Perceived Self-Efficacy Geared Towards Education: Systematic Review

Gamboa, Roger Patricio; Beltrán, Joel Alanya; Acuña-Condori, Sandra Patricia; Poma-Santivañez, Yanet

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La autoeficacia percibida orientada a la educación: revisión sistemática

Roger Patricio Gamboa ppatricioga@ucvvirtual.edu.pe
Universidad César Vallejo, Perú
Joel Alanya Beltrán jalanyab@ucvvirtual.edu.pe
Universidad César Vallejo, Perú
Sandra Patricia Acuña-Condori sacunac1@ucv.edu.pe
Universidad César Vallejo, Perú
Yanet Poma-Santivañez ypomas@ucvvirtual.edu.pe
Universidad César Vallejo, Perú

Abstract: Self-efficacy is understood as a person's perception of the ability to plan and perform specific tasks. This article presents a systematic review of the literature about related to perceived self-efficacy in the educational field. Relevant aspects are identified unknown and controversial relevant aspects, as well as provide information on perceived self-efficacy in students and teachers. The methodology is a descriptive and introspective review. The analysis was carried out in databases (Scopus, EBSCO, SciELO, Dialnet and Google Scholar) between 2011 and 2020. A final sample of 26 articles was obtained, which demonstrated the identification of various aspects related to perceived self-efficacy applied to both students and teachers. In conclusion, the studies analyzed provided insight into the themes and designs used in the matter.

Keywords: Perceived Self-efficacy, Education, Learning, Achievement.

Resumen: La autoeficacia es entendida como una percepción de la persona sobre la capacidad que tiene para planificar y realizar tareas específicas. En este artículo se presenta una revisión sistemática de la literatura sobre la autoeficacia percibida en el ámbito educativo. Se identifican los aspectos relevantes conocidos, desconocidos y controvertidos, así como información sobre la autoeficacia percibida en estudiantes y docentes. La metodología es una revisión de artículos, descriptiva e introspectiva. Se realizó un análisis de bases de datos (Scopus, EBSCO, SciELO, Dialnet y Google Scholar) entre 2011 y 2020. Se obtuvo una muestra final de 26 artículos, los cuales evidenciaron la identificación de diversos aspectos relacionados con la autoeficacia percibida tanto en estudiantes como en docentes. En conclusión, los estudios analizados facilitaron una visión sobre los temas y diseños usados en la materia.

Palabras clave: autoeficacia percibida, educación, aprendizaje, rendimiento..

Introduction

Self-efficacy is understood as a perception of the person about the ability to plan and perform specific tasks. Perceived self-efficacy, meanwhile, refers to a broad and stable sense of personal competence on how effective a student can be when facing challenges and achieving his goals (Segura et al, 2018; Yevilao, 2019; Santabárbara, 2020). Likewise, perceived self-efficacy indicates or reveals how the subject trusts their abilities and skills to face an academic, personal or professional challenge (Fogg-Rogers, & Moss, 2019; Kanadlı, 2017) and achieve results successfully.

This confidence is the product of his thoughts, feelings and experiences, which combined with his actions presented good results and optimal development (Vizcaino, & Ramos, 2020; Ornelas et al., 2012). On the other hand, when a person had experienced failure situations (Yevilao, 2019), this would lead to acquiring a negative perceived self-efficacy, and as a result of it, he would generate negativity, fear and frustration, which is reflected when he gives up, even, before starting a task in any field. However, it is possible that a person may feel effective and secure for a certain action at one time, and in turn, may feel weak or doubtful for another action at another time.

In the field of education, perceived self-efficacy is important because it can generate in the student the belief that he can trust himself and can face challenges, activities, exams (Hamann, Pilotti, & Wilson, 2020; Tan et al., 2020) or, inclusive, face various situations that allow desirable achievements. In this sense, there are many questions from the point of view of the teacher, who questions the reasons why learning a course does not have the desirable results, despite applying various methodologies, strategies or use of various tools. Even, also, from the perspective of the student, who cannot understand why it is so difficult to learn the topics. In this sense, Llor et al. (2020) mention that if a student perceives that it will not be possible to achieve or meet his objectives then it will generate different levels of fear, stress and anxiety (Karakoc, Uctu, & Bekmezci, 2020; Lines et al., 2020). In this way, perceived self-efficacy is important in both teachers and students because if they manage to trust their capacities or abilities, which are already developed, then their academic achievements could be achieved (Flores-Rivas, & Marquez, 2020; Ramírez-Coronel et al., 2020) and obtain successful results when facing challenges, which at first it would have been thought that could not be done.

In teaching a course, it is often observed that students do not want to solve a mathematical problem, a writing exercise, even a physical exercise, a theater performance, because they perceive it as very complicated or difficult; and this despite they have the capacities and abilities to be able to carry them out, however, they do not trust themselves, they have a low attitude (Alanya et al., 2020), since from the beginning they presented problems of self-confidence, perceived self-efficacy and even impotence and helplessness (Gürefe, & Bakalım, 2018). Thus, perceived self-efficacy becomes a factor that the teacher must take into account, who must offer the necessary tools to cultivate and develop interest and motivation in students (Sellan, 2017; Oyarzún, & Valdés-León, 2020) in order to generate confidence in their own ability to learn from the topics of the course, face the challenges (Topbaş, 2018), comply with the activities of the educational environment and finally obtain a desirable result according to the standards learning regulated by the institution and improve their academic performance (Muñoz, 2020). For this, it is important to know the factors that influence or not the perceived self-efficacy of both the student and the teacher.

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Therefore, the present research aims to identify the relevant known, unknown and controversial aspects, as well as to provide information on perceived self-efficacy in students and teachers.

Materials and Methods

This review article is a descriptive documentary research, the procedure involves, search, organization, systematization, and analysis of a grouping of bibliographic documents.

The methodology took into account the inclusion and exclusion criteria. Among the inclusion criteria, only scientific articles that were related to the issue of perceived self-efficacy in students were considered; that they are published in the databases of Scopus, EBSCO, SciELO, Dialnet and Google Scholar; and published between 2011 and 2020 in Spanish and English languages. Among the exclusion criteria that were considered were those articles that did not refer to the subject and those that were not in indexed journals.

As search criteria, the following descriptors were included: "autoeficacia percibida", "aprendizaje", "rendimiento", "autoestima", "enseñanza", "perceived self-efficacy", "learning", "performance", "self-esteem" and "teaching". These descriptors were combined in various ways at the time of exploration in order to broaden the search criteria.

When scanning the documents, in each of the databases, 105 articles were preselected, of which 26 potentially relevant articles were chosen, according to the inclusion and exclusion criteria.

For the organization of bibliographic documents, a database was created in Excel, with the following fields: database; language; article title; author; year; objectives; type of research; educational level; population; aspects related to perceived self-efficacy and research results.

Subsequently, the analysis of each of the 26 potentially relevant documents was carried out, describing the most common and divergent aspects among the selected documents, through a constant comparison exercise.

Results

Of the 26 potentially relevant articles for the systematic review, 12 of them were published in Spanish and 14 in English, and about the database in which it was found, 2 were from Scopus, 14 were from EBSCO, 7 were from SciELO, 2 on Dialnet and 1 on Google Scholar. All the investigations carried out in this review were characterized by seeking to find a relationship between perceived self-efficacy and various categories worked in both students and teachers. In Figure 1, the countries where the researches of perceived self-efficacy have been carried out are shown, the information of which was collected between the years 2011 and 2020. It can be noted that in Mexico and Turkey the largest number of studies on self-efficacy were carried out perceived.

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Figure 1.
Number of researches by country where the study was carried out. Source: author's own elaboration.

In Figure 2, the types of studies that were carried out in the researches worked are shown. The correlational scope studies with the highest number are highlighted, followed by the descriptive design. On the contrary, the mixed and qualitative study only presented one research each.
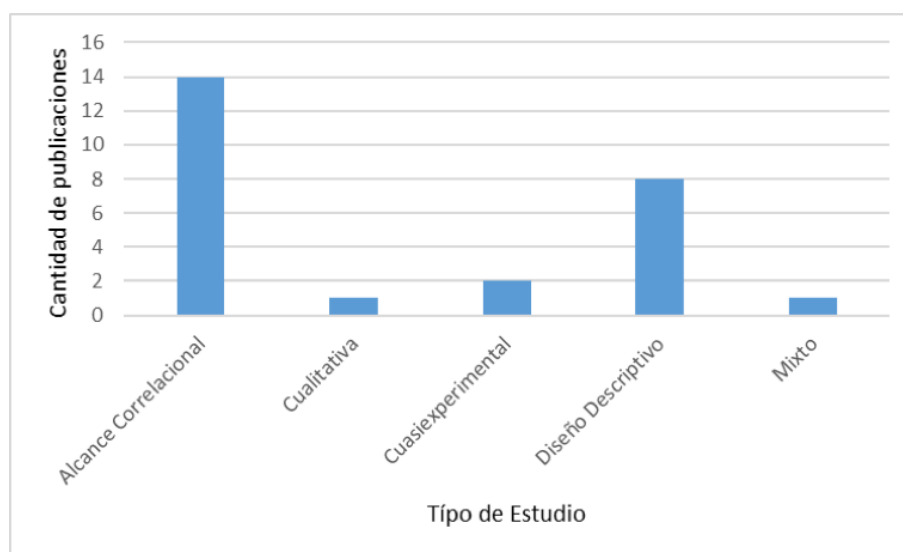
Figure 2.
Number of publications by type of study carried out. Source: author's own elaboration.

In Figure 3, the distribution of the number of publications worked by year of publication is shown. It is highlighted that the number of studies is not constant, but since 2016, the number of investigations has been higher than in previous years.

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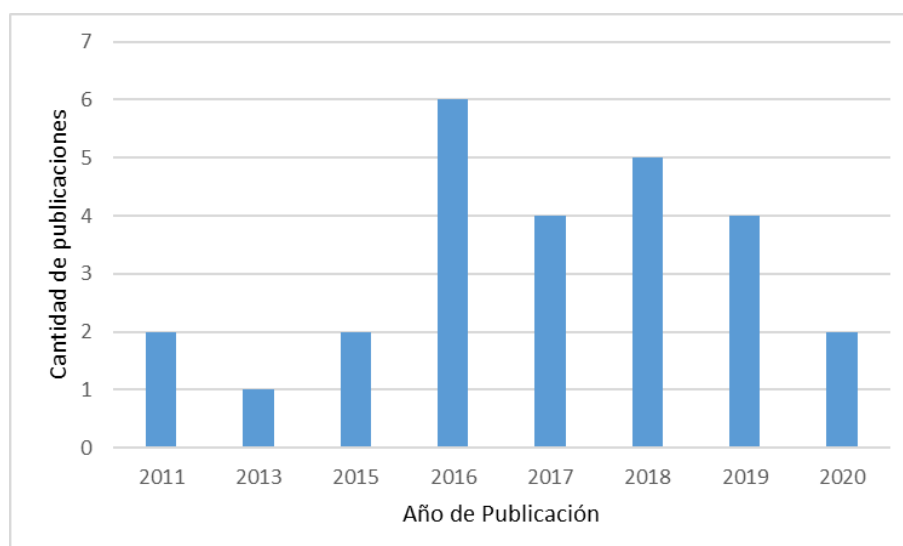
Figure 3.
Number of publications per year of publication. Source: author's own elaboration.

Table 1 shows the second categories or variables used in the research carried out in this review, taking into account that the first variable used was perceived self-efficacy.

Table 1. *Second category or variable worked on in each study*

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Table 1
Second category or variable worked on in each study

Autor	Second category or variable worked
Aguirre et al.	The sex of the people
Basili et al.	Cross-cultural perspective
Collado et al.	Teacher attitudes
Criollo et al.	Learning a course
Del Río et al.	The amount of time spent studying
Del Valle et al.	Academic situations
Eun-Jo	Reading comprehension
Fernández-Viciana & Fernández-Costales	The skills acquired
Fleming & Wated	Academic performance
Fogg-Rogers & Moss	Scope of engineering education
García-Fernández et al.	Academic self attributions
Gürefe & Bakalım	Mediating effect of perceived self-efficacy
Hernández	Teaching performance
Kanadlı	perceived autonomy, attitudes towards the teaching profession, level of belief in professional self-efficacy
Määttä et al.	Social competence
Lee et al.	Teacher attitudes
Mojtahedzadeh & Mohammadi	Dictation of long/short courses
Oliveira et al.	Academic performance
Ornelas et al.	Academic conduct
Pool-Cibrián & Martínez-Guerrero	Learning goal
Sezgin & Erdogan	Predictive influence of the teacher
Tladi	Academic performance
Topbaş	Mathematical competence
Trevisol et al.	Intrinsic and extrinsic motivation
Vizcaino y Avilés	Learning a course
Xu et al.	Parental control/test anxiety

Source: author's own elaboration.

Table 2 shows the unit of analysis in which each of the researches was carried out by year and by category or variable worked. It is observed that the greatest amount of research is carried out in students than in teachers.

Table 2. *Sample worked on in each of the categories or variables worked on*

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Table 2
Sample worked on in each of the categories or variables worked on

Year	Second category or variable worked	Sample
2011	Academic conduct	902 students
	The amount of time spent studying	69 students
2013	Learning goal	766 students
2015	The sex of the people	282 students
	Predictive influence of the teacher	600 teachers
2016	Academic self attributions	874 students
	Social competence	24 students
	Reading comprehension	95 students
	Dictation of long / short courses	39 teachers
	Learning a course	1304 students
	Academic performance	64 students
2017	Parental control/test anxiety	401 students
	Perceived autonomy, attitudes towards the teaching profession, level of belief in professional self-efficacy.	173 students
	Academic performance	313 students
		504 students
2018	Teacher attitudes	220 teachers
	Mathematical competence	120 students
	Teaching performance	30 teachers and 190 students
	Mediating effect of perceived self-efficacy	277 students
	Academic situations	297 students
2019	Scope of engineering education	160 students
	Learning a course	17 students
	The skills acquired	37 students
	Intrinsic and extrinsic motivation	296 students
2020	Teacher attitudes	75 teachers
	Cross-cultural perspective	1209 students

Source: author's own elaboration.

Table 3 shows in detail of the results obtained in each research to evaluate the relationship or positive effects of perceived self-efficacy, on each of the categories or variables shown in Table 1. Furthermore, the categories were grouped into groups to better identify it.

Table 3. *Results of the relationship or positive effect between perceived self-efficacy and the second category studied*

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Table 3

Results of the relationship or positive effect between perceived selfefficacy and the second category studied

Category group or variables	Second category or variable worked	Positive relationship or effect	
		No	Yes
Teacher attitudes	Teacher attitudes		2
	Teaching performance		1
Student attitudes	Academic self-attributions		1
	Mediating effect of perceived self-efficacy		1
	Perceived autonomy, attitudes towards the teaching profession, level of belief in professional self-efficacy		1
	Learning goal		1
Predictive influence of the teacher	Scope of engineering education		1
	Predictive influence of the teacher		1
Motivation	Academic conduct		1
	Intrinsic and extrinsic motivation		1
Others	Social competence	1	
	Parental control/test anxiety	1	
	The sex of the people	1	
	The amount of time spent studying	1	
	Cross-cultural perspective		1
	Academic situations		1
Academic performance	Mathematical competence		1
	Reading comprehension		1
	Dictation of long/short courses		1
	Learning a course	1	1
	The skills acquired		1
	Academic performance		3

Source: author's own elaboration.

From Table 3, the variable called learning a course is the only one that shows that one research did have a relationship with respect to perceived self-efficacy, while in another investigation it had no direct relationship. It is also observed that the investigations worked more on perceived self-efficacy with its relationship to academic performance. On the contrary, it is important to indicate that four investigations whose variables are within the group called 'Others' had no relationship or direct effect with respect to perceived self-efficacy.

Table 4 shows in detail of the second categories worked with the perceived self-efficacy by educational level and identified faculty. It is observed that, in the identified studies, a greater number of studies are presented at the undergraduate level and that within it, a greater number of studies were carried out in the School of Education. On the contrary, at the postgraduate level, in Engineering, only two studies are presented.

Table 4. *Group of categories or variables worked on with perceived self-efficacy analyzed by educational level or faculty*

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Table 4

Group of categories or variables worked on with perceived selfefficacy analyzed by educational level or faculty

Education level	Level or School	Category group or variables					
		Teacher attitude	Student attitude	Predictive influence of the teacher	Motivation	Other	Academic performance
School	Primary School			1		1	1
	Special School	1					
	Middle School	1	1		1	2	
Pregraduate	Engineering		1			1	
Postgraduate	Management					1	1
	Medicine						1
	Education	1	1			1	1
	Special Education						1
	Physical Education				1		
	English						2
	Mathematics		1				1
	Psychology		1				1

Source: author's own elaboration

Discussion

The researchers consulted in this systematic review considered it very important to analyze the relationship between perceived self-efficacy and various variables, including teacher attitudes, student attitudes, teacher predictive influence, motivation, academic performance, among others. For this reason, the results that showed that the correlational scope was the most predominant is quite logical.

It is relevant to indicate that the largest number of studies were carried out in America and the Caribbean, closely followed by studies carried out on the European continent. In addition, the largest amount of research was found in English in the high-impact database such as EBSCO, which reveals that this topic is significant for the scientific community.

It was identified that, initially, between the years 2011 and 2013, the researches carried out their studies in students to be able to measure their perceived self-efficacy with respect to academic behavior, in addition, for these first studies it was verified that if there is a relationship between the mentioned variables and perceived self-efficacy. On the other hand, since 2015, studies with teachers were started analyzing the relationship between the teacher's predictive influence with their perceived self-efficacy, which resulted in whether there is a relationship between them. Finally, the largest number of researches worked with academic performance and perceived self-efficacy, which both for the

researchers and presents a permanent question, and which resulted in that in all cases it was indicated that they were directly related.

The educational level where the least amount of studies was presented was at the postgraduate level, and the highest number of studies was at the undergraduate level, however, no study worked on the predictive influence of the teacher and his perceived self-efficacy. On the other hand, several studies were found that were carried out at the College level, at its basic, intermediate and special levels.

Regarding the limitations of this research, there is the bias in the descriptors made during the search for information in the EBSCO, SciELO, Dialnet and Google Scholar, databases, however, since it is a first approximation, it is considered sufficient since the current literature and high scientific impact were considered.

Conclusions

After conducting the systematic literature review, it is concluded that few authors decided to conduct studies in the pursuit of analyzing perceived self-efficacy from the teachers' perspective. However, based on the systematic review carried out, important information could be collected in the 26 studies analyzed, where most studies conclude that perceived self-efficacy is an important factor compared to each of the variables studied. This systematic review, from the study of perceived self-efficacy, contributes to the knowledge of researchers and educational personnel, it is also relevant and useful for future research, and it is suggested to continue collecting information on this topic.

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