

Divergent Learning In The Management Of Economic Or Social Projects For Young Students

Sernaqué Barrantes Marleny¹, Atoche Silva Luz Angélica², Talledo Mendoza Gulissa Graciela³, Morocho Ricalde Carmen Julia⁴, Herrera Mogollón Rosa Tomasita⁵

ABSTRACT

The objective of this research is to determine the effect of the divergent learning program on the management of economic or social projects in students of an Educational Institution in Piura, 2023. Research with a quantitative approach, experimental type and pre-experimental design. We worked with a population of 102 students and a single sample of 34 students, to whom the survey technique was applied and as an instrument the 28-item questionnaire to measure the dependent variable, which has a reliability of Cronbach's Alpha with 0.821 and a validity with Aiken's V of 0.92. The results in the pretest indicated that there is poor project management in the students because 100% of them were located at the beginning level, unlike the post test, where 62% of students were located at the achieved level. Likewise, the application of the divergent learning program optimized the management of economic and social projects due to the significant differences found (73.59) between the pre and post test (T student = 33.194, p value = 0.000). It is concluded that the program emerged significant effects in the management of economic and social projects in the students.

Keywords: Divergent learning, Management of economic or social projects, students

I. INTRODUCTION

Education for Work is provided as an entrepreneurial and innovative function from the secondary level and was created with the aim that apprentices achieve the ability to develop as dependent and independent workers in the work environment, using their entrepreneurial skills and abilities from the classroom with the production of prototypes. It is observed that entrepreneurship has a limit due to lack of materials and motivations through the student, when they get involved in economic problems and homes with dysfunctional problems, they hinder their entrepreneurial and innovative advancement.

In the international context, research carried out in Mexico shows an absence of entrepreneurial initiative in¹ university students where 96.6% of them indicate that they do not develop a social enterprise, but would like to do so, despite the fact that they have no idea how to start it, entrepreneurship skills should be stimulated from the first years of school age should not be started from high school. In every learning session, entrepreneurship must be developed, while applying creative practices, teamwork and teaching perseverance. (Bañuelos et al., 2021).

¹<https://orcid.org/0000-0002-5483-4997> Universidad César Vallejo Piura – Perú

²<https://orcid.org/0000-0002-2901-2326> Universidad César Vallejo Piura – Perú

³<https://orcid.org/0000-0001-6959-5397> Universidad César Vallejo Piura – Perú

⁴<https://orcid.org/0000-0002-8398-8696> Universidad César Vallejo Piura – Perú

⁵<https://orcid.org/0000-0002-7723-1427> Universidad César Vallejo Piura – Perú

According to the report of the Global Entrepreneurship Monitor (GEM, 2023) Business education in schools is not of interest to school-age students, when they become adults they manifest these evaluations obtained by the Entrepreneurial Activity Rate (TEA) of the adult population, comparing it with the economic potentiality is manifested, Guatemala its economic potential is 47.3% with ASD 29.4%, Latin America 40.7% with ASD 23.1%, low income of this adult population 40.3% with ASD 12.6%, middle income 28.0% with ASD 16.4%, high income 22.9% with ASD 12.2%.

At the national level, the National Curriculum (2016) establishes competencies for schoolchildren in the face of the demands of today's society. The National Institute of Statistics (INEI, 2023) considers that in Peru 32% of adolescents between the ages of 12 and 16 do not study or work and are part of the school dropout rate. In 2022, it was confirmed that 18.2% of 15 to 29-year-olds do not work or study, this percentage groups the unemployed and inactive. Between November 2022 and January 2023, 90,000 jobs have been lost, according to INEI (2023).

INEI reported that they were lost because young people who were expected to work in the use of textile machinery and footwear with cutting and sewing from the age of 13 could have a work environment for economic satisfaction. They did not succeed because in regular basic education there is no industrial education in the area of education for work. It is in the productive training centers where they teach it through workshops. The specifications that a school with entrepreneurship must have. According to GEM, they are creativity, self-sufficiency, personal initiative with an added entrepreneurial spirit.

At the local level, the state entity where the study was carried out was in a state educational institution where the area of Education for Work (EFA) is developed based on the secondary curricular program of Regular Basic Education (EBR, 2016). Entrepreneurship is not developed in this institution. In the second semester, the status of the first-year secondary school student remains at the initial level of achievement with 8%. For this reason, solution options are sought in order for students to improve their ability to manage EFA projects for their personal fulfilment.

The learner must use thinking, action, predicting solutions, and solving productive exercises as solution tools. This is the basis for educational entrepreneurship where you are able to build your life project. Thus participating in sustainable development. In this sense, the general question arises: What is the effect of divergent learning on the management of economic or social projects in students of an educational institution in Piura, 2023? With respect to theoretical justification, the characteristics of divergent learning such as creative, imaginative, reflective, innovative are applied.

This led to the discussion of results and the obtaining of conclusions and recommendations. It also has social relevance because high school students benefit from developing their entrepreneurial and innovative capacity. Regarding the methodological utility, the contribution is the divergent learning program for entrepreneurship management in high school students, it contains methods to obtain valid and reliable knowledge. It describes how the divergent characterization was combined with project management capabilities.

In terms of practice, the study can be applied in any context similar to the problem or characteristic, by not using the proposed program, the development of the four competencies of the competence of the area of education for work will not be achieved. Regarding the study, the general objective is to determine the effect of the divergent learning program for entrepreneurship management in high school students on the management of economic or social projects in students of an educational institution in Piura, 2023; and how specific.

To determine the effect of the divergent learning program on the dimension creates value proposition in students of an educational institution in Piura, 2023, to determine the

effect of the divergent learning program on the dimension applies technical skills in students of an educational institution in Piura, 2023, to determine the effect of the divergent learning program on the dimension works cooperatively to achieve objectives and goals; To determine the effect of the divergent learning program on the dimension evaluates the results of the entrepreneurship project in students of an educational institution in Piura.

Given the possibilities presented, the general hypothesis is considered: The divergent learning program for entrepreneurship management in high school students has significant effects on the management of economic or social projects in students of an educational institution in Piura, 2023. The divergent learning program for entrepreneurship management in high school students has significant effects on the dimensions of economic or social project management in students of an educational institution in Piura, 2023.

II. THEORETICAL FRAMEWORK

At the international level, Rincón et al. (2023) from Spain, whose objective is to select teaching-learning methodologies that help develop entrepreneurial skills. In its results, young people with less development of entrepreneurial capacity were found in first place, 15-year-olds with a percentage of non-entrepreneurship of 95.29%, 13-year-olds with no entrepreneurial activities of 83% and finally 14-year-olds with 92%. It is concluded that challenge-based learning should be applied.

Likewise, at the national level, from Apurímac, Cruzata et al. (2022) set out to identify the didactic strategy to teach how to manage the processes of productive activities. This relationship adds the formative and the socio-cognitive, with an exploratory and descriptive design, with a qualitative approach. EFA teachers made up the study sample. The instrument used was the interview. As a conclusion, it was determined that entrepreneurial capacity can be developed in students through training strategies, with productive activities for training and preparation for the world of work with entrepreneurial capacity.

Likewise, Lima Caso (2021) proposed to examine how the Virtual Program based on entrepreneurship affects the development of competence in entrepreneurship project management in fourth-grade students of a CEBA in Ate Vitarte during the year 2021. Adopting positivism and a quasi-experimental design, the virtual program was applied to 40 students divided between the control and experimental groups. A statistically significant difference in scores was observed between the two groups ($p=0.000$).

Therefore, in Lima, Llacta (2019) investigated the impact of cooperative learning and entrepreneurial talent on EFA, using a quantitative, quasi-experimental approach. A sample of 40 students in the third year of secondary school was given a checklist. The finding obtained from cooperative learning allows a good relationship with entrepreneurial capacities, achieving a significant result in the cooperative dimension, with an outstanding achievement of 5% to 65% and in the expected achievement of 20% to 35%. Cooperative learning is necessary to achieve this competency.

With theoretical bases, with the aim of developing comprehensive competencies and facilitating productive insertion. This entrepreneurial approach mobilizes the person with all their resources to carry out tasks relevant to their context. The development of entrepreneurial skills in students based on creativity, innovation, autonomy, living together and working in a group prepares them to perform in the work environment. This must be developed with teaching methodologies as part of the pedagogy of entrepreneurship, allowing the development of personal characteristics and transversal competencies (Hoppe, 2016).

Under the same approach, we agree with Mora et al., (2021) who indicate that learning entrepreneurship allows reflection and decision-making in the face of the

solution of economic and social problems, making use of strategies and procedures for the development of their competence.

These results determine that the student must be creative in order to generate projects and divergent learning makes the student bring out his creativity. From this perspective, we agree with Guilford (1956) who indicates that divergent thinking can lead to multiple solutions by identifying opportunities to find creative ways to solve problems, evaluate ideas from different points of view, understand and learn from others.

Likewise, it coincides with what Romo (1994) states, who argues that divergent learning is productive when the student creates original and innovative prototypes to address the needs of his environment. This approach fosters creativity through the discovery and application of techniques, allowing the student to find new solutions and modify previous prototypes. Divergent production involves the development of productive capacity through logical solutions and creative products, evaluated through indicators such as fluidity, flexibility, originality, redefinition, penetration and elaboration. In addition, synonyms related to divergence, such as discrepancy, disagreement, difference, and disagreement, are mentioned.

The participation of Yubero et al. (2005) argues that it focuses on the behaviors learned by the influence of the social environment, through imitation and observation that are part of their social context. Social learning is studied from a behavioral point of view and this is influenced by the context and the cognitive aspect.

The dimension creates value proposition, from Chiclayo, Ramos et al. (2020) aimed to relate marketing and Canvas Methodology for customer loyalty in the purchase of artisanal sweets online, used the value proposition before the customer product relationship. The type of study was descriptive, non-experimental, cross-sectional. Using the questionnaire and survey, with a sample of 217 students, the dimensions and components of the Canvas Methodology have allowed to manage permanent clients. With 52.5% very good with loyal customers, as well as 47.5% good customers. He managed to manage total customer loyalty.

In the first dimension, it creates a value proposition, Osterwalder (1984); Kinasih, (2019) manages to transform the meaning of create value proposition and conveys the perspective of not focusing too much on the characteristics of the product, but rather on conveying the benefits and advantages of the product you are going to select to buy. In this way, the client feels that he or she is in charge of a friendly company that cares about informing the customer in detail about the preeminences of the product, making it make a difference in the market.

In this case, the company can involve the customer with their opinions and raise their needs, which can be taken into account when making the product. The company, taking into account the profile of its customer, can improve the existing product. As a second dimension, it applies technical skills, it is related to using tools, machines or software programs, and working with methodology and strategies in order to make the production processes of a good or the provision of a service. Technical principles are applied in this preparation. (MINEDU, 2016).

Key elements of applying technical skills to this collaboration include the harmonious combination of skills, equitable distribution of responsibilities, open and transparent communication, mutual respect, positive interdependence that recognizes team-linked success, flexibility, celebration of joint achievements, building trust, a positive work environment that promotes a collaborative culture, and a continuous process of learning and constant improvement in the practical renewal of knowledge as well as in skills and talents that they have to take into account for the production or elaboration of a good or service (Barkley et al., 2007).

Team collaboration allows groups to share their skills, talents, and ideas to achieve a common goal, facilitates positive interdependence among members, and fosters the development of a set of soft skills such as holding a conversation, asking a question, listening to opinions. When assessing a task assigned by the teacher, all team members contribute their knowledge and come up with innovative ideas. In addition, they actively participate in the search for information, which reinforces the sense of cooperative work in the group (Johnson et al., 1994).

In the argued and corresponding dimensions, it works cooperatively to achieve objectives and goals, with the last dimension it evaluates the results of the entrepreneurship project. They contribute to the development of the profile of the graduate of the area of education for work in regular basic education of the Peruvian national curriculum, they are participants in the personal development in different social contexts who wish to be linked to the development of entrepreneurial and innovative capacities.

III. METHODOLOGY

The type of research was applied. According to Carrasco (2019), type of research is applied to stimulate changes to the object under study based on the influence of divergent learning on the management of economic or social projects.

According to Hernández et al. (2014), the design that was applied in the research is the pre-experimental one understood: Pretest and posttest in a single group of first-year high school students, to start the study the divergent learning program for entrepreneurship management was applied in high school students. Finally, a posttest was applied at the end of the implementation of the program. The following design diagram is detailed below:

$$G : O_1 \text{ ——— } X \text{ ————— } O_2$$

G: Group of students in the first grade of secondary school of the state educational I.E.

O1: Pretest perception in the area of education for work aimed at students.

X: Application of the divergent learning program for entrepreneurship management in high school students.

O2: Post test perception of the area of education for work aimed at secondary school students.

3.1 Sample

To determine the sample size, the non-probability sampling technique was used, conditioned to an intensional sampling, according to Hernández et al. (2014) the choice of elements does not depend on probability, as a study sample 34 students of section B known as experimental group have been considered.

3.2 Data collection technique and instruments

Technique

According to Feria et al. (2020), the survey is adaptable to collect information about the object under study, which is why it has attributes such as being flexible and clear. The technique applied to the object of study was a survey.

Instrument

According to Gil (2016), it refers to the action of writing down real information. Meneses (2016) considers that the questionnaire helps the researcher to develop limited questions that allow information to be collected from the sample of individuals. Given this support, the questionnaire was used to measure the dependent variable, economic and social project management. It consisted of 28 items which will be evaluated by the Likert scale. To verify the reliability of the questionnaire, it was applied to a pilot sample of 28 students belonging to a state educational institution. The application time was 25 minutes.

Validity

Using Aiken's V with the variables clarity, coherence and relevance, it was obtained with the validity of 6 experts, which gave an index of 0.92

Reliability

With Cronbach's alpha, it has been possible to determine that the instrument of perception in relation to the area of education for work obtained an index of 0.821.

3.3 Procedures

First, permission to conduct the research was requested from the educational institution. At the same time, the pilot test was applied in another institution to find the reliability of the instrument. With the authorization to carry out the study, the pretest was applied to the study sample. Then, the divergent learning-based program was developed to improve the management of economic or social projects. This application was done in three months. At the end, the post-test was applied to know the level of management of economic or social projects in the students and to process the results for the preparation of the final report.

IV. RESULT**Table 1** Levels of management of economic or social projects and their dimensions

Dimensions	Pre-test								Post test							
	Beginning		Processes		Accomplished		Outstanding		Beginning		Process		Accomplished		Outstanding	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Create a value proposition	34	100%	0	0%	0	0%	0	0%	2	6%	13	38%	16	47%	3	9%
Apply technical skills	34	100%	0	0%	0	0%	0	0%	0	0%	14	41%	16	47%	4	12%
Work cooperatively to achieve goals and objectives	34	100%	0	0%	0	0%	0	0%	0	0%	12	35%	16	47%	6	18%
Evaluate the results of the entrepreneurship project	34	100%	0	0%	0	0%	0	0%	0	0%	10	29%	18	53%	6	18%
Management of economic or social projects	33	97%	1	3%	0	0%	0	0%	0	0%	9	26%	21	62%	4	12%

It also coincides with the findings of Caso (2021); Santana et al. (2020); Baumol (2010) who, with his virtual program "Emprendiendo", improved the development of competence in the management of entrepreneurship projects in students of a CEBA. The results indicated significant improvements in entrepreneurship project management competence due to the statistically significant difference in scores between the experimental group and the control group ($p=0.000$).

Dimensions / Variable	Stoc king	Standard deviation	Mean Difference	T Student	G1	Gis.
Create Pre Value Proposition	8,24	0,890				
Create Post Value Proposition	26,0 9	3,942	17,85	26 ,218	33	0,000
Apply Technical Skills- Pre	8,47	0,662				
Apply Technical Skills- Post	26,3 5	4,119	17,88	24,262	33	0,000
Work cooperatively to achieve objectives and goals-pres	8,56	0,613				
Work cooperatively to achieve post-objectives and goals	27,6 6	3,813	19,09	26,532	33	0,000
Evaluates the results of the entrepreneurship project - pre	8,62	0,551				
Evaluate the results of the entrepreneurship project- post	27,3 8	3,534	18,76	29,051	33	0,000
Manage economic or social projects -pre	33,8 8	1,225	73,59	33,194	33	0,000

Manage economic or social projects -post	107, 47	12,614
---	------------	--------

Table 2 Mean Dimension Difference Between Pre and Post

According to Student's T, it has been shown that divergent learning has had a positive effect on the management of economic or social projects in an educational institution in Piura, 2023.

By the mean differences found between pre and posttest and the significance of 0.000 in the dependent variable and each of its dimensions.

V. DISCUSSION

The verification of the management of economic or social projects was the intention of the research and its results will be discussed in this section.

The research tries to discuss the effect of divergent learning in the management of economic or social projects in students of an educational institution in Piura using the parametric T test of Students. With it, it was possible to verify that divergent learning had a difference of 73.59 points between the pre and post test applied to the students and with a significance of 0.00, it is confirmed that this difference is significant and the divergent learning did have positive effects on the management of economic or social projects in the students.

Although there are few experimental studies that confirm that divergent style contributes to improving the management of economic or social projects in students, there is relevant information on methodological strategies that develop entrepreneurial competencies in students. Taking into account the benefits of divergent learning to develop creativity in students to develop their productive projects, it coincides with the study by Rodríguez (2020), who in his findings found that 60% of his students had a divergent learning style.

Likewise, it coincides with the findings of Caso (2021) who, with his virtual program "Emprendiendo", improved the development of competence in entrepreneurship project management in students of a CEBA. The results indicated significant improvements in entrepreneurship project management competence due to the statistically significant difference in scores between the experimental group and the control group ($p=0.000$).

Likewise, it coincides with the findings of Rincón et al. (2023) who in their research were able to verify that applying methodological strategies such as challenge-based learning can encourage students to find solutions to problems encountered through projects, likewise, these strategies can encourage students to develop entrepreneurial skills.

Under the same approach, there is agreement with Cruzata et al. (2022) who in their research established that it is feasible to promote entrepreneurial skills in students through educational approaches, in addition, by carrying out productive activities during the learning process, the preparation of future professionals more qualified to integrate into the workplace is promoted, through productive projects of great relevance in the same direction.

These results also coincide with Hoppe (2016) who indicates that fostering entrepreneurial skills in students, focusing on creativity, innovation, autonomy, as well as the ability to live together and collaborate in a team, results in their preparation to face challenges in the workplace and that this process must be carried out through specific pedagogical approaches. such as those proposed in the pedagogy of entrepreneurship. Under the same approach, we agree with Mora et al., (2021) who indicate that learning entrepreneurship allows reflection and decision-making in the face of the solution of economic and social problems, making use of strategies and procedures for the development of their competence.

These results determine that the student must be creative in order to generate projects and divergent learning makes the student bring out his creativity. From this perspective, we agree with Guilford (1956) who indicates that divergent thinking can lead to multiple solutions by identifying opportunities to find creative ways to solve problems, evaluate ideas from different points of view, understand and learn from others.

Likewise, it coincides with what Romo (1994) states, who argues that divergent learning is productive when the student creates original and innovative prototypes to address the needs of his environment. This approach fosters creativity through the discovery and application of techniques, allowing the student to find new solutions and modify previous prototypes. Divergent production involves the development of productive capacity through logical solutions and creative products, evaluated through indicators such as fluidity, flexibility, originality, redefinition, penetration and elaboration. In addition,

synonyms related to divergence, such as discrepancy, disagreement, difference, and disagreement, are mentioned.

These findings also coincide with Yubero et al. (2005), because it indicates that divergent learning is supported by social learning. It focuses on behaviors acquired through the influence of the social environment, through imitation and observation within the social context. This type of learning, studied from a behavioral and cognitive perspective, develops continuously from birth to the end of the life cycle, characterized by individualized social patterns. In addition, it is linked to Piaget's theory of cognitive development in adolescents, based on formal operations, which manifest themselves from the age of 12 to adulthood. Cognition, according to Piaget, involves assimilation, accommodation, and balance, and its development is gradually adjusted through mental processing, experience, and biological maturity. Formal operations focus on hypothetical deductive reasoning to solve various problems.

The results regarding the first dimension or ability to create a value proposition, 61.8% of students were placed at a level in process, which shows that students still have difficulties in clearly transmitting the benefits or advantages of what is produced. This is related to the findings of Agurto (2022) who in his study was able to determine that 60% of students in this dimension were at a regular level.

On the contrary, disparities are found with the study by Ramos et al. (2020) who, through the use of marketing from the Canvas methodology, kept their customers informed about the creativity of artisanal sweets. With this information delivered to the customer, I can get them to assess the preparation of the sweet, before the incorporation of the monetary value proposition. With this methodology, 52.5% of customers rated customer loyalty as very good, and 47.5% of the rest of the customers said it was good. These results of the study show that transmitting the value proposition of the product to customers makes them loyal to the company and can acquire the product, gaining greater followers.

According to the results of the post-test, there was a mean difference between the two before and after evaluations, which was 17.85 points. These find coincidences with the study of Caso (2021) who in his research found significant differences between the before and after the application of the entrepreneurship program by the p value = 0.000. This confirms that the sessions developed in the area of EFA in terms of creating value propositions, the students were able to improve this competence, evidenced in the formulation and support of the advantages and benefits of the products or projects to be developed. To do this, the student looked for pertinent information and innovative ideas before selecting their prototype, put their imagination into practice and proposed activities based on the phases of Design Thinking from different perspectives to extract the advantages of it.

This reaffirms what the theorist Osterwalder (1984) proposes in terms of the value proposition. It highlights the importance of focusing on the benefits and advantages of the product rather than simply its features. This creates the perception of a friendly and customer-oriented company, which cares about informing in detail about the virtues of the product.

According to the results of the second dimension, applying technical skills, it was evident that, in the pretest, 100% of students were at the beginning level. This was evidenced by the fact that the students did not know methods, techniques or technical standards to apply them in the development of their prototype, they did not know the use of applications and programs such as Excel, power point to design marketing, develop invoice or cost models and even to develop their own expository tasks. This finds inconsistencies with what is stated by MINEDU (2016) which states that the student in the

area of education for work must put into practice their digital technical skills and the teacher must facilitate their use in the development of the sessions through the slides in power point, to make budgets, costs using Excel, among others.

In the post-test, after the execution of divergent learning, 69% of students fall between the achieved and outstanding levels. According to the statistical test, it was found that divergent learning improved students' ability to apply digital technical skills when selecting and developing their entrepreneurial project, due to the significant differences of 17.88 points found between the pre- and post-test. These results further show that the students used applications and programs to develop their prototypes or entrepreneurial projects. These findings coincide with the study of Caso (2021) who in his research found significant differences between the before and after the application of the entrepreneurship program by the p value = 0.000.

This idea is based on the recommendations of MINEDU (2016), which states that the application of technical skills implies the ability to use tools, machines or software programs, as well as the development of methods and strategies to carry out the production processes of a good or the provision of a service through the application of technical principles. In addition, it involves the selection or combination of tools, methods or techniques based on specific requirements, applying quality and efficiency criteria.

Regarding the third dimension, working cooperatively to achieve objectives and goals in the management of economic or social projects in students, the results indicated that 100% of the students were located at the beginning level, in the pretest. This was evidenced by the fact that the students had difficulties to work cooperatively in groups in activities such as selecting or buying inputs, they lacked tax responsibility to market the product produced, they did not know how to plan their prototype and how to carry out quality control, likewise, they did not know the phases of Design Thinking to put them into practice and applications for the development of their project.

These results contradict the findings of Llacta (2019) who indicated that cooperative learning allows a good relationship with entrepreneurial capacities, achieving a significant result in the cooperative work dimension, with an outstanding achievement of 5% to 65% and in the expected achievement of 20% to 35%. It also contradicts the results of Bernabé (2019) who found that 53% of students were placed at a high level in terms of their learning and cooperative work.

Likewise, in the post-test, this dimension obtained significant improvements, due to the differences found between the pre- and post-test of 19.09 points and a p value = 0.000. These findings show that cooperative work brought to the classroom is known as a method and techniques of classroom management where students work under certain conditions with certain members that the teacher assigns to balance learning, such as two who master the subject with three slow learning before which the best results are obtained, which the teacher manifests than cooperative learning or work.

Theoretically, it agrees with Barkley et al., (2007) who emphasize that working cooperatively involves the active collaboration of individuals who combine efforts and resources to achieve shared results. This approach is based on the premise that collective performance and effectiveness outweigh individual efforts; whereas the key elements of this collaboration include the harmonious combination of skills, the equitable distribution of responsibilities, open and transparent communication, mutual respect, positive interdependence that recognises success linked to the team, flexibility, celebration of joint achievements, building trust, a positive work environment that promotes a collaborative culture, and a continuous process of learning and improvement.

Johnson et al. (1994) agree with this same approach, explaining that team collaboration facilitates positive interdependence between members and favors the joint

development of social skills. When assessing a task assigned by the teacher, all team members contribute their knowledge and come up with innovative ideas. In addition, they actively participate in the search for information, which reinforces the sense of cooperative work in the group.

Finally, with respect to the results of the dimension, evaluating the results of the entrepreneurship project in the management of economic or social projects, 100% of the students were placed at the beginning level. This was evidenced by the fact that they did not distinguish the concept of quality good or service, the meaning of quality method and techniques, likewise, they were unaware of the standards that regulate the quality of edible and industrial products, they did not feel capable of creating quality standards of the prototype they were going to develop and they lacked creativity to develop prototypes based on recycling that they find around them.

The dimension in the post-test improved with the percentage indices found, which indicated that 53% of the students were at the level achieved. This coincides with the findings of Quispe's study (2020) where 56.79% of students went from the inefficient level to the regular level. With the results of the post-test, this dimension obtained significant improvements, due to the differences found between the pre- and post-test of 18.76 points and a p value = 0.000. With this, it is evident that the divergent learning program improved the capacity for entrepreneurship in terms of its dimension of evaluation of projects.

Theoretically, we agree with MINEDU (2016), which relates this dimension to the fact that the student must determine to what extent the partial or final results generated the expected changes in the attention to the identified problem or need; It is also related to the fact that the student must use information to make decisions and incorporate improvements to the project design. In addition, the improvement was oriented in that the students had to analyze the possible impacts on the environment and society, and formulate strategies that allow the sustainability of the project over time.

The evaluation of economic and social projects plays a crucial role in measuring the impact and viability of initiatives that seek to generate economic and social benefits. By providing key information for decision-making, it contributes to resource optimization, community impact measurement, alignment with predefined goals, and accountability. In addition, it facilitates the identification of lessons learned, driving continuous improvement and long-term sustainability of projects. Ultimately, evaluation serves as a strategic tool to ensure that initiatives are effective, efficient, and aligned with the needs and expectations of stakeholders.

VI. PROPOSAL

Learning Program for Entrepreneurship Management in High School Students

Foundation

The application of the program is based on the result of the pretest with a starting level in the first grade of secondary school students. The presence of contract teachers who have no knowledge of the competence and capacities of the EFA area. At this level, students are trained based on theory and practice using Design Thinking on the identification of economic or social problems that originate in their community. To then guide the student in stating the problem to give the solution through prototyping. The project will then be documented based on the phases of Design Thinking.

Justification

Given the opportunity issued by the 2019 DCN with the EFA area, a divergent learning program on the improvement of the management of economic or social projects is presented.

The Overall Goal

Apply the divergent learning programme for entrepreneurship management with innovative strategies in the EFA competence of the first year of secondary school.

General and Specific Objectives by Dimension

1. Create a value proposition

Overall Objective

It builds mind maps based on the situation of its environment by gathering information through interviews with a limited group of users.

Specific objective

It strengthens competence through divergent learning to create a value proposition in the face of the alternative solution to the problem of the user group.

2. Apply Technical Skills

Overall Objective

Develops debates and conducts experiments to produce a good or service in the face of the responsibility of providing environmental protection and safety at work.

Specific objective

It consolidates competence through divergent learning to apply technical skills to the alternative solution to the problem of their community.

3. Work cooperatively to achieve goals and objectives

General Objective

He exposes his tasks carried out in a team applying a new approach, predicts results and prototypes as a response to his responsibility in the entrepreneurial role.

Specific objective

It reinforces competence through divergent learning to work cooperatively to achieve objectives and goals.

4. Evaluate the results of the entrepreneurship project

General Objective

Sets out quality standards based on rubrics to evaluate the prototypes submitted by their classmates.

Specific objective

It consolidates competence through divergent learning to evaluate the results of the entrepreneurship project.

Process

The characteristics of the divergent are taken to relate them to the capabilities of the only competency in the secondary area. The interest of the application of this program is to promote the training of entrepreneurs, in the face of unemployment that originates at the end of secondary school, they do not have the capacity to generate their own employment,

they have low knowledge of the recycling of solid products, this trade is a beginning to generate work without forgetting that they must continue their school training.

The program consists of 14 sections

- a. Activity 01: Getting to know Design Thinking by building mind maps
- b. Activity 02: Empathize Phase by Simulating Interviews
- c. Activity 03: Defining the Problem Using Reports Phase
- d. Activity 04: Phase Idea, Solution Possibilities Using Discussions
- e. Activity 05: Phase Conduct experiments for prototype
- f. Activity 06: Phase Proposes a new approach to making homemade soap
- g. Activity 07: Phase predicts results when preparing homemade soap
- h. Activity 08: Prototype Phase for the Preparation of Costume Jewellery
- i. Activity 09: Prototyping phase for the preparation of Christmas decorations
- j. Activity 10: Propose a technical standard for evaluation in the manufacture of costume jewellery
- k. Activity 11: Conduct an experiment with an evaluation standard in soap making
- l. Activity 12: Discuss the importance of quality compliance
- m. Activity 13: Analyze the ISO standard against the quality standard
- n. Activity 14: Learning how to create a rubric to verify quality compliance

As can be seen, we worked by relating the phases of Design Thinking, since it is an analysis methodology to decompose the problem into phases and ending in the production of prototypes on which the divergent style is molded by applying Kolb's characteristics. Fixing a divergent personality or development on the entrepreneurial capacity. In the face of the lack that exists in high school students.

VII. CONCLUSIONS

1. The divergent learning program had significant effects on the management of social economic projects, namely, that students significantly optimized their management due to the significant differences (73.59) found between the pre-test and the post-test (T student = 33.194 and significance = 0.000)
2. The divergent learning program had significant effects on the dimension, creating value propositions, namely, that students significantly optimized this ability due to the significant differences (17.85) found between the pretest and the posttest (T student = 26.218 and significance = 0.000)
3. The divergent learning program showed significant effects on the dimension, which applies technical skills, namely, that students significantly optimized this ability, due to the significant differences (17.88) found between the pretest and the posttest (T student = 24.262 and significance = 0.000)
4. The divergent learning program had significant effects on the dimension of working cooperatively to achieve objectives and goals, namely, that students significantly optimized this ability due to the significant differences (19.09) found between the pre-test and post-test (T student = 26.532 and significance = 0.000).
5. The divergent learning program had significant effects on the dimension of evaluating the results of the entrepreneurship project, namely, that students significantly optimized this ability due to the significant differences (18, 76) found between the pre-test and the post-test (T student = 29.051 and significance = 0.000)

VIII. RECOMMENDATIONS

1. To make the results of the Program known to the directors of the educational institution so that they can make decisions to improve the results of the initial level by applying the divergent learning program for entrepreneurship management to students in the first year of secondary school.
2. Carry out divergent learning programs and apply them to the different grades for entrepreneurship management in high school students to optimize their innovative entrepreneurship capabilities.
3. To sensitize teachers to the acquisition of Design Thinking knowledge to use it in learning sessions, linking it to the practice of analysis and prototyping based on solid waste for production.
4. Teachers in the area of education for work should be trained on the application of divergent learning programs for entrepreneurship management to reinforce Education for Work competencies.
5. It is possible to continue doing research based on the information from this study.

REFERENCES

- Bañuelos García, V. H., Martínez García, F. de M. & Álvarez Diez, R. C. (2021). University-based social entrepreneurship in Latin America, Zacatecas, Mexico. *Ibero-American Journal for Educational Research and Development*, 12(22). <https://doi.org/10.23913/ride.v11i22.833>
- Barkley, E. F., Croos, P., & Major, C. H. (2007). *Learning Techniques collaborative*. Madrid: Morata.
- EBR Regular Basic Education (2016), National Curriculum <https://www.minedu.gob.pe/curriculo/>
- GEM Global Entrepreneurship Monitor (2023) <https://gem.ufm.edu/publicaciones/>
- National Curriculum (2016) <http://www.ugelsanchezcarrion.gob.pe/wordpress/wp-content/uploads/2019/06/programa-secundaria-17-abril.pdf>
[National-Basic-Education Curriculum.pdf \(minedu.gob.pe\)](http://www.ugelsanchezcarrion.gob.pe/wordpress/wp-content/uploads/2019/06/programa-secundaria-17-abril.pdf)
- INEI (2023) National Institute of Statistics <https://www.inei.gob.pe/media/MenuRecursivo/boletines/02-informe-tecnico-mercado-laboral-nov-dic-2022-ene-2023.pdf>
- Johnson, D. W. y R Johnson (1994): *Joining Together: Group Theory and Group Skills*, 5th ed., Needham Heights, Mass., Allyn & Bacon.
- Rincon, Virginia; Zorrilla, Pilar; Marín-García, Juan Antonio. The impact of active Learning on entrepreneurial capacity, [SI], v. 19, n. 4, pp. 497-512, September. 2023. ISSN 1697-9818. Scopus Magazine in: <https://www.scopus.com/record/display.uri?origin=citedby&eid=2-s2.0-85175034781&noHighlight=false&sort=plf-f&src=s&sid=2f25fadc9b12451bdd2ca65190a3d144&sot=b&sdt=b&sl=29&s=AFFIL%28gesti%20c3%b3n+emprendimiento%29&relpos=1>
- Case, I. (2021). Virtual program "Emprendiendo" to strengthen competition entrepreneurship project management in students of a CEBA - Ate, 2021 [master's thesis, Universidad César Vallejo]. <https://hdl.handle.net/20.500.12692/68091>
- Cruzata Martínez, A., Marcleey Córdova Mollo, J. C., & Herrán Sifuentes, M. A. (2021). Apurímac. Didactic strategy to develop process management competence in the area of education for work. *Journal Didasc@lia: Didactics and Education*, 12(2), 133–145.
- Llacta, A. (2019). Cooperative learning and entrepreneurial capabilities in the achievement of the competence of the Education for Work area of the I.E José Carlos Mariátegui, Lima 2018.

Alicia Magazine

<https://alicia.concytec.gob.pe/vufind/Search/Results?lookfor=Aprendizaje+cooperativo+y+capacidades+empendedoras+en+el+logro+de+la+competencia+del+%C3%A1rea+educaci%C3%B3n+para+el+trabajo+de+la+IE+Jos%C3%A9+Carlos+Mari%C3%A1tegui%2C+2018&fieldstosearch=Title>

- Hoppe, M. (2016). Policy and entrepreneurship education. *Small Business Economics*, 46(1), 13-29. Farhangmehr, M., Gonçalves, P. J., & Sarmiento, M. L. (2016). Predicting entrepreneurial motivation among university students: The role of entrepreneurship education. *Education and Training*, 58 (7-8), 861-881
- Ministry of Education (2016). National Education Curriculum Design
Lima High School: Minedu.
- Guilford, J. P. (1956). The structure of intellect. *Psychological Bulletin*, 53(4), pp. 267–293. <https://doi.org/10.1037/h0040755>
- Romo, M. (1987). *Thirty-Five Years of Divergent Thinking: Theory of Thought Guilford's creativity*. Madrid: Estudios de psicología.
- Romo, M. (1997). —*Psychology of creativity*.l. Paidós. Barcelona.
- Ramos Farroñán, E. V., Reaño Sánchez, M. C., & Zuazo Olaya, N. T. (2020). canvas methodology and marketing plan for customer loyalty in the field of artisanal sweets Chiclayo. *Revista Científica pistemia*, 4(1), 48–60. <https://doi.org/10.26495/re.v4i1.1308>
- Osterwalder, A, Pigneur (1984) Business Model Generation
https://www.academia.edu/9142310/Generacion_de_Modelos_de_Negocios
- Yubero, S. (2005). Chapter XXIV: Socialization and Social Learning. *Psychology Social, Culture and Education*, coord. by Darío Páez Rovira, Itziar Fernández Sedano, Silvia Ubillos Landa, Elena Zubieta, 819-844.