REVISTA
SAN GREGORIO

http: 10.36097/rsan.v1i47.1576

Artículo Original

Impact of teacher performance observation on the professional development

Impacto de la observación del desempeño docente en el desarrollo profesional

Autores

David Gil-Pareja. *https://orcid.org/0000-0003-3736-5241*
Alfonso X el Sabio University. Madrid, España.
dgilpar@uax.es

Ana C. León-Mejía. *https://orcid.org/0000-0003-2431-5640*
International University of La Rioja (UNIR). Madrid, España.
aleon@unir.net

Roberto Sánchez-Cabrero. *https://orcid.org/0000-0002-1978-7531*
Autonomous University of Madrid. Madrid, España.
roberto.sanchez@uam.es

Francisco Javier Pericacho-Gómez. *https://orcid.org/0000-0003-3622-5140*
Universidad Autónoma de Madrid Madrid, España.
franciscojavier.pericacho@unir.net

Fecha de recibido: 2020-11-20

Fecha de aceptado para publicación: 2021-05-31

Fecha de publicación: 2021-09-30

Abstract

The objective of this research is to analyze the impact that peer observation has on teachers, i.e., being observed while teaching. This is an innovative system, although other countries such as United Kingdom already have a tradition of using this system under different formulas that

pursue teaching professional development. In Spain, this system is little implemented and relatively unknown, although there are a few experiences. The lack of experience and information are factors that may explain this fact. In this research, with 118 teachers from different schools, we administered a questionnaire on professional development that measured whether the participants had been evaluated by their peers using observation methods. The results show a higher score in professional development for observed teachers compared to unobserved teachers, highlighting the value of teacher observation as a training tool. This was particularly true regarding responsibility, confidence on teaching practice and motivation to continue developing professionally of participants in this study.

Keywords: Peer observation; teaching training; professional performance; self-knowledge; teaching evaluation.

Resumen

El objetivo de esta investigación es analizar la repercusión que tiene en el profesorado la observación docente por pares, es decir, el hecho de haber sido observado mientras ejecuta su labor docente. Se trata de un sistema innovador, si bien otros países como Reino Unido tienen ya cuentan con una tradición en usar este sistema bajo diferentes fórmulas que persigen el desarrollo profesional de los docentes. En España, este sistema es poco implementado y relativamente desconocido, si bien existen algunas pocas experiencias. Las retiecencias y el desconocimiento son factores que explican este hecho. En esta investigación, con 118 profesores de diferentes centros educativos, administramos un cuestionario sobre desarrollo profesional que medía si los particiapntes habían sido evaluados por sus pares con métodos de observación. Los resultados muestran una mayor puntuación en desarrollo profesional del profesorado observado respecto al no observado, poniéndose de manifiesto el valor como herramienta formativa de la observación docente, sobre todo, en cuanto a la responsabilidad, la confianza en la práctica docente y la motivación para seguir desarrollándose profesionalmente de los participantes en este estudio.

Palabras clave: Observación; formación docente; desarrollo profesional; autoconocimiento; evaluación docente.

Introduction

The Council and the European Commission (Consejo y Comisión Europea, 2012), in their strategic report for the European cooperation in education and training (ET, 2020), proposed new lines of priorities for the period 2012-2014. These, in turn, aim at achieving the objectives agreed in the Europe 2020 Strategy, which focuses on improving the quality and efficiency of our education and training systems. Ultimately, the professional development of teachers, trainers, and school leaders is essential if we are to improve the quality of education.

The Organization of Ibero-American States (from now on OEI) has reached the same conclusion by granting a vital role to the professional development of teachers to achieve the objectives proposed in the educational goals of 2021 (Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura, 2010). This point is further specified in the eighth general goal, which focuses on strengthening teaching through specific goals 20 and 21, which refer to initial training and the professional development of teachers, respectively. Therefore, this is claiming for scholarly attention and forces us to conduct more research on effective training strategies.

In Spain, the percentage of time that teachers dedicate to direct teaching is higher than the OECD average. For instance, in Primary education is 61.8% (880 hours) versus 48.3% of Europe. As for secondary education and tertiary education, the difference is 50% (713) vs. 42.7%, and 48.5% (693) vs. 40%, respectively (FeSP-UGT, 2018). For this reason, it is necessary to come up with new proposals to make it more efficient the time that teachers spend in professional training. Also, educational interventions are required to provide us with objective and reliable indicators of teaching performance if we aim at giving teachers more accurate feedback on their

professional activity. This action is mandatory to generate a collaborative context in which the maximum potential of teachers is reached through a formative evaluation process. This line of action is included in the TALIS report (Ministerio de Educación Cultura y Deporte, 2013), which recommends peer observation as well as participation in training programs, either as a mentor or trained, as part of a professional development initiative.

Currently, peer observation of teaching performance is recognized and implemented by different Spanish educational institutions (e.g., Instituto Cervantes, and Faculty of Education of the International University of Catalonia), which are committed to professional development (Fuertes, 2011). Several educational areas such as mentoring, coaching or tutorizing, also favor the use of classroom observation to build professional development and foster innovation (Fernández *et al*., 2017).

Despite the interest aroused by peer observation as a strategy to promote teacher training, there is a significant gap regarding scholarly literature. The reason is, on the one hand, that this practice is rarely used in Spain and, on the other hand, to the reduced number of studies analyzing this variable. Concerning the first aspect -lack of experiences-, these are mostly limited to the practicum included in the degrees related to education, particularly in the Secondary Teacher Education Master's Program, which is mandatory for teachers working in state-funded secondary schools. Observation in the training of future teachers is carried out by education centers, which decide how to do it. For instance, using a microteaching methodology or including a period of a supervised practicum (Cabrerizo *et al*., 2010). However, once students become teachers, observation ceases to play a role in professional development throughout the teaching career (Ministerio de Educación Cultura y Deporte. Estudio, 2013).

As for the little scholarly literature taking on this topic, most published works highlight the importance of teacher performance observation for training purposes (Ulloa y Gajardo, 2016; Liu *et al*., 2019). However, we should delve deeper into these studies in order to better assess the benefits that educational observation would possibly bring to the teaching staff and to overcome

the existing resistance to this practice. Similarly, this would help us to understand better the benefits that this model of teacher training brings to professional development and, in turn, to the attainment of educational quality.

For the above reasons, the objective of this paper is to analyze how teachers perceive the impact of peer observation on different aspects related to their professional practice.

Method

Participants

Teacher performance observation can be applied at all levels and types of teaching jobs. This study focused on Spanish teachers of pre-school and compulsory education. For the random selection of the 118 participants (88 men and 30 women), we used a cluster sampling technique that guaranteed the heterogeneity of the sample.

Data collection instrument

The research instrument used in this study is an *ad hoc* adaptation of the questionnaire by Marcelo *et al*. (1995) entitled *"Inventory of Teachers' Concerns",* which measures the evolution of teachers throughout their professional careers. This tool takes into account the following variables: Self-knowledge (Reflection on one's teaching performance); Collaborative Skills (Perception of the importance of collaborative work in the teaching profession); Responsibility (Perception of one's responsibility in the teaching-learning process); Security (Confidence in one's teaching performance); Development (Perception of one's professional evolution); Motivation (Motivation for one's professional development); Observation (The teacher's opinion of the observation process as a useful tool in the professional development of teachers). This tool builds on the Concerns Based Adoption Model (CBAM) (Fuller, 1970; Gabby *et al*., 2017) that aims at understanding the changes occurring in teachers who participate in training programs. This questionnaire by Marcelo *et al*. (1995) that we used in this study shows adequate values of

reliability (α=0.724) and has been used in many current studies (Páez, 2018). The adapted instrument was examined and approved by a panel of experts. It was first used in a pilot study, in which five teachers of different stages of compulsory education participated.

Variables

We designed an explorative and descriptive, cross-sectional study, assessing the association and interaction between different nominal, ordinal, and quantitative variables. More specifically, teacher development and performance were operationalized into six variables:

- Self-knowledge (Reflection on one's teaching performance): a competence that implies the interaction between thought and one's teaching action.
- Collaborative Skills (Perception of the importance of collaborative work when teaching): it is a subjective appreciation of the convenience of developing teaching work in a cooperative environment.
- Responsibility (Perception of one's responsibility in the teaching-learning process): it is a subjective appreciation of how teaching can influence the educational process.
- Confidence (Confidence in one's teaching performance): it refers to the confidence that a teacher has in her/is practice.
- Development (Perception of one's professional evolution): it is the subjective appreciation of one's professional growth.
- Motivation (Motivation for one's professional development): Interest of the teacher in continuing her/is progress as a professional in education.

Also, we study the type of peer observation received with three possible responses: having been observed and given feedback, having been observed without feedback, and not having been observed at all. Another variable called "perception of teaching observation" was added to the original questionnaire: *'whether or not the teacher sees the observation process as useful for her/is professional development'*.

Descriptive variables of the sample are sex (being male or female), years of teaching experience (less than 2, between 2 and 5, between 5 and 10; and more than 10), type of center in which they work (state-financed or private), region of Spain (Madrid, Galicia and Baleares), subject taught (Languages; other subjects; and languages and other subjects), educational level of work (infant, primary and secondary).

Design

We designed an explorative and descriptive, cross-sectional study, assessing the association and interaction between different nominal, ordinal, and quantitative variables.

Analyses

Once a written informed consent was obtained from the participants, guaranteeing confidentiality and anonymity, statistical analyses were carried out using the computerized statistical tool SPSS. The descriptive statistics used were the arithmetic mean, the standard deviation, and the distribution of frequencies. For the correlational analysis, we used *Pearson's correlation test*. As for the rest of the nominal and ordinal variables corresponding to the characteristics of the study sample, we conducted contingency analysis based on the *Chi-square test* and *Somers' d*, with a significance confidence level of 99% confidence (α: 0.01) and 95 (α: 0.05).

Results

Table 1 shows that the profile of teachers participating in the study is mostly male (74.6%), and regarding peer observation, most of them have undergone observation and received feedback (60.2%), they have more than ten years of experience (59.5%) and work in a state-financed school (91.5%), in Galicia (33.9%), teach "other subjects" (38.1%), in Primary (63.6%).

Table 1. Shows the frequency distribution of the main sociodemographic variables:

Sex	**Frequency** (%)
Male	88 (74,6%)
Female	30 (25,4%)

Observation	**Frequency**
Not observed	13 (11%)
Observed	34 (28.8%)
Observed and feedback	71 (60.2%)
Teaching experience	**Frequency**
Less than two years	7 (5.9%)
Between 2 and 5 years	19 (16.1%)
Between 5 and 10	21(17.8%)
More than ten years	70 (59.5%)
Centre	**Frequency**
State-financed	108 (91.5%)
Private	10 (8.5%)
Region of Spain	**Frequency**
Madrid	25 (21,2%)
Galicia	40 (33,9%)
Baleares	29 (24.6%)
Discipline	**Frequency**
Language	42 (35.6%)
Other subjects	45 (38.1%)
Language and other subjects	29 (24.6%)
Teaching level	**Frequency**
Pre-school	30 (25.5%)
Primary	75 (63.6%)
Secundary	41 (34.7%)

Regarding the variables related to the relevant competencies in the professional development, the results are shown above in the next Table 2:

Table 2. Correlation Professional development

		Sef-knw	Collab.	Respons.	Confid	Develop	Motiv.	Observ.
Self-knowledge	Corr.	1	,126	,406**	,241**	,463**	,336**	,212*
	Sig.		,173	,000	,008	,000	,000	,021
Collaborative skills	Corr.	,126	1	,305**	,082	,295**	,195*	,077
	Sig.	,173		,001	,378	,001	,034	,410
Responsibility	Corr.	,406**	,305**	1	,367**	,401**	,420**	,281**
	Sig.	,000	,001		,000	,000	,000	,002
Confidence	Corr.	,241**	,082	,367**	1	,122	,083	,277**

	Sig.	,008	,378	,000		,186	,374	,002
Development	Corr.	,463**	,295**	,401**	,122	1	,454**	,216*
	Sig.	,000	,001	,000	,186		,000	,019
Motivation	Corr.	,336**	,195*	,420**	,083	,454**	1	,358**
	Sig.	,000	,034	,000	,374	,000		,000
Observation	Corr.	,212*	,077	,281**	,277**	,216*	,358**	1
	Sig.	,021	,410	,002	,002	,019	,000	

**. Correlation is significant at the 0.01 level (2-tailed). / *. Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 2, there is a significant correlation between the participants' perception of observation as a formative tool and the following variables: the degree of responsibility regarding the teaching-learning process (p=,002); confidence on their teaching practice (p=,002); and motivation to continue developing professionally (p=,000). Also, there is a significant correlation between teachers' perception of observation as a training tool and teachers' perception of their professional development (p=0.05).

On the other hand, the study also reveals that there are significant correlations between the degree of responsibility that teachers perceive they have concerning the teaching-learning process and all of the variables related to teacher development that we analyzed. There are also correlations between the degree of self-knowledge perceived by teachers and the variables of confidence, professional development, and motivation. On the other hand, there is also a significant correlation with teacher's perception of observation as a training tool.

Regarding the variables that describe the characteristics of the participants, table 3 shows that there is no significant correlation for *'teachers observed by peers'*, which indicates that the use of this practice is not related to any characteristics analyzed in the research. On the other hand, the study reveals significant correlations between the sex of the teachers and the teaching in the infant stage.

Table 3. Contingency analyses

	Sex	TO	TE	TC	RE	D	PsL	PL	SL
Sex	-	2,902	3,245	,121	3,164	,789	7,465**	1,659	4,128*
		,86	,59	,029	-,026	,023	-,252**	,118	,186*
TO	2,902	-	6,642	2,066	5,497	7,494	2,458	1,361	,172
	,86		-,077	,088	-,126	-,178*	,098	,103	,003
TE	3,245	6,642	-	3,382	123,876**	9,72	3,388	6,697	8,596
	,59	-,077		,074	,174*	,124	-,081	-,186*	,208**
TC	,121	2,066	3,382	-	40,644**	1,466	,121	3,298	2,951
	,029	,088	,074		-,326**	,069	,029	,145*	-,138*
RE	3,164	5,497	123,876**	40,644**	-	11,287	11,287	3,202	6,799
	-,026	-,126	,174*	-,326**		,15	,15	-,022	-222**
D	,789	7,494	9,72	1,466	11,287	-	5,604	23,505**	8,361*
	,023	-,178*	,124	,069	,15		-126	,056	-,071
PsL	7,465**	2,458	3,388	,121	3,202	5,604	-	7,105**	13,989**
	-,252**	,098	-,081	,029	-,022	-126		-,244*	-,343**
PL	1,659	1,361	6,697	3,298	6,799	23,505**	7,105**	-	23,469**
	,118	,103	-,186*	,145*	-222**	,056	-,244*		-,446**
SL	4,128*	,172	8,596	2,951	12,599**	8,361*	13,989**	23,469**	-
	,186*	,003	,208**	-,138*	,144	-,071	-,343**	-,446**	

TO: teachers observed by peers; TE: Teaching experience; PsL: Preschool level; PL: Primary level; TC: type of centre; RE: Region of Spain; D: discipline; SL: secondary level

However, as shown in Table 3, the correlation between gender and secondary school teachers is significant and a positive *Somers' d*, which refers to the male sex. Also, there are significant correlations between the different educational levels, with a negative *Somers' d*, which indicates that teachers at each level do not teach at other educational levels. The region in which the teachers work is also significantly associated with the following variables: years of teaching experience, type of center, and teaching in the secondary stage. Finally, the discipline taught by teachers is significant and positively associated with the primary level and significantly and

negatively associated with the secondary level. Finally, there is another type of significant correlation that shows mixed results between *Somers' d* and *Chi-square*. This occurs when the existing relationship between both variables is significant, but not linear either because they show a curved relation (concave or convex) or because they show a more complex relation.

Discussion

The main focus of this study was to analyze peer observation regarding the professional development of teachers. Our results clearly show that the degree of responsibility that teachers perceive that they have in the teaching-learning process is significantly associated with the rest of the variables analyzed in the study. This result goes in line with those studies that granted this factor a significant role in achieving quality education (Avalos, 2018). Also, we see that the perception of teachers of peer observation explains how confident they are with their teaching performance, how they perceived self-knowledge, their motivation to continue developing professionally. Moreover, it fosters a positive perception regarding their professional progress. In this sense, we can state that the emotional quality of teaching, which was little studied years ago (Marchesi, 2007), as well as all the different aspects linked to building one's own professional identity (Martínez y Villardón, 2015; Barrientos-Fernández *et al*., 2019), are fundamental elements for understanding this profession.

The works aimed at highlighting the role that emotional intelligence may play in teaching, an issue that has been further studied by many scholars (Body *et al*., 2016). Within this vision, the observation of teacher performance plays an important role, and its significant correlation with the variables mentioned above supports its relationship with these factors. However, we did not find a correlation between observation as a training tool and the perception of the teaching profession as collaborative. Despite this result, there is reason to believe that classroom observations could give rise to a collaborative climate in schools (Cabezas *et al*., 2016).

The second focus of the analysis was to explore the teaching reality in our country. There are a higher number of female teachers in the pre-school years, which is coherent to what has been

described in official reports (Ministerio de Educación y Formación Profesional, 2019). Our results also show that peer observation is used equally regardless of the educational level, type of school, discipline, and teaching experience. It should be noted that the number of teachers who have been observed is much higher than those who have never been observed (89% versus 11%), indicating that this is a practice that is frequently used in schools. However, in this first group, more teachers never received feedback than teachers that got feedback, 40% versus 10%. This makes 30% of the observations little effective in terms of receiving valuable advice and criticism. Due to the training deficiencies associated with being inexperienced (Marcelo y Vaillant, 2018; Martín y García, 2018), we suggest that observation would be particularly useful for teachers beginning their careers.

There is a proliferation of studies taking on the education of students in compulsory education and its relevant factors, such as self-evaluation (Fernández *et al*., 2017) or collaborative learning (García-Valcárcel y Tejedor, 2018). Therefore, an emphasis should be placed on action lines that may help to strengthen these competencies in the teaching staff, which, in turn, will have an impact on their students. This is particularly important in areas such economics and technology, where students show significant difficulties in adapting to the pedagogical environment of certain degrees and, therefore, the role of teachers is fundamental to avoid student withdrawal and academic failure (Sánchez-Cabrero, 2021; Lowder *et al*., 2017).

Conclusions

In conclusion, this research intended to contribute to the study of teaching training and practice. As we highlighted, to make peer observation more effective we should look closely at all the factors involved in the process of observation of teacher performance, such as feedback sessions, observation sheets, disturbing aspects of observation, among others. This way of conceiving teaching performance would also require putting more effort into better preparing those in charge of observing their peers, a task that should be guided and foster by the education sciences university departments.

The peer evaluation programs do not required huge investment and it is inexpensive to implement. In some countries with a tradition in using peer observation, such us UK, the processs focuses on the professional development of both observer and observed teachers, while ensuring that the education centre provides a general framework and takes care of the administrative arrangements. The framework may vary according to whether the observations involve a novice paired with an experienced teacher, or whether the two paired teachers are experienced. In any case, the result is positive for both agents.

We cannot deny that the inclusion of peer observation of teacher performance can prompt different reactions, including skepticism and resistance to its implementation. For this reason, studies like the one presented here can help us to overcome initial adverse reactions by letting know how positive this practice may be and what specific domin related to professional development may improve.

Financing

This research was funded by the Spanish Ministry of Economy, Industry and Competitiveness (PID2019-107589GB-I00).

Interest conflict

The authors declare that they have no conflict of interest in this research.

Referencias bibliográficas

Avalos, B. (2018). Docencia profesional y su ejercicio. La profesión de la docencia. *Calidad en la Educación*, *15*, 1-18. https://bit.ly/3uCtvKx

Barrientos-Fernández, A., Sánchez-Cabrero, R., Arigita-García, A., Manoso-Pacheco, L., Pericacho-Gómez, F. J., y Novillo-López, M. Á. (2019). Measurement of different types of

intelligence (general, verbal vs. non-verbal, multiple), academic performance and study habits of secondary students at a Music Integrated Centre. *Data in brief*, 25, 104124. https://bit.ly/3i7tpIg

Body, L., Ramos, N., Recondo, O. y Pelegrina, M. (2016). Desarrollo de la Inteligencia Emocional a través del programa mindfulness para regular emociones (PINEP) en el profesorado". *Revista Interuniversitaria de Formación del Profesorado*, *87*, 47-59. https://bit.ly/3wOMbZe

Cabezas, M., Casillas, S. y Martín, J. (2016). Experiencias de trabajo colaborativo mediante Tecnologías de la Información y la Comunicación entre profesores, *Revista portuguesa de Educaçao*, *29*(1), 75-89. https://bit.ly/2Ty0YZT

Cabrerizo, J., Castillo, S. y Rubio, M.J. (2010). *El Prácticum en los Grados de Pedagogía, de Magisterio y de Educación Social. Formación, desarrollo e instrumentos*. Madrid: Pearson. https://bit.ly/3fFryZD

Consejo y Comisión Europea. (2012). *Informe conjunto de 2012 del Consejo y de la Comisión sobre la aplicación del marco estratégico para la cooperación europea en el ámbito de la educación y la formación (ET 2020). Educación y formación en una Europa inteligente, sostenible e inclusiva.* https://bit.ly/2SKl031

Fernández, C., Polo, M., y Fernández, M. (2017). Aplicación de la autoevaluación en una experiencia de Aprendizaje Basado en Problemas con alumnado de educación en asignaturas relacionadas con la discapacidad. *Estudios sobre Educación, 32,* 73-93. https://bit.ly/3yT4I8A

Fernández, M., C., Belando, M.R. y González, Mª.R. (2017). Mentoría pedagógica para profesorado universitario novel: estado de la cuestión y análisis de buenas prácticas. *Estudios sobre Educación, 33*, 49-75. https://bit.ly/34EQvhz

FESP-UGT. Gabinete Técnico Enseñanza (2018). *Horas de enseñanza anuales 2018. Datos OCDE y UE22.* https://bit.ly/2RdhduA

Fuertes, M. T. (2011). La observación de las prácticas educativas como elemento de evaluación y de mejora de la calidad en la formación inicial y continua del profesorado. *Revista de Docencia Universitaria, 9(*3), 237-258. https://bit.ly/2TzAUxu

Fuller, F. (1970). *Personalized education for teachers: An introduction for teacher educators.* Austin: The University of Texas at Austin, Research Development Center for Teacher Education. https://bit.ly/3i8azkr

Gabby, S., Avargil, S., Herscovitz, O., y Dori, Y. J. (2017). The case of middle and high school chemistry teachers implementing technology: Using the concerns-based adoption model to assess change processes. *Chemistry Education Research and Practice*, 18(1), 214-232. https://rsc.li/3fYf8uJ

García-Valcárcel, A., y Tejedor, F. (2018). Valoración del trabajo colaborativo en los procesos de enseñanza-aprendizaje en entornos escolares con alto nivel TIC. *Estudios sobre Educación, 34, 15*5-175. https://bit.ly/3uGjmMQ

Liu, S., Bell, C.A., Jones, N.D. y Mccaffrey, D.F. (2019). Classroom observation systems in context: A case for the validation of observation systems. *Educational Assessment, Evaluation, and Accountability, 31,* 61-95. https://bit.ly/3fEIQGn

Lowder, L., Atiqulla, M., Colebeck, D., Das, S., Karim, M.A., Khalid, A., Rajnish Singh y Utschig, T. (2017). Peer Observation: Improvement of Teaching Effectiveness through Class Participation at a Polytechnic University. *Journal of STEM Education 18*(4), 51-56. https://bit.ly/3wNxG7L

Marcelo, C., Mayor, C. Y Sánchez, M. (1995). *Un instrumento para evaluar cambios en las etapas de preocupaciones de profesores: El Inventario de Preocupaciones de Profesores.* Universidad de Sevilla. Departamento de Didáctica y Organización Escolar y MIDE. Facultad de Ciencias de la Educación. https://bit.ly/3i6GiT1

Marcelo, C. y Vaillant, D. (2018). *Hacia una formación disruptiva de docentes*. Diez claves para el cambio. Madrid: Narcea. https://bit.ly/3pe0e7R

Marchesi, A. (2007). *Sobre el bienestar de los docentes: competencias, emociones y valores.* Alianza, Madrid. https://bit.ly/3wHB9om

Martín, A. y García, I. (2018). Profesionalización del docente en la actualidad: contribuciones al desarrollo profesional. *Profesorado. Revista de currículum y formación del profesorado, 22*(1), 7-23. https://bit.ly/3fEUwsv

Martínez, Z. y Villardón, L. (2015). La imagen del profesor de Educación Secundaria en la formación inicial. *Profesorado. Revista de currículum y formación del profesorado, 19* (1), 511-526. https://bit.ly/3i4YKLP

Ministerio De Educación Cultura y Deporte (2013). *Estudio Talis 2013. Estudio Internacional de la Enseñanza y el Aprendizaje.* https://bit.ly/3wSLSMZ

Ministerio de Educación y Formación Profesional (2019). *Panorama de la Educación. Indicadores de la OCDE 2019.* Informe Español. Madrid: Secretaría general técnica. https://bit.ly/3vHGoEC

Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura (2010). *Metas educativas. La educación que queremos para la generación de los bicentenarios.* https://bit.ly/3yN0ZJD

Páez, E. (2018). Preocupaciones del profesorado en la ejecución del rediseño de las carreras de educación en la Universidad Central del Ecuador. *Revista Científica Olimpia, 15(*50), 193-205. https://bit.ly/3yS6Ehj

Sánchez-Cabrero, R. (2021). La adaptación al ámbito educativo de los futuros docentes de secundaria según su área académica. *Revista San Gregorio,* 45, 114-129. https://bit.ly/34xQLim

Ulloa, J. y Gajardo, J. (2016). *Observación y Retroalimentación Docente como Estrategias de Desarrollo Profesional Docente.* En Montecinos, C., Aravena, F. y Tagle, R. (Eds.) Liderazgo Escolar en los Distintos Niveles del Sistema: Notas Técnicas para Orientar sus Acciones. Chile: LIDERES EDUCATIVOS, Centro de Liderazgo para la Mejora Escolar. Pontificia Universidad Católica de Valparaíso. https://bit.ly/3cb5Zhl