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## **ANALYSIS**

**OF PUBLIC POLICY LEARNS AT HOME AND VIRTUAL  
TEACHING FROM THE OPINION OF STUDENTS OF HIGHER  
SECONDARY EDUCATION**

# ANALYSIS

OF PUBLIC POLICY LEARNS AT HOME AND VIRTUAL TEACHING FROM THE OPINION OF STUDENTS OF HIGHER SECONDARY EDUCATION

## ANÁLISIS DE LA POLÍTICA PÚBLICA APRENDE EN CASA Y LA ENSEÑANZA VIRTUAL DESDE LA OPINIÓN DE LOS ESTUDIANTES DE EDUCACIÓN MEDIA SUPERIOR

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### ABSTRACT

The new normality in the face of the health emergency has created challenges in teaching where the combination of the traditional environment in the classroom has transitioned to the use of digital platforms, virtual classes promoting virtual education. This research is exploratory, quantitative, inferential and is based on the verification of the provisional theory regarding the performance of teachers at the middle schools in Hidalgo. The statistical model is based on a hypothesis test with the normal curve, using a large sample to determine if  $H_0$ : The performance of teachers in virtual classes has a positive impact on student development. A random sample of 123 students was analyzed based on the Likert scale and the results of the hypothesis came out positive; where the level of significance of alpha was 0.05 and the value of P value was 0.318 ( $p > \alpha$ ), making the null hypothesis is justifiable. Therefore, the evidence of the sample is considered sufficient or reliable, making the performance of teachers essential for the research of teaching public policy through "Learn at home" Hidalgo State High School College (COBAEH) case in Hidalgo.

### Keywords:

Virtual learning, students, public policy.

### RESUMEN

La nueva normalidad frente a la emergencia sanitaria ha generado retos en la enseñanza donde la conjugación del ambiente tradicional en el aula ha cambiado al uso de plataformas digitales, clases virtuales fomentando una educación virtual. Esta investigación es de corte exploratorio, cuantitativo e inferencial y se fundamenta en la comprobación de la teoría provisional con respecto al desempeño de los profesores del nivel medio superior en Hidalgo. El modelo estadístico está basado en una prueba de hipótesis con la curva normal, es una muestra grande para determinar si  $H_0$ : El desempeño de los profesores en clases virtuales tiene un impacto positivo en la formación de los estudiantes, se analizó una muestra aleatoria de 123 estudiantes que se encuentra validado teóricamente en escala Likert y los resultados de la hipótesis muestran la validación positiva, donde el nivel de significancia de alfa es de 0.05 y el valor de P valúe es de 0.318 ( $p > \alpha$ ) por lo que se acepta la hipótesis nula, se considera que la evidencia de la muestra es suficiente o confiable por lo que el desempeño de los docentes es indispensable para el seguimiento del aprendizaje de la política pública aprende en casa en los Colegio de Bachilleres del Estado de Hidalgo (COBAEH).

### Palabras clave:

Enseñanza virtual, estudiantes, política pública.

## INTRODUCTION

Since ancient times, education, through knowledge, skills and change of attitudes, has been a means to have access to human development. Today, the purpose of education has evolved to a point where the promotion and construction of skills, multiple intelligences, as well as collaborative and cooperative work are the fundamental basis for better job opportunities and a better quality of life. With the COVID-19 pandemic in Mexico, the public policy “Learn at home” was implemented in every educational level, and with this, a virtual education era began. Teachers, students, and parents have had to learn to use Information and Communication Technologies (ICTs) such as Moodle, Blackboard, social networks, WhatsApp, Zoom and Meet where factors such as family, economy and internet determine the access to education.

The following study presents the history on the conception of education, public policy, as well as the evolution to virtual teaching that is currently being implemented. It is important to acknowledge the judgment the students have over the performance of teachers in this “Learn at home” program to answer a following question, what impact does the teacher have in virtual classes?

According to Sarraóna (2000), education is one of the pillars of humanity, a fundamental factor to “becoming a human person” which is of utmost importance now that society has evolved towards the technology era, where mankind is losing fundamental values such as respect, recognition of human dignity, tolerance, and cultural diversity. For this reason, it is necessary to continue betting on education as the means to humanize and promote the common well-being of the new generations and achieve the UN Sustainable Development Goals (SDG) in the 2030 agenda and quality education.

In this sense, the transformation and scientific development in the evolution of knowledge governed by technology pose challenges for education, creating the necessity to readjust the educational models and forms of teaching for the generations in the academic transition. Since the COVID – 19 pandemic, public policies are required because this problematic has marked a greater social inequality, social exclusion and poverty that already existed.

It is important to highlight that the teaching and learning process took place in a formal environment, where teachers and students carried out the learning process in the classroom. Today this has changed so that challenges are generated in traditional pedagogical models designed to be implemented in an educational establishment towards a transition based on the use of educational platforms making it is necessary to question whether the approach or paradigm by competencies should evolve towards the fourth industrial revolution. For this to happen, there has to be a new way of teaching and with it, new techniques for teaching which must respond to the demands of virtual

education. This new education involves more self-taught skills by the student who was accustomed to formal pedagogy; teachers can find themselves crossed by the virtual context since the parent's support is required more for school academic activities at home.

On the other hand, Touriñán & Sáenz (2012), indicate that in education definitions such as teaching, knowing and educating converge where the main objective revolves around educational research and if difficulties are not resolved in the teaching and learning process, the teacher “does not serve in the purpose of teaching, therefore there is no valid pedagogical knowledge”. This makes it necessary to address key concepts in education that help understand the complexity of the educational process since actors participate in the synergy of the educational process. Teachers / students are fundamental elements to identify and review the attention given in the educational field.

In the last decades, the term of competence has been introduced in the curricular models of the school's contents with the purpose of responding to the labor needs of the industries, companies in the public and private spheres. According to Cuba (2016), this term arose in the second industrial revolution, where skilled workers required knowledge and skills for technology management in the industry. During the 60s, the United States came across the term in the educational field. On the other hand, Boyatzis (2007), points out that the 21st century competences are a set of skills, knowledge and behaviors that must respond to job demands, cognitive skills, emotional intelligence, and social capability. Another initiative that introduced this term was the Alfa tuning project in Europe and Latin America, which arose to homogenize the curricular plans in college/university. This has been a space of synergy and collegiate work in the design of the curricular models. It has been a great advance and has been taken up again to start the model based on competencies in Mexico at all educational levels, indicates González, et al. (2004).

Consistently, Frade (2009), defines the concept of competence as *“the adaptive, cognitive and behavioral capacity that translates into adequate performance to a demand that occurs in differentiated contexts that involve different levels of complexity. It is knowing how to think to be able to do”* (p.8). On the other hand, Cukierman & Kalocai (2019), understand the term competence from the field of engineering and present a compilation of research in the classroom from subjects such as chemistry, physics, computing and how the competence-based model is understood through active learning and student-centered learning with a problem-solving approach in engineering.

The concept of competence is “polysemic” where it must be “suitable for some activity” where the way in which the person performs has to do with their knowledge, skills, attitudes and values. Likewise, for Ruay & Garcés (2012), the definition of competence is understood as a set of

“capacities, abilities, skills, attitudes and values” that are unique in each student and will aid them as they in the labor market in the future.

In a more critical approach, it is defined as a fashion trend imposed by the innovation and political approach in education. This approach comes from linguistics and the world of work, that beyond contributing to a change, it's considered a disguise. Therefore, it is necessary to acknowledging the question, what is public policy? The answer to this is relevant in the role the teacher plays in the virtual education.

In this sense, Wright, et al. (1952), point out that the concept of public policy tries to ***“explain the actions of the government”*** and respond to public problems. On the other hand, Corzo (2012, citing Aguilar Villanueva (1992), indicates that ***“it is the first discipline that raised the directive capacity of governments”***. For his part, Aguilar (1992), in the book “The making of politics addresses Subirats, et al. (2008), as well as Ham (1984), point out that the term politics address different meanings such as “governmental activity”, “a social situation”, “specific action proposal”, “norms” or “result of a governmental activity. They established that politics is “an intentional course of action followed by an actor or a group of actors when dealing with a problem or matter of interest”. Finally, public policy is an action, strategy, and social program designed by the government to address public problems and preserve the stability of a country.

In Mexico, during the 80s, the fulfillment of public policies regarding the evaluation of teacher performance was monitored with educational reforms. From that moment on, the teacher evaluation was taken to every rank in school, from acquiring a teaching position, to salary increase and recognition of commendable work. For this reason, the evaluation has been questioned by teachers since some considered that evaluations, far from helping to improve their training, hindered their promotion, creating resistance. However, there have been improvements such as the National Institute of Educational Evaluation (INEE), which has the purpose of evaluating the learning process, the performance of teachers, and the elementary and middle school system. According to Ibarra (2000), the evaluation of teachers has played an essential role in education policies in Mexico. For example, the National System of Researchers (SNI) and the participation of autonomous universities have created programs to evaluate teachers, making it possible to increase their salary through incentives and, overall, increase productivity.

In the 1990s, in countries such as Argentina, public policies were developed focusing on teacher training, the consolidation of the educational system at all levels, as well as the creation of educational laws. This implementation started from the perspective of the institutes in the universities and the financing provided by the National

Treasury was directed to regulate the norms in teacher training, as stated by Di Franco, et al. (2016).

As indicated by Alonzo (2018), in Venezuela, public policy in teacher training has had a critical approach, where the analysis is made from the perspective of the main subject, the teacher. In this case, they state that the approach of teacher training and education is based on a mercantile system than it is focused on critical thinking that in turn have generated political discourses aimed at quality and evaluation. Even though this research is still on going, it provides a vision which should be focused on teachers and their teaching practice.

In 2012, the National Development Plan created in Colombia, developed public policies focused on the training of teachers, where five projects were established, among them was the National Educators Program. This program was created with the purpose of achieving quality in education and thus meeting the educational needs of students by generating skills in teachers. Finally, the analysis concludes in generating a debate to develop a teacher training program attached to the reality of that government.

In the last decades, Mexico government has developed public policies focused on the design and implementation of educational reforms that made structural modifications to professionalize and train teachers, evaluate teacher performance, generate systems of indicators to measure efficiency and effectiveness in education, creating thus, strategies for accountability, with the aim of improving the quality of education, increasing coverage and promoting an equal and inclusive education such as the RIEMS in Higher Secondary Education (EMS). In the last decade, middle school teachers have been trained in specific courses with the objective to make skilled teachers in the classroom, from having knowledge of the RIEMS, to recognizing the characteristics and the context of the middle school students and the types of competences that must be promoted from the generic, disciplinary and professional ones; as well as teachers' competencies to develop in their teaching practice. Despite the efforts to generate these public policies to train teachers, it has gone from resistance to a consolidation of this practice within educational establishments.

With the Comprehensive Reform of Higher Secondary Education (RIEMS), the professionalization of teachers of middle school education in Mexico has taken on relevance since the training of teachers was developed with the purpose of complying with the axis “management mechanisms” (DOF, 2008). Therefore, putting in practice the Common Curricular Framework (CCM) makes it necessary to train teachers that help students develop competencies, establishing a change from the traditional teaching perspective. Mexico's education requires a change that meets the demands of the 21st century and a competency-based model where the teacher is a guide

in learning and generating competencies for high school or specialized work.

With the RIEMS, the PROFORDERMS is established in the secretarial agreement 447 that establishes the delivery of a diploma in teaching skills to help improve the implementation of the RIEMS. However, studies report that moving from a traditional teaching to a mediator teacher implies changing an organizational culture of schools since they hinder the improvement of teaching practice such as excessive administrative work, isolated courses and meaningless as pointed out by Macías & Valdés (2013). For this reason, the quantification of the dilemma of this public policy is presented below.

Nowadays, the COVID-19 pandemic is in transition creating challenges in the education. For example, virtual modality through digital platforms makes the teaching-learning process more complex because most of the content is addressed through master classes, videos, instructional designs, and virtual forums. The teachers must work harder in planning their classes, where they can't lose sight of the promotion of generic, disciplinary, and professional competences established by the MCC and secretarial agreements 444 and 447.

In addition to this dilemma, the inequality, poverty, and social vulnerability that some of the students have for accessing the internet and technology such as cellphones, personal computers, or tablets for the development of their academic activities, makes it necessary to know the influence of the public policies in teacher training of the RIEM based on the results of student learning in CBTIS in level I of the PBC-SiNEMS, a case study in the state of Hidalgo.

The training of teachers and the improvement of learning are difficulties that are still on the agenda of public problems of the EMS. Llivina & Urrutia (2014), point out that teacher training for a better-quality education and sustainable development in countries are challenges that must be addressed. In this sense, the Framework for Action 2030 and the declaration of Incheón (United Nations Educational, Scientific and Cultural Organization, 2016), point out that the education in Goal four establishes "substantially increase the supply of qualified teachers that depends on the improvement of their training".

Nationwide, the teachers training in the EMS has challenges to solve as indicated by Jesus (2015), for example, analysis of basic reports 911 of the Secretaría de Educación and the National Institute for Educational Evaluation identified the stay of teachers reaches eleven years meaning there is stability in the teaching staff. They identified that the teachers do not have training in issues of heterogeneity, attention to youth, inequality and urges to develop ethnographic research on the approach of school cultures to youth cultures on ethnicity and citizenship. With the governments fourth transformation, the INEE

disappears, but another has already begun, National Council for the Evaluation of Social Development Policy (CONEVAL). On the other hand, Tobon, et al. (2018), indicates that the evaluation of the teaching performance of elementary and middle school have been regulated by various instances such as INEE, the law for teachers. They analyzed teaching projects depending on the teaching performance from a documentary study concluding that the teaching projects of INEE, Secretaría de Educación de México and the socio-formative approach do not solve the problem, but they do contribute to the pedagogical transformation within the classroom.

Nowadays, the Mexican government has carried out the educational public policy "Learn at home" (young people at home) which is supported by television, social networks, internet and some applications for students who are in remote areas. Between the federal and state government, they have combined different methods to help students continue their studies, such as, scholarships, use of educational platforms, as well as the permanent monitoring of teachers with virtual classes (México. Secretaría de Educación Pública, 2021).

Due to the pandemic, the government is developing public policies to ease the impact on health and the effect on education, economy, and social system. Nations are in crisis and public policies are a tool that help determine the state of the operation, scope of a social, educational or health program. During the COVID – 19 pandemics, teachers are the key factor in tracking student learning. The increase of the human development index for the coming years is at risk, so the government has generated various public policies such as "Teens at home". This has led to a transition from traditional education to a virtual education, where the use of the internet, educational platforms and the use of technology contribute to the reduction of disadvantaged gaps for groups with greater social vulnerability and poverty.

In the state of Hidalgo, the educational establishments of the middle schools have chosen to establish synchronous and asynchronous communication with the students, where the teachers follow up on the learning. The purpose of this follow up is to determine how the students consider the teachers performance in the virtual education. Therefore, it is extremely important to know the value judgment of students through a hypothesis if Ho: The performance of teachers in virtual classes has a positive impact on the training of students or H1: The performance of teachers in virtual classes has a negative impact on the training of students.

## MATERIALS AND METHODS

This research has an exploratory and inferential approach that was applied with Google forms. It was sent out to 123 students by email, in the school year 2019-2020 in two



high schools in the state of Hidalgo, the reagent 8 was analyzed.

Develop a confidence interval (mean) to know if the public policy “Learn at home” had a positive impact in learning performance and monitoring in middle schools (Table 1).

Formula to determine the 95% confidence interval:

$$\left( \bar{x} - Z\left(\frac{\alpha}{2}\right) \frac{s}{\sqrt{n}}, \bar{x} + Z\left(\frac{\alpha}{2}\right) \frac{s}{\sqrt{n}} \right)$$

Table 1. Confidence interval 95%.

Concept	Value	Inferior limit	Superior limit
N	123	2.83325	3.10075
X	2.967		
S	0.76		
V	0.5727		
Alfa	0.05		
IC	0.95		
Z (alfa/2)	0.025		
Z	1.96		

## RESULTS AND FINDINGS

The significance level of alpha is 0.05 and the value of P value is 0.318 ( $p > \alpha$ ) so the null hypothesis is accepted. The evidence in the sample is considered sufficient or reliable. Since ( $p > \alpha$ ) it states the performance of middle school teachers in Hidalgo have a positive impact on the monitoring of student learning with the implementation of public policy “Learn at home” (Figure 1).

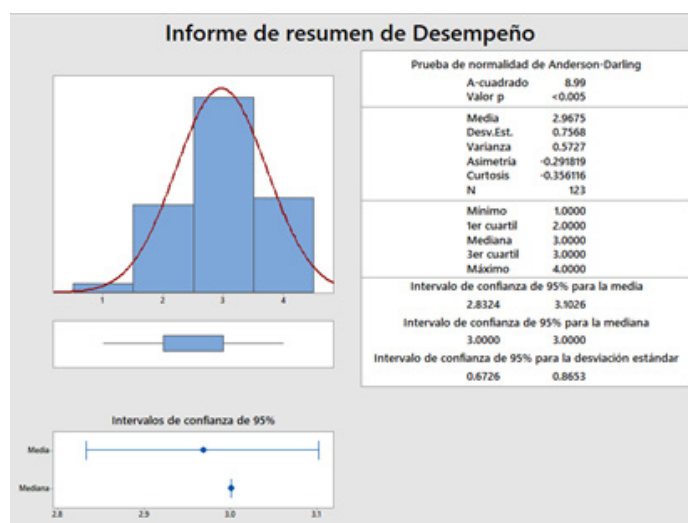


Figure 1. Teaching performance histogram.

## Hypothesis test Z Normal Curve

Z of a sample: Performance

Descriptive statistics

N	Mean	Standard deviation	Error standard of the mean	CI of 95% for $\mu$
123	2.9675	0.7568	0.0676	(2.8349, 3.1000)

$\mu$ : Performance Average

Known standard deviation = 0.75

Source: Own creation in Minitab 18 Program

## Hypothesis testing

Null hypothesis	$H_0: \mu = 2.9$
Alternate hypothesis	$H_1: \mu \neq 2.9$

Z-value	P-Value
1.00	0.318

Minitab was used for the data processing of the hypothesis testing. We went to the menu statistics, basic statistics and T of a sample where we selected the information provided by the students and applied perform a hypothesis test with a hypothetical mean of 2.9.

For this reason, it is essential for a follow up on the “Learn at home” program and to focus more resources on the recognition and teachers training in this pandemic, as well as to extend greater financial support with scholarships to students who have difficulty in continuing in this type of virtual education, reducing the gap of social inequality.

It is important to make studies that account for the school performance and learning outcomes of high school students in the state of Hidalgo, allowing them to know in which subjects requires more academic support of the teachers and to help tutors lower school dropout. It's necessary to come up with actions to help teachers in the transition of the RIEMS since the teaching competencies that are required for this are necessary for making strategies that promote the development of the capacities of the teachers based on the learning needs of the students as well as it is a complex environment due to the conditions that prevail the school from home.

## CONCLUSIONS

This study allowed us to know that the teacher figure in the virtual education is of utmost relevance for the process of teaching and learning since the provisional theory is verified. It gives a guideline to continue supporting teachers with teacher training, so they can respond to the needs that are raised in the follow-up in the learning of the students. In the same way, it is necessary to design research studies that provide more information to improve the conditions of virtual teaching and “Learning at home” that will

allow decisions to contribute to improving the quality of education in this public policy "Learn at home".

Some weaknesses detected in the study show that we need more information, participation or data of the students of this level so that we can have a more accurate premise regarding the hypothesis and be able to see if the results change or continue to prioritize one of the main factors of virtual education that prevails at this time of the COVID-19 pandemic and integrate teachers so that they can issue their opinion regarding the state of virtual teaching in the implementation of this public policy.

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