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Research article

The Ampersand Method in Problem Solving*

El Método Ampersand en la solución de problemas

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Abstract

The objective of the work is to identify areas of opportunity and problems within a workgroup, organization, institution, or educational program through precise steps to generate ideas for creative solutions. The method used to develop the solution is the Bernd Löbach Method (1981), which is structured in four phases: phase 1: analysis of the problem, phase 2: solutions to the problem, phase 3: evaluation of the solutions to the problem and phase 4: realization of the solution to the problem. As a result, the design of a new method was obtained, which makes this tool available to users, with eight precise steps to obtain creative solutions to problems detected in specific contexts. This method is in the registration process before the Mexican Institute of Intellectual Property (IMPI). It will be available to the general public for its use and exploitation as knowledge generation. It is necessary to have an innovative method to guide

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the steps of the work team to follow a path toward probable solutions with certainty. Due to its theoretical and creative foundation, the Ampersand Method allows for identifying and solving problems and areas of opportunity to have greater certainty. The work teams can have greater certainty in each step of the process.

Keywords: Method, Innovation, Education, Creativity, Processes, Ideas.

Resumen

El trabajo tiene por objetivo identificar áreas de oportunidad y/o problemáticas dentro de un grupo de trabajo, organización, institución o programa educativo, a través de pasos precisos para generar ideas de soluciones creativas. El método a través del cual se trabaja para desarrollar la solución, es el Método de Bernd Löbach (1981), el cual está estructurado en cuatro fases; la fase 1: análisis del problema, fase 2: soluciones al problema, fase 3: valoración de las soluciones del problema y fase 4: realización de la solución al problema. Como resultado se obtiene el diseño de un nuevo método, el cual pone a disposición de los usuarios dicha herramienta, misma que cuenta con ocho precisos pasos para la obtención de soluciones creativas a problemáticas detectadas en determinados contextos. Este método se encuentra en proceso de registro ante el Instituto Mexicano de Propiedad Intelectual (IMPI) y estará a disposición del público en general para su uso y aprovechamiento, como generación del conocimiento. Se concluye que para la solución de problemas detectados en contextos determinados y/o el aprovechamiento de áreas de oportunidad/mejora, es necesario contar con un método innovador que guíe los pasos del equipo de trabajo, para así recorrer con certeza un camino hacia las probables soluciones. El Método Ampersand permite que el proceso de identificación y solución a problemáticas y/o áreas de oportunidad tenga mayor certidumbre. Esto debido a la fundamentación teórica y creativa del mismo. Los equipos de trabajo pueden tener mayor certeza en cada paso del proceso.

Palabras Clave: Método, Innovación, Educación, Creatividad, Procesos, Ideas

SUMMARY

INTRODUCTION. - RESOLUTION SCHEME. - I. Research problem. - II. Methodology. - III. Writing plan. - 1. Performance based on methods/methodologies. - 2. Design and innovation in work methods. - IV Research results. - CONCLUSIONS. - REFERENCES.

Introduction

When there is a problem in everyday life, an undeniable concern arises to improve processes and ways of doing things, as well as the concern to innovate. Muñoz (2014) mentions that “innovation is part of human nature; it is the natural desire to create something new, to invent a better future.” That is why it is vitally important to work towards the generation and creation of tools that facilitate the development process of new and better processes, products, and experiences. Ortiz, Hernández & Peinado (2019) establish that “in recent years, design methods have emerged that include the initial stage of innovation; one of these cases is person-centered design” (p. 94). Of course, there are already methodologies and techniques that allow us to get closer to the generation of ideas and problem-solving; techniques such as Mindblower, Social Design (Kimbell & Jullier, 2012), IDEO’s Design Thinking (2012), Simplex (Basadur, 1999), Claxton’s Design Thinking (Claxton, 2016), Design Charette & Design Sketching (Pernice, 2013), Excellence (Birch & Clegg, 2007) and Future Cover Mockup (LUMA Institute, 2012).

Innovating through what already exists and, above all, through what is unknown encourages the emergence of new and better methods. Cardoso (2014) highlights that “in the complex

world in which we live, the best solutions usually come from teamwork and networks” (p. 31). Esqueda et al. (2019), in the same sense, express, “the Design Thinking model can be favorable in many cases as well, but its success does not depend on the model itself but on the training and previous experience of the person who implements it.” That is to say, the need for clarity in the development of solutions is evident from the moment the problem is addressed and analyzed, the formation of the work team, and the design and creation of the probable solution.

Resolution scheme

1. Research problem

How could areas of opportunity/improvement be identified within an organization, institution, workgroup, or educational program, as well as creative solutions to problems encountered in these contexts?

2. Methodology

Based on the expressed need, different work methodologies were analyzed in order to find a way to obtain an idea, a solution, or a tool. The type of research selected for the development of this project was qualitative.

Bernd Löbach considers the design process as the set of possible relationships between the designer and the designed object so that it becomes a technologically reproducible product (Vilchis, 2000, p.107). This process is structured in four phases: phase 1: analysis of the problem, phase 2: solutions to the problem, phase 3: evaluation of the solutions to the problem, and phase 4: implementation of the solution to the problem.

The starting point is the problem discovery, whose approach, according to Löbach, is generally presented to the designer by the company. It is essential to collect all the data that concerns it (Vilchis, 2000, p. 109). For an optimal analysis of the problem, different aspects can - or should - be analyzed, for example, the number of people interested in solving the problem, the social and market impact that the solution will bring with it, aspects of the solution itself such as production costs, processes and materials, its configuration and the risks involved in its development.

The designer enters the creative phase based on the information relationships and the conclusion of conditions for solving the problem. In this phase, procedures are selected for the organized solution (trial, error, and inspiration). The elaboration of ideas implies defining various possibilities to solve the problem in question; it is essential to draw sketches or build test models of the solutions thought of (Vilchis, 2000, p. 110).

At this point in the process, the solutions proposed for the problem must be evaluated to choose the most appropriate one to meet the expressed needs. Vilchis (2000, p.111) mentions, “Here, a thorough examination of the alternatives presented takes place, from which the one that responds to a careful confrontation with the required values established as conclusions of phase 1 is chosen. In the final phase of the process, the ideal solution for the problem is designed and carried out. Work is done down to the smallest detail, and this phase results in the visual element that will satisfy the expressed need based on the problem.

3. Writing plan

3.1 Performance based on methods/methodologies

Every day, we see the need to improve work/study processes in the labor and educational fields. These processes mostly focus on solving problems in certain contexts, scenarios defined and/or selected based on research, or sometimes, determined because “there” was where the problem manifested itself. Based on the above, it is necessary to have methods that promote work by the objectives set, with certainty concerning the phases being developed. Vilchis (2000) mentions that:

Methodology constitutes a chapter of epistemology related to the different ways of researching. Method derives from the Greek words meta, “along or through,” and ódos, “path”; therefore, it means “going along the right path, the path of knowledge.” In this sense, performance based on one or several methods will allow for a steady path toward obtaining the desired results (p. 34).

3.2 Design and innovation in work methods

When we talk about innovating to solve problems, specifically, to design and improve processes, we also refer to design and innovation in work methods. The design represents a fundamental part since, when carried out appropriately, it will promote understanding and clarity in following it. Cardoso (2014) states:

In graphic design, the role of language and repertoire is very evident. However, these same principles govern any creative activity and project, whether an aircraft, a blender, or a photograph. Human beings always think through the languages they have at their disposal, which are codified by accumulating previous activity in that field (p. 67).

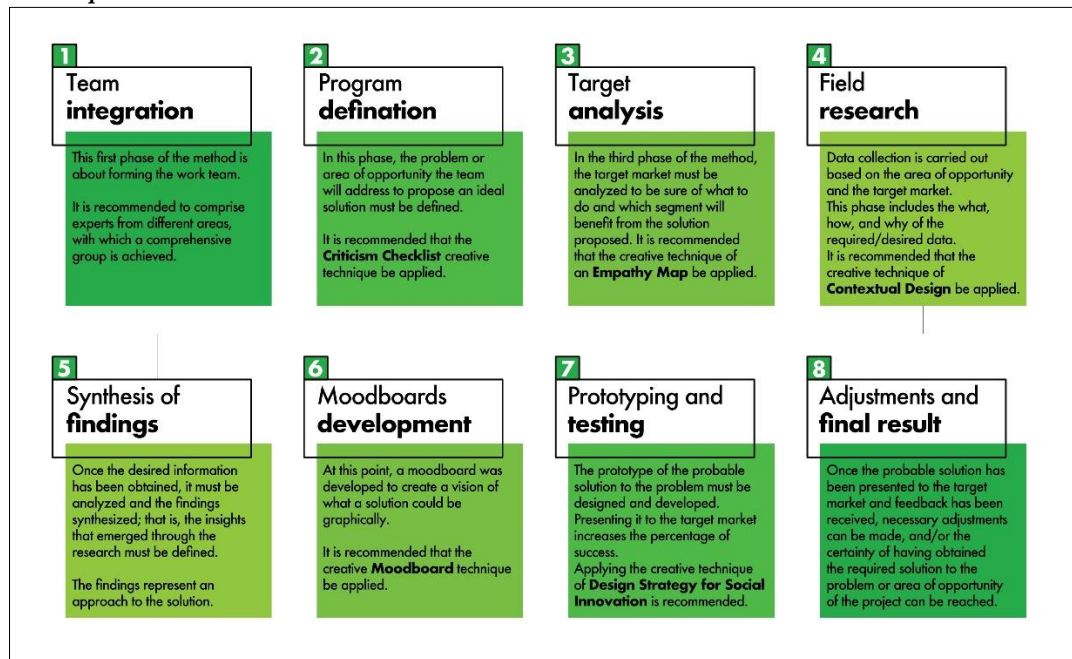
Because of the above, the need to innovate in work processes and methods is visible, hand in hand with design, as an amalgam that will promote greater understanding, better performance, and, therefore, a closer approach to meeting objectives.

4. Research results

The result was the design of a new method, which makes this tool available to users. It has eight precise steps to obtain creative solutions to problems detected in certain contexts. This method is being registered with the Mexican Institute of Intellectual Property (IMPI). It will be available to the general public for use and benefit as a generation of knowledge (Figure 1).

As can be seen, the Ampersand Method is made up of eight precise steps that must be followed in order first to define and determine the problem or area of opportunity to be addressed and then work through the following phases to reach the solution that can and should be “tested” to determine if the problem was solved or if adjustments need to be made for its optimal function.

Figure 1. *Ampersand method*



Source: Own elaboration.

Conclusions

It is concluded that to address a problem and/or an area of opportunity detected; it is extremely necessary to work through a directed process, which allows for progress to be made at a steady pace and avoids common errors that can be made in this type of project, such as not having a clear objective, not being clear about the problem being addressed or the uncertainty that can be caused by not knowing if one is working under the necessary approach.

It is also concluded that innovation is a determining factor in problem-solving, regardless of the context, since it does not matter if the problem occurs in the social, educational, or work environment, to mention a few. The innovation factor, when present, favors obtaining more and better results, with greater probabilities of solving problems and taking advantage of detected areas of opportunity.

Finally, it is concluded that designing a method/methodology such as the Ampersand Method contributes significantly to the scientific and knowledge community since whoever created it is an open and freely accessible tool for all people, organizations, or institutions.

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