



Teacher self-efficacy through achievement goals, instructional strategies, and student engagement in the Philippine setting

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Abstract

Teachers with positive levels of self-efficacy are exposed to new teaching methods that can display a good level of planning and solve problems, especially when faced with more challenging goals. The study aims to investigate the self-efficacy of the achievement goals, instructional strategies, and student engagement of the teachers in the Philippine setting. Convenience sampling was chosen with 139 teachers in the Philippines. An online survey questionnaire was used in this study, whereas data were analyzed with weighted mean and one-way analysis of variance. Analysis revealed that student engagement has become the most positive indicator of teacher self-efficacy among the variables. The results also showed that teachers indicate a significant positive relationship among achievement goals, instructional strategies, and student engagement which assumes their strong development. The study suggested that teachers may capitalize on the essential needs and interests of the students for active and cooperative learning.

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achievement goals; instructional strategies; student engagement; teacher self-efficacy,

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Introduction

Teachers have become dynamic in terms of improving their professional development. The development of teacher self-efficacy is being considered to increase their professional competence for their self-growth and for students' academic performance (Alanoglu, 2022). Together with these are inevitable challenging experiences like new teaching methods such as differentiated instructions and strategies, and utilization of modern classroom technologies demands of professional organizations or socializations are more imperative than ever.

In the study of Pressley and Ha (2021), different schools find ways to promote teacher self-efficacy. Many teachers have become disengaged due to circumstances regarding technological access. Increased pressure on curricular changes may lead to lower teaching self-efficacy when overcoming stress (Putwain & von der Embse, 2019). Moreover, teachers felt that they lacked confidence in a certain subject because they hardly had any experiences in their previous education (Bug-os et al., 2021).

Considering the aforementioned situations, teachers must be prepared for the consequences. They must possess the necessary competencies and are expected to be professional teachers, thus developing teachers' overall positive levels of self-efficacy. To support the teachers, the Department of Education in the Philippines [DepEd], continuously supports teachers' development and helps them feel that they are important in increasing the achievement of students. Most especially, by becoming a self-efficient teacher from beginner to distinguished, they must learn to adopt strategies that confirm the dignity of teaching as a profession and acquire such qualities as respect, caring attitude, and integrity (Briones, 2017).

In the field of teacher self-efficacy research, Maddux (2016) stated that self-efficacy does not mean predictions or intentions about behavior, not even a personality trait, rather it is what a person believes he or she can do. Self-efficacy makes people's beliefs in creating intended outcomes through their personal actions (Maddux, 2016). The success of the teaching practices depends on the self-efficacy of teachers in the classroom setting. In a study from Vidergor (2023), during their professional development, teachers were able to cope with the different teaching practices in classrooms. However, they argued that the programs, including self-innovativeness and accountability, were insufficient, especially when they used varied technological resources. Despite this, prior research suggested that teachers' self-efficacy contributes to the improvement of the teaching-learning process in the classrooms; thus, it helps to foster students' critical thinking and to motivate them to engage with the lessons they teach (Bal-Taştan et al., 2018).

Self-efficacy has essentially impacted the teachers to promote the teaching-learning process between them and the students. Teachers' self-efficacy beliefs are task-specific, deeply associated with other concepts but significant on their own, and reflection and doubt are essential to understanding how these beliefs develop and change within a persona (Wyatt, 2014). As Hajovsky et al. (2020), in their study, the personal self-efficacy of the instructors

is a significant intervening variable in describing how closeness and conflict affect students' achievement in a specific subject. It is important that fostering self-efficacy toward students enables them to keep track of the future changes that might happen at any time and to set clear guidelines that all teachers support in a more cohesive school culture.

Similar research on looking into the self-efficacy of teachers has been conducted in North America, Europe, and Asia. A study in the United States of America found that teachers with positive self-efficacy can handle difficult tasks to be enhanced rather than avoided (Anderson & Schuk, 2021). Likewise, in Italy, a study by Barni et al. (2019) on teachers' self-efficacy, showed that their personal values were all significantly associated, such as conservation, openness to change, controlled and autonomous motivations, and self-efficacy. Moreover, a study in East Asia, on what influences teachers' self-efficacy showed that the teaching years, teaching practices, disciplinary climate, teacher-student relationships, job satisfaction, and social utility motivation to teach were connected with teachers' self-efficacy in respective areas (An et al., 2021).

While in the Philippines, Cahapay and Anoba (2021) discussed in their study that teachers demonstrated high levels of technological pedagogical knowledge self-efficacy and continual intention to teach virtual education. Another study by Alcazaren and Robiños (2022) was conducted to determine the effectiveness of teacher self-efficacy, and it was revealed that in terms of their research self-efficacy, attitudes, and interests, faculty members demonstrated somewhat favorable results. Thus, an increased sense of self-efficacy is necessary for teachers to increase their own accomplishments and well-being .

Although several studies were made to assess the self-efficacy of teachers, no study has been conducted on the achievement goals, instructional strategies, and student engagement in some schools in the Philippines. This study aims to investigate the self-efficacy of achievement goals, instructional strategies, and student engagement of the Filipino teachers. Specifically, this study hopes to provide a new gap to the existing knowledge and research about teacher self-efficacy in the Philippine education system.

Achievement Goals, Instructional Strategies, and Student Engagement

Achievement goals, as defined by Cook and Artino (2016), are subconscious broad orientations or learning purposes that can be attributed to various behaviors and approaches. Based on Dweck's (1986) theory, people with performance goals perform well only when little effort is required to make them feel smarter. On the other hand, those with mastery goals increase their opportunities by studying and practicing different challenging tasks and by actively engaging in the learning field (Cook & Artino, 2016). Achievement goals can help children, families, and schools through assessment, intervention, and consultation practices focusing on flexible elements of mastery-approach specific goals and situational contexts and reducing adverse effects from a viewpoint of performance (Chazan et al., 2022).

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Meanwhile, instructional strategies are methods that must be planned in classrooms to fully capture the interests of students and encourage them to learn new things (Moore, 2014). These include asking questions, using student ideas and contributions, and reinforcing through discussions. Tanner (2013) suggested some strategies by which instructors could promote student engagement and appreciate the value of classroom equity. Teachers should give students the opportunity to think and talk about the topic itself. They should also encourage and facilitate the involvement of all students, create an inclusive and open-minded classroom environment, monitor behavior to foster their divergent thinking, and teach them how it should be done during classrooms. As in the study of Kahu (2013), student engagement is seen as a psychosocial process that is affected by institutional and personal factors through a wider social context. Thus, it ensures that understanding of the student experience becomes richer and deeper within and outside the classrooms. Student engagement is also evaluated at the course level and collected to set and track targets for continuous process improvement (Burch et al., 2015).

Chao et al. (2017) also conducted a study on teacher self-efficacy in enhancing teaching and learning strategies and classroom management, particularly for those who have special needs who studied in ordinary schools in Hong Kong and found that teachers' self-efficacy has increased significantly between variables, including knowledge and confidence levels with inclusive education. The school type has demonstrated a rise in self-efficacy in both teaching and learning. Schipper et al. (2018) studied the teachers' self-efficacy and adaptive teaching behavior, citing lesson study, as they focused on the engagement of students together with distinctive opportunities to explore new elements of teaching and to be more confident and competent in their perceived attitudes. This is different from the study of Poulou et al. (2019), wherein they discovered that the teachers' self-efficacy and classroom management practices had a weak correlation and had to address interventions to enhance such positive school outcomes.

Daumiller et al. (2021) analyzed the achievement goals and self-efficacy beliefs of the teachers to assess if they associate with the learning experiences of the students. The study showed that session-specific performance-approach differs goals were more strongly correlated with great learning experience by the students than performance-avoidance goals which had decreased their impacts. Lu and Mustafa (2021) conducted a review study about self-efficacy and collective efficacy on student engagement and explained that their efficacy can greatly influence the learning engagement of the students. To some extent, individual and collective efficacies have been ignored in improving the students' learning engagement.

Previous literature has suggested that self-efficacy has influenced teachers in different aspects, mainly in achievement goals, instructional strategies, and student engagement. However, there are no conducted studies correlating self-efficacy through the respective three variables. But, according to Bay (2020), self-efficacy beliefs may have both strong and weak relationships to establish its effectiveness on knowledge and skills in various ways.

Theoretical / Conceptual Framework

Self-Efficacy Theory

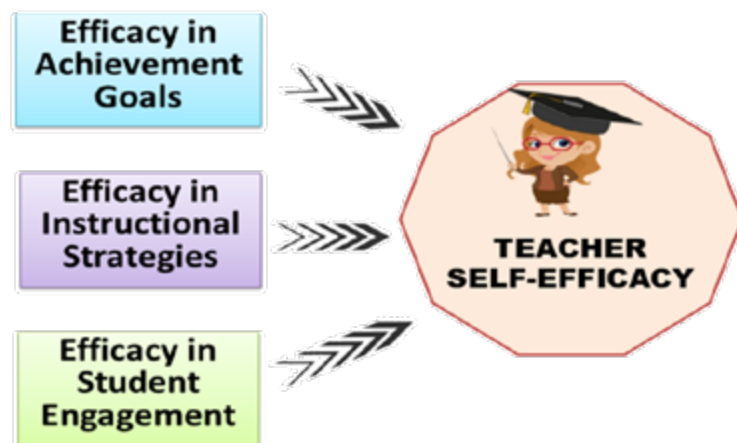
The theory of self-efficacy, according to Xu and Qi (2019), establishes better academic achievement among teachers and students. Students, even teachers, are persistently motivated to engage in learning activities in the future because they can overcome learning challenges in developing a strong self-efficacy. Bandura (2013) stated that the best way to build a strong sense of self-efficacy is by utilizing a goal-based motivation. A success can create an improved self-efficacy by acknowledging their previous failures or setbacks which serve as a benefit in teaching for sustaining its efforts. Success is regarded as self-improvement , rather than accomplishment.

Self-efficacy is also applied to the professional learning communities (PLCs). In a study by Mintzes et al. (2013), it shows that teachers were adamant that the PLC activities they participated in had a very beneficial impact on the students they taught. There is a strong support for the PLCs to develop a paradigm of professional development for teachers. This support includes policy-makers and administrators, especially those who are involved in the industries, government organizations, and higher education institutions.

Self-efficacy helps teachers, particularly in the Philippines, to think of something better that could quickly rebound from their setbacks and give them a better performance through a series of goals and strategies. Teachers with a positive sense of self-efficacy encourage the students to be motivated in their classes and enhance their cognitive development, in addition to improving the affective processes, focusing on the achievement goals, instructional strategies, and student engagement. A conceptual framework was made to investigate the teachers’ self-efficacy in three variables, which can help to determine their respective associations (as shown in Figure 1).

Figure 1

Conceptual framework of the study



Purposes of the Study

The study determined and correlated the teacher's self-efficacy through and with achievement goals, instructional strategies, and student engagement in a Philippine setting. Moreover, this study answers the following questions:

1. What is the level of interpretation of teacher self-efficacy in terms of achievement goals, instructional strategies, and student engagement?
2. What is the relationship of teacher self-efficacy in terms of achievement goals, instructional strategies, and student engagement, respectively?

Methodology

Research Design

This study utilized a descriptive survey research design. Boudah (2019) said that this design allows describing features of or putting up a picture of a condition or phenomenon, without manipulating any variables or experimentation involved in a research. Creswell and Creswell (2018) suggested that survey designs make it easier for researchers to answer questions, such as in the use of description, relationships between variables, or predictions over time. The design aims to determine the relationship among achievement goals, instructional strategies, and student engagement of Filipino teachers for their self-efficacy.

Sampling Procedure and Participants

The research employed convenience sampling, a non-probability sampling design that can be found in most of the population research (Stratton, 2021). The study participants consisted of 139 teachers from two schools in the Philippines: Department of Education - San Miguel Elementary School in Pasig City and St. Dominic College of Asia in Bacoor, Cavite. The inclusion criteria in this study is that all teachers should be Filipino citizens and teach their students regardless of their level. Participants also showed their willingness to participate in the study. Among the teachers, there were 104 females (74.82%) and 35 males (25.18%). The majority of the respondents have experienced teaching for five years and above (71.22%), then for three to four years (18.71%), one to two years (7.19%), and less than one year (2.88%).

Research Instrument

An online survey questionnaire was made to determine the teachers' self-efficacy regarding achievement goals, instructional strategies, and student engagement. The survey questionnaire for self-efficacy as observed by teachers was adapted and later combined on the following two

scales: The Teachers' Achievement Goals in Work Questionnaire made by Papaioannou and Christodoulidis (2007) and the Ohio State Teacher Efficacy Scale created by Tschannen-Moran and Hoy (2001). These two scales were available on the respective researchers' accounts on ResearchGate and Academia. The survey questionnaire was validated by an English professor from St. Dominic College of Asia, who they provided comments regarding its clarity and relevance to the current study. The authors piloted the questionnaire into 10 respondents and computed the Cronbach's alpha with the formula: $(K)/(K-1) * (Sy^2 - \sum Si^2) / Sy^2$. The overall Cronbach's alpha was 0.93, which was found to have an 'excellent' internal consistency and is regarded as a reliable tool.

The first part is a questionnaire on self-efficacy of the achievement goals, which provides ten (10) statements. The next part is from the self-efficacy of the instructional strategies containing seven (7) questions, while the last part is from self-efficacy for student engagement which covers eight (8) questions. All three parts employed five (5)-point Likert type scales as indicated in the following tables for results and discussion.

Data Collection and Analysis

The survey was distributed to different teachers through their respective emails. Teachers answered the survey questionnaire according to their vacant time; moreover, the data was gathered from February to April 2022. Data was coded using a Microsoft Excel spreadsheet and was analyzed with the weighted mean and a one-way analysis of variance (ANOVA) using Microsoft Excel 365. Weighted mean was used to determine whether they agreed on the given items, which started with the survey questionnaire. Meanwhile, a one-way ANOVA was used to identify if the overall separate scores of each variable for teachers' self-efficacy, such as achievement goals, instructional strategies, and efficacy for student engagement, were statistically significant, respectively, considering the sample size of the respondents.

Ethical Considerations

The authors sought informed consent from the teachers through Google Forms. The researchers described the nature of the study, in which participation is encouraged by the respondents to take part in this research. Furthermore, all information shared by the respondents was kept confidential.

Results and Discussion

Table 1

Mean results of teachers' achievement goals

Achievement Goals	Weighted Mean	Standard Deviation	Interpretation
When it appears as though I am a better teacher than others, I am completely satisfied.	3.52	1.132	Agree
My objective is to improve my teaching skills on a constant basis.	4.71	0.653	Strongly Agree
To continue learning new things for what I teach, I want to try even harder.	4.65	0.689	Strongly Agree
It is crucial for me to always gain fresh information in the subject I teach.	4.73	0.609	Strongly Agree
My goal is to outperform the other teachers in the classroom.	3.42	1.203	Uncertain
I will consistently strive to perform better than those around me.	3.02	1.164	Uncertain
Regardless of how challenging they are, I enjoy learning new things about the topic matter I teach.	4.53	0.705	Strongly Agree
To outperform other teachers is vital for me in my life.	3.44	1.234	Uncertain
I refuse to teach subjects where I might come off as incompetent.	3.40	1.159	Uncertain
When I keep clear of teaching a subject where I might come out as incompetent, I feel relieved.	3.14	1.168	Uncertain
Total Average Weighted Mean	3.86	1.204	Agree

Legend: 1.00-1.49 – Strongly Disagree; 1.50-2.49 – Disagree; 2.50-3.49 – Uncertain; 3.50-4.49 – Agree; 4.50-5.00 – Strongly Agree

The mean results of achievement goals as observed by the teachers are determined in Table 1. According to the table, the results received an overall rating of “Agree” (Mean = 3.86) in the achievement goals of the teachers. This shows that achievement goals have been increasingly efficient for teachers to disseminate the knowledge and skills to the students. It is revealed that the highest ranked achievement goal for teachers is by gaining fresh information that is important in the subject they teach. This resulted in the highest weighted mean of 4.73. However, it can be seen that the majority of the teachers were “uncertain” in striving to perform better than those around them (Mean = 3.02). This result implies that more teachers do not know if they can directly compete with their peers.

Table 2

Mean results of teachers' instructional strategies

Instructional Strategies	Weighted Mean	Standard Deviation	Interpretation
To what level do you use different assessment strategies?	4.12	0.660	Extensive
To what level do you provide alternative explanations and examples when students get confused?	4.35	0.647	Extensive
To what extent do you make good questions for your students?	4.27	0.687	Extensive
How well can you set alternative strategies in your classroom?	4.22	0.634	Extensive
How well can you answer to tough questions from your students?	4.33	0.674	Extensive
How much can you adjust your lessons to the proper level for individual students?	4.32	0.702	Extensive
How well can you provide appropriate challenges for very capable students?	4.22	0.689	Extensive
Total Average Weighted Mean	4.26	0.839	Extensive

Legend: 1.00-1.49 – Least Extensive; 1.50-2.49 – Less Extensive; 2.50-3.49 – Neutral; 3.50-4.49 – Extensive; 4.50-5.00 – Highly Extensive

Table 2 shows the mean results of self-efficacy of instructional strategies as observed by teachers. It is revealed on the table that the overall rating of teachers' instructional strategies was revealed to be "Extensive" (Mean = 4.26) in terms of instructional strategies. It shows that with varied instructional strategies, students keep on being engaged with the learnings as they observe every effort of teachers to be effective in the classroom instruction. The results also show that the majority of the teachers are "extensive" in providing alternative explanations and examples when students get confused (Mean = 4.35). This strategy encourages the students to be more reflexive and to learn new ideas when they are taught to do something.

Table 3

Mean results of student engagement for teachers

Instructional Strategies	Weighted Mean	Standard Deviation	Interpretation
How much can you get students that they can do well in schoolwork?	4.54	0.662	Very Much
How much can you help your students value learning?	4.63	0.629	Very Much
How much can you motivate students showing low interests in school?	4.51	0.641	Very Much
How much can you assist families in helping their children do well in school?	4.26	0.736	Much

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How much can you improve the understanding of a failing student?	4.45	0.672	Much
How much can you help your students think critically?	4.50	0.652	Very Much
How much can you foster student creativity?	4.47	0.652	Much
How much can you get through to the most difficult students?	4.36	0.702	Much
Total Average Weighted Mean	4.47	0.675	Much

Legend: 1.00-1.49 – Least; 1.50-2.49 – Not So Much; 2.50-3.49 – Neutral; 3.50-4.49 – Much; 4.50-5.00 – Very Much

The mean results for self-efficacy for student engagement as observed by teachers are revealed in Table 3. It is shown in the table that the overall rating of student engagement for teachers is “Much” with a weighted mean of 4.46. This reveals that teachers know how to motivate students to at least participate in their classes and to fully understand of the lessons they teach. With all the following statements in self-efficacy for student engagement, most of the teachers said that they help their students “very much” in valuing learning (Mean = 4.63). The result means that teachers learn with students’ understanding the way they impart values in the subject.

Table 4

One-way analysis of variance (ANOVA) of teachers’ self-efficacy

Variables	Source of Variation	SS	df	MS	F	P-value (Sig.)	F crit
Achievement Goals	Between Groups	622.280	9	69.142	68.563	0.000	1.887
	Within Groups	1391.655	1380	1.008			
	Total	2013.935	1389				
Instructional Strategies	Between Groups	5.799	6	0.966	2.146	0.046	2.108
	Within Groups	434.935	966	0.450			
	Total	440.734	972				
Student Engagement	Between Groups	12.373	7	1.768	3.948	0.000	2.018
	Within Groups	494.259	1104	0.448			
	Total	506.632	1111				

Note: p value < 0.05

Table 4 presents the one-way analysis of variance (ANOVA) on the teacher self-efficacy among three variables: achievement goals, instructional strategies, and student engagement. The table indicates that the achievement goals of the teachers resulted in a p-value of 0.000 and an f crit of 1.887, which makes it statistically significant. This is similar with the instructional strategies which have a p-value of 0.046 and an f crit of 2.108, and student engagement with a p-value of 0.000 and an f crit of 2.018, that makes them both statistically significant respectively. The findings confirmed that teacher self-efficacy has positive effects among these variables namely achievement goals, instructional strategies, and student engagement.

Discussion

The current study examined the self-efficacy of teachers through achievement goals, instructional strategies, and student engagement. The analysis revealed that among the three variables, student engagement has become the most positive indicator for teacher self-efficacy. Gillies and Nichols (2015), in their study, said that teachers have the chance to use creativity in their instruction to engage the students in meaningful discussion of themes relevant to the real world; however, it is crucial for them to organize the inquiry process to push students' thinking and build their learning to encourage conversation.

In a study by Goegan and Daniels (2022), teachers try to lower competitions that originated outside the classrooms; thus, it increases the necessity for an interesting discussion among school personnel. But this is not the case, as researchers imply that teachers perceive competitions as "debatable" and "lacking confidence and energy." Accordingly, educators are supposed to work and cooperate with one another in developing a culture of inquiry and practice towards a specific purpose (Bautista & Baniqued, 2021). The key challenge is that teachers actively desire for support and interaction by using collaborative practices as to working in a classroom environment.

According to Gaitas and Martins (2017), for students to develop, it is imperative to assist teachers in realizing that their capacity for learning is increased if students are engaged, allowed to consolidate information in a way that fits their unique learning preferences, and encouraged to correlate new learning with prior knowledge. Teachers find instructional strategies motivating for students so as to help process and learn some new information on the given topics they discuss. It creates a healthy interaction between teachers and students for them to share their thoughts on what they learn from the discussions and what they want to know more about a topic as discussed in the classroom settings.

A research study of Van Uden et al. (2014) found that interpersonal teacher behavior is the most essential component for different types of student engagement, by which proximity contributes more to their behavioral engagement than the influence when directed with the subject they taught. A study by Deneen et al. (2019) revealed the values observed by the teachers rather than the classroom practices they have been implementing to the students. While values can be learned through interaction between teachers and students, mutual respect and responsibility must be earned among one another to be able to guide them towards a better future.

It can be seen that the three variables have been statistically significant to one another which indicate a positive self-efficacy for teachers. Hajovsky et al. (2020) studied that personal self-efficacy of the instructors is a significant intervening variable in describing how closeness and conflict affect students' achievements in a specific subject. Thus, it is important that fostering self-efficacy towards students enables them to keep track of the future changes that might happen anytime and to set clear guidelines where all teachers create a support in a more cohesive school culture, particularly in the Philippine setting.

Conclusion and Recommendations

The study attempted to determine the overall self-efficacy of Filipino teachers in terms of achievement goals, instructional strategies, and student engagement. Findings showed that teachers have a positive self-efficacy in those three areas. This shows that teachers have been efficient in motivating students to participate in their classes and to fully understand the lessons they teach, which can help them to disseminate the knowledge and skills to them. A strong development of self-efficacy for teachers enables them to be open-minded to new ideas to increase their effectiveness and to create more meaningful evidence that students would learn something based on experiences.

Since the findings confirmed that teacher self-efficacy has a positive impact among the three (3) variables, the authors recommend that teachers may capitalize on the needs and interests of the students for their active and cooperative learning. This may be in the form of education seminars, conferences, or forums led by the Department of Education or other educational institutions in the Philippines. It is essential to find examples that can be interesting and related to the lives of students along with the future professions they will take. Students are more comfortable when the learning environment continues to be positive and welcoming.

The success of improving self-efficacy boosts the teacher's feeling that they belong to a group with full support and growth toward others. Based on the 2017 Philippine Professional Standards for Teachers, teachers should be responsible for developing themselves personally and professionally by joining communities to share their own knowledge and enhance such kind of practice. Aside from this, they should promote new learning opportunities with their co-teachers and reflect on what they want to do more as they grow into a professional. Through the implementing strategies, teachers can do good for as long as they keep track of their progress when they impart the knowledge and skills to the students.

This research study only focused on the quantitative analysis of determining the self-efficacy of teachers in the Philippines through their achievement goals, instructional strategies, and student engagement. While teachers indicate a high self-efficacy among these aforementioned variables, it is suggested that qualitative research can be conducted with a series of open-ended questions. This is to identify what strategies they can still improve in their professional development.



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References

- Alanoglu, M. (2022). The role of instructional leadership in increasing teacher self-efficacy: A meta-analytic review. *Asia Pacific Education Review*, 23(2), 233-244. <https://doi.org/10.1007/s12564-021-09726-5>
- Alcazaren, H. K. G., & Robiños, J. R. O. (2022). A comparison of demographic and research characteristics of faculty in a Philippine private university: Assessing self-efficacy, attitude, and interest. *Philippine Social Science Journal*, 5(3), 96-105. <https://philssj.org/index.php/main/article/view/557>
- An, Y., Li, L., & Wei, X. (2021). What influences teachers' self-efficacy in East Asia? Evidence from the 2018 Teaching and Learning International Survey. *Social Behavior and Personality an International Journal*, 49(5), 1-13. <https://doi.org/10.2224/sbp.10359>
- Anderson, W., & Schuh, K. (2021). *Self-efficacy holds staying power for new teachers*. Association for Supervision and Curriculum Development. <https://www.ascd.org/el/articles/self-efficacy-holds-staying-power-for-new-teachers>
- Bal-Taştan, S., Davoudi, S. M. M., Masalimova, A. R., Bersanov, A. S., Kurbanov, R. A., Boiarchuk, A. V., & Pavlushin, A. A. (2018). The impacts of teacher's efficacy and motivation on student's academic achievement in science education among secondary and high school students. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(6), 2353-2366. <https://doi.org/10.29333/ejmste/89579>
- Bandura, A. (2013). The role of self-efficacy in goal-based motivation. In E. A. Locke & G. P. Latham (Eds.), *New developments in goal setting and task performance* (pp. 147-157). Routledge. <https://psycnet.apa.org/record/2013-00428-010>
- Barni, D., Danioni, F., & Benevene, P. (2019). Teachers' self-efficacy: The role of personal values and motivations for teaching. *Frontiers in Psychology*, 10, 1645. <https://doi.org/10.3389/fpsyg.2019.01645>
- Bautista, R. G., & Baniqued, W. B. (2021). From competition to collaboration: Unraveling teachers' lesson study experiences. *International Journal of Evaluation and Research in Education*, 10(3), 921-929. <http://doi.org/10.11591/ijere.v10i3.21101>

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- Bay, D. N. (2020). Investigation of the relationship between self-efficacy beliefs and classroom management skills of pre-school teachers. *International Electronic Journal of Elementary Education*, 12(4), 335-348. <https://www.iejee.com/index.php/IEJEE/article/view/983>
- Boudah, D. J. (2019). *Conducting educational research: Guide to completing a thesis, dissertation, or action research project* (2nd ed.). SAGE Publications, Inc. <https://us.sagepub.com/en-us/nam/conducting-educational-research/book261289>
- Briones, L. M. (2017, August 11). *National Adoption and Implementation of the Philippine Professional Standards for Teachers*. Department of Education. https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf
- Bug-os, M. A. A. C., Walag, A. M. P., & Fajardo, M. T. M. (2021). Science teacher's personal and subject-specific self-efficacy in teaching science: The case of El Salvador City, Philippines. *Science International*, 33(3), 179-186. <http://www.sci-int.com/pdf/637588288620282668.%20Bug-os-EDU-PHILIP-31-5-21%20PAID.edited.pdf>
- Burch, G. F., Heller, N. A., Burch, J. J., Freed, R., & Steed, S. A. (2015). Student engagement: Developing a conceptual framework and survey instrument. *Journal of Education for Business*, 90(4), 224-229. <https://doi.org/10.1080/08832323.2015.1019821>
- Cahapay, M. B., & Anoba, J. L. D. (2021). Technological pedagogical knowledge self-efficacy and continuance intention of Philippine teachers in remote education amid COVID-19 crisis. *Journal of Pedagogical Research*, 5(3), 68-79. <https://doi.org/10.33902/JPR.2021370614>
- Chao, C. N. G., Sze, W., Chow, E., Forlin, C., & Ho, F. C. (2017). Improving teachers' self-efficacy in applying teaching and learning strategies and classroom management to students with special education needs in Hong Kong. *Teaching and Teacher Education*, 66, 360-369. <https://doi.org/10.1016/j.tate.2017.05.004>
- Chazan, D. J., Pelletier, G. N., & Daniels, L. M. (2022). Achievement goal theory review: An application to school psychology. *Canadian Journal of School Psychology*, 37(1), 40-56. <https://doi.org/10.1177/08295735211058319>
- Cook, D. A., & Artino Jr, A. R. (2016). Motivation to learn: an overview of contemporary theories. *Medical Education*, 50(10), 997-1014. <https://doi.org/10.1111/medu.13074>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications, Inc. https://spada.uns.ac.id/pluginfile.php/510378/mod_resource/content/1/creswell.pdf
- Daumiller, M., Janke, S., Hein, J., Rinas, R., Dickhäuser, O., & Dresel, M. (2021). Do teachers' achievement goals and self-efficacy beliefs matter for students' learning experiences? Evidence from

- two studies on perceived teaching quality and emotional experiences. *Learning and Instruction*, 76, 101458. <https://doi.org/10.1016/j.learninstruc.2021.101458>
- Deneen, C. C., Fulmer, G. W., Brown, G. T., Tan, K., Leong, W. S., & Tay, H. Y. (2019). Value, practice and proficiency: Teachers' complex relationship with assessment for learning. *Teaching and Teacher Education*, 80, 39-47. <https://doi.org/10.1016/j.tate.2018.12.022>
- Gaitas, S., & Alves Martins, M. (2017). Teacher perceived difficulty in implementing differentiated instructional strategies in primary school. *International Journal of Inclusive Education*, 21(5), 544-556. <https://doi.org/10.1080/13603116.2016.1223180>
- Gillies, R. M., & Nichols, K. (2015). How to support primary teachers' implementation of inquiry: Teachers' reflections on teaching cooperative inquiry-based science. *Research in Science Education*, 45(2), 171-191. <https://doi.org/10.1007/s11165-014-9418-x>
- Goegan, L. D., & Daniels, L. M. (2022). Just a little healthy competition: Teacher perceptions of competition and social comparison in the classroom. *Canadian Journal of School Psychology*, 37(4), 394-405. <https://doi.org/10.1177/08295735221101223>
- Hajovsky, D. B., Oyen, K. A., Chesnut, S. R., & Curtin, S. J. (2020). Teacher-student relationship quality and math achievement: The mediating role of teacher self-efficacy. *Psychology in the Schools*, 57(1), 111-134. <https://doi.org/10.1002/pits.22322>
- Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, 38(5), 758-773. <https://doi.org/10.1080/03075079.2011.598505>
- Lu, Q., & Mustafa, Z. (2021). Toward the impact of EFL teachers' self-efficacy and collective efficacy on students' engagement. *Frontiers in Psychology*, 12, 744586. <https://doi.org/10.3389/fpsyg.2021.744586>
- Maddux, J. E. (2016). Self-efficacy. In S. Trusz & P. Bąbel (Eds.), *Interpersonal and intrapersonal expectancies* (pp. 41-46). Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315652535-6/self-efficacy-james-maddux>
- Mintzes, J. J., Marcum, B., Messerschmidt-Yates, C., & Mark, A. (2013). Enhancing self-efficacy in elementary science teaching with professional learning communities. *Journal of Science Teacher Education*, 24(7), 1201-1218. <https://doi.org/10.1007/s10972-012-9320-1>
- Moore, K. D. (2014). *Effective instructional strategies: From theory to practice* (4th ed.). Sage Publications, Inc. <https://us.sagepub.com/en-us/nam/effective-instructional-strategies/book241098>

- Papaioannou, A., & Christodoulidis, T. (2007). A measure of teachers' achievement goals. *Educational Psychology, 27*(3), 349-361. <https://doi.org/10.1080/01443410601104148>
- Poulou, M. S., Reddy, L. A., & Dudek, C. M. (2019). Relation of teacher self-efficacy and classroom practices: A preliminary investigation. *School Psychology International, 40*(1), 25-48. <https://doi.org/10.1177/0143034318798045>
- Pressley, T., & Ha, C. (2021). Teaching during a pandemic: United States teachers' self-efficacy during COVID-19. *Teaching and Teacher Education, 106*, 103465. <https://doi.org/10.1016/j.tate.2021.103465>
- Putwain, D. W., & von der Embse, N. P. (2019). Teacher self-efficacy moderates the relations between imposed pressure from imposed curriculum changes and teacher stress. *Educational Psychology, 39*(1), 51-64. <https://doi.org/10.1080/01443410.2018.1500681>
- Schipper, T., Goei, S. L., de Vries, S., & van Veen, K. (2018). Developing teachers' self-efficacy and adaptive teaching behaviour through lesson study. *International Journal of Educational Research, 88*, 109-120. <https://doi.org/10.1016/j.ijer.2018.01.011>
- Stratton, S. J. (2021). Population research: Convenience sampling strategies. *Prehospital and Disaster Medicine, 36*(4), 373-374. <https://doi.org/10.1017/S1049023X21000649>
- Tanner, K. D. (2013). Structure matters: twenty-one teaching strategies to promote student engagement and cultivate classroom equity. *CBE—Life Sciences Education, 12*(3), 322-331. <https://doi.org/10.1187/cbe.13-06-0115>
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*(7), 783-805. [https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
- Van Uden, J. M., Ritzen, H., & Pieters, J. M. (2014). Engaging students: The role of teacher beliefs and interpersonal teacher behavior in fostering student engagement in vocational education. *Teaching and Teacher Education, 37*, 21-32. <https://doi.org/10.1016/j.tate.2013.08.005>
- Vidergor, H. E. (2023). The effect of teachers' self-innovativeness on accountability, distance learning self-efficacy, and teaching practices. *Computers & Education, 199*, 104777. <https://doi.org/10.1016/j.compedu.2023.104777>
- Wyatt, M. (2014). Towards a re-conceptualization of teachers' self-efficacy beliefs: Tackling enduring problems with the quantitative research and moving on. *International Journal of Research & Method in Education, 37*(2), 166-189. <https://doi.org/10.1080/1743727X.2012.742050>

Xu, Z., & Qi, C. (2019). The relationship between teacher-student relationship and academic achievement: The mediating role of self-efficacy. *EURASIA Journal of Mathematics, Science and Technology Education*, 15(10), em1758. <https://doi.org/10.29333/ejmste/105610>