociones ante las críticas.						
INICIATIVA						
Muestra nuevas ideas para mejorar los procesos.						
Se muestra adaptable al cambio.						
Se anticipa a las dificultades.						
Presenta capacidad para resolver problemas.						
Toma decisiones adecuadas en sus labores.						
TRABAJO EN EQUIPO						
Muestra aptitud para integrarse al equipo.						
Se identifica fácilmente con los objetivos del equipo.						
ORGANIZACIÓN						
Planifica sus actividades.						
Hace uso de indicadores.						
Se preocupa por alcanzar los metas.						
PUNTAJE TOTAL:						

Figure 7. Questionnaire for performance evaluation of the proposed administrative personnel. Source: Own.

The proposed questionnaire is based on the format for evaluating the work performance of the personnel of the Autonomous University of Chihuahua⁽¹²⁾, in which some adjustments are made in order to evaluate the effectiveness of the training program applied in a particular way for each worker, applied some time after having taken the training courses, in question 1, 2 and 3, 2 and 3 are intended to obtain relevant information on whether the topics addressed in the courses taken by the personnel correspond to the competencies entrusted according to the job position, and whether the direct boss who evaluates notes that the worker has put into practice what he has learned, and has had some change in attitude, aptitude or operability when performing his functions, which will allow knowing the effectiveness of the execution of the annual training program for the Tecnológico.

On the other hand, the proposed scale is intended to maintain standardized levels of compliance in the areas of employee performance, ranging from very low to very high, which will make it possible to know in which area the training needs are present, and in this way

The training program should be integrated into the training program, so that it can be followed up and contribute to the complete fulfillment of the objectives and responsibilities of each job position. The areas to be evaluated include aspects such as compliance, quality, interpersonal relations, initiative, teamwork and work organization by administrative personnel. Unlike the performance evaluation questionnaire currently used at Tecnológico, the proposed one defines the specific aspects to be evaluated, as in the case of the organization area, the aspects to be evaluated are: completes its work in the established time and manner, complies with the tasks entrusted to it, performs an adequate volume of work, which will allow the correct scoring by the immediate boss (a), since it describes in depth what is necessary to evaluate the performance of the staff, in the current questionnaire only mentions the area of performance, but is not operationalized, so that it can be mostly to a wide range of consideration.

DISCUSSION AND ANALYSIS OF RESULTS

According to the findings obtained from the application of the Likert-type scale, it can be said that the personnel are aware that training is provided at the technological center, since as was observed in the results, 88% of the personnel responded that they are aware that training is provided, referring to the item on how regularly they are asked about the topics in which they are interested in participating, which indicates that the low participation is not due to a lack of knowledge about the operation of the procedure.

In reference to the use of the topics reviewed in the training courses both in their professional life and in their personal life, it was found that 28% answered that they use the courses on regulations that apply to the technology (ISO standards that integrate their management system) "frequently" and "very frequently", which according to what Gore mentions, quoted by Gambetta¹, the intention is that the learning is transferred to the tasks, which does not occur because in the company there is no opportunity to apply this knowledge. The ability to use the knowledge received in a given environment is linked to the quality of the knowledge received, to the particular characteristics of each task and to the relationships between these two contexts. The understanding of systems to generate organizational capabilities, even if they focus on planned didactic actions, requires an understanding of the internal networks that shape and make feasible the processes of

It is important that the knowledge acquired in the training courses be used in the operation of the company's business, as this will contribute to the effectiveness of the training program, since the objective of the training program must be aligned with the objectives, mission and vision of the company, in the case of the technological company, its integral objectives include ISO norms and standards. The topics related to soft skills, the personnel say that they put them into practice, since they are decisive for decision making, effective communication, teamwork, among others. With some other courses such as Excel and programming, it is shown that they are used by fewer people since 44% of the technological personnel responded that they use them "frequently".

One of the characteristics that is very important in personnel management is precisely the part of motivation, since as mentioned by Werther Jr. and Davis¹³, 1991, "Although training helps members of the organization to perform their current job, its benefits can extend to their entire working life and can help in the development of that person to fulfill future responsibilities", in this sense, personnel were asked if they consider that personal or professional improvement is influenced by attending a training course, 32% responded that personal improvement is influenced and 40% responded that professional improvement is influenced by attending a training course, which shows that there is a certain percentage of personnel who are motivated to improve themselves, which influences them to attend training courses, so that awareness can be raised about this characteristic to encourage personnel to attend the courses offered by the institution and make it part of the organizational culture of the institution.

In reference to the updating proposal mentioned, a modification is proposed to the structure of the questionnaires for both needs detection and performance evaluation, which will allow this study to contribute in having a greater control from the planning of the annual training program, since there will be more information on the real training needs, to the evaluation of its effectiveness, Having parameters that indicate how much of what is seen in the training courses is put into practice, which brings with it more control, to ensure the active participation of the administrative staff, since from the results of the scale applied, the staff is aware of the training program, as well as of the courses given, however the low participation could be derived from the offer in the topics of the programmed courses, since not all of them are put into practice.

in personal and professional life. In relation to the evaluation of the training program derived from the application of the questionnaire already existing in the procedure, to evaluate the course from the personnel's perspective, the performance evaluation will be added, which will be carried out by the direct bosses who will provide information regarding the effectiveness of the training program, as mentioned by Velázquez, A. E. and Peinado J.¹⁴ in their proposal for a training program for IPN educational support and assistance personnel at the Center for Research and Technological Innovation, training evaluation consists of following up on the proposed training program, since this will make it possible to verify that the knowledge and skills acquired are really practical and applicable to the actual work of the position held by the personnel, which will have the advantage of having the necessary elements to make the right decisions in the programming of the courses for the following fiscal year.

In relation to the Needs Detection that is proposed in this update of the questionnaire, this will be sent at the close of the current fiscal year, so that the results of the training needs will form the annual program for the following year, as referred to by the National Autonomous University of Mexico¹⁵ in its training needs detection that will be applied will serve to provide its Annual Program of Courses for the following year for its basic administrative workers, since the diagnosis of training needs detection is a mechanism through which the institutional requirements of its dependencies are known with respect to its administrative personnel.

It is important to mention the limitations in the study conducted; the time to apply the proposed modifications due to the need for approval by senior management, as well as following the ISO standards, for the modification of a procedure, these must be submitted to meetings with the areas that have some responsibility or share activities of the procedure, so the time to conduct the study limited the implementation of the proposals in the institution.

It is important to mention the advantages brought by personnel training in workplaces, as mentioned by Werther Jr, and Davis, cited by García López⁴, 1) it helps to improve skills and attitudes, 2) raises the knowledge of job occupants at all organizational levels, 3) improves morale and satisfaction of the workforce, 4) guides staff to identify with organizational goals, 5) creates a better image of both staff and the organization, 6) improves relationships between

- 7) it helps to systematize the work,
- 8) better decision-making and problem-solving flow, 9) it fosters development and promotions,
- 10) it is the best tool to increase productivity and quality, 11) it contributes to keep operating costs low in many areas, 12) it contributes positively in the management of conflicts and tensions and 13) it allows the establishment and achievement of individual goals, of which the work centers must have them in mind, which will allow training to be seen as an investment and not as an expense that does not pay or contribute anything in return.

CONCLUSIONS

According to the results obtained in this study, it can be concluded that training is an important part of the development of companies and their intellectual capital. The development of training processes and that companies maintain them as a substantial part of their strategic procedures continues to be a difficult task, since it is not only a question of developing a training program to comply with the guidelines, norms and laws that regulate this activity, but also that the training program developed is aligned with the strategic objectives and institutional goals and that when it is executed it contributes to their fulfillment.

Creating awareness among employees about training and its benefits is an arduous task, the Tecnológico already has a formal and documented training program, which is aligned with the quality standards of ISO 9001, due to the certification it has in the aforementioned standard, this training procedure operates on a regular basis, training administrative staff, however, the participation that is presented is not expected to cover the annual training indicator, which creates a problem because there are factors that contribute to this is not developed in the most favorable way possible.

For future research, it would be relevant to evaluate the results of the application of the changes in the training program for administrative personnel once approved by the Tecnológico's management, in order to know if the proposed modifications contribute to having a broader analysis of the personnel's training needs and, by providing the courses that meet those needs, the annual training goal proposed by the institution is reached, thus allowing the administrative personnel to acquire the knowledge and skills necessary to perform their work in the most optimal manner.

It would also be interesting to replicate the update of the training procedure for the teaching staff of the

Tecnológico, in order to evaluate its impact at the moment of generating the analysis of the needs of the teaching staff, as well as to generate a broader analysis on performance evaluation and thus contribute to the effectiveness of the teacher training program. Along the same lines, the impact of the motivation of the administrative personnel in their participation in the training courses given at the Tecnológico could be studied in depth, since the results of this line of research would help to include strategies to generate greater motivation of the personnel to receive training.

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