Student teachers' self-assessment during teaching practicum: A literature review

Autoavaliação de futuros professores durante o estágio: uma revisão da literatura

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Abstract

Introduction: This article conducts a literature review on the self-assessment of practical learning in student teachers, identifies gaps in knowledge, and proposes potential guidelines for further research. Self-assessment plays a crucial role in fostering autonomy, self-regulation, perception of self-efficacy, and commitment. The primary research questions addressed are: What research approach do studies of student teachers' self-assessment adopt? What issues are self-assessed during practicums? What systems are used for student teachers' self-assessment? **Methods:** A systematic literature review was undertaken, involving the selection of databases such as ERIC, WoS, Scopus, and Dialnet. Following a systematic search and review process, we analysed 19 articles. **Results:** We analyse articles selected, specifically, research approach adopted, issues self-assessed during the practicum, and self-assessment systems used. **Conclusions:** The review highlights that self-assessment in practicum has not yet become a consolidated pre-professional mode of learning. However, it increases awareness of skills essential to the teaching profession. This review gives staff and tutors recommendations for decision-making about more useful self-assessment techniques and their adaptation to teaching practicum.

Keywords: Educational assessment; Initial teacher education; Practicum; Preservice teacher; Self-assessment.

Resumo

Introdução: *Este artigo analisa a literatura sobre autoavaliação do aprendizado por meio da prática dos futuros professores, identifica incógnitas e formula possíveis direções para pesquisas futuras. A autoavaliação promove a autonomia, a autorregulação, a autoeficácia e o envolvimento. As perguntas que orientam a revisão são: Quais abordagens de pesquisa são adotadas em estudos sobre a autoavaliação de futuros professores durante o estágio? Quais aspectos são autoavaliados durante o estágio? Quais sistemas são usados para a autoavaliação do aprendizado pela prática de futuros professores?* ***Método:*** *Foi realizada uma revisão sistemática da literatura em bancos de dados selecionados, incluindo ERIC, WoS, Scopus e Dialnet. Após um processo sistemático de busca e revisão, 19 artigos foram analisados.* ***Resultados:*** *Os artigos selecionados são analisados, em particular, a abordagem de pesquisa adotada, os aspectos autoavaliados durante o estágio e os sistemas de autoavaliação usados pelos futuros professores.* ***Conclusões:*** *A revisão mostra que a autoavaliação no practicum ainda não está estabelecida como uma estratégia para avaliar o aprendizado pré-profissional, mas aumenta a conscientização sobre as competências da profissão de professor. A análise fornece aos professores e tutores recomendações para a tomada de decisões sobre quais técnicas de autoavaliação são mais úteis e como adaptá-las ao practicum.*

Palavras-chave: *Avaliação educacional; Formação inicial de professores; Practicum; Futuros professores; Autoavaliação.*

INTRODUCTION

Numerous studies have investigated students' self-assessment (Boud and Falchikov, 1989; Brown and Harris, 2013; Panadero-Calderón and Alonso-Tapia, 2013; Ward, Gruppen, and Regehr, 2002; Zimmerman, 1986). These studies demonstrate the positive impact of self-assessment on student learning, fostering autonomy, self-regulation, acquisition of professional competences, perception of self-efficacy, and commitment. In the last two decades, the Assessment for Learning Movement has emphasized the significance of students' self-assessment in formative assessment (Brown & Harris, 2013). A recent review by H. L. Andrade (2019) establishes that self-assessment yields greater benefits in terms of accomplishment and self-regulated learning when used formatively and accompanied by appropriate training.

Incorporating students' self-assessment into teaching practicum (hereafter STSA) engages teachers in their practical learning and promotes critical thinking (Majzub, 2013). Empirical evidence on how workers regulate, monitor, and assess their tasks suggests the benefits of achieving greater transfer of methods and conclusions developed through STSA (Panadero, Brown, & Strijbos, 2016). The purpose of regulating and monitoring actions implies that self-assessment should be an integral part of practical learning.

In recent years, research on Students Teachers' Self-Assessment (STSA) during the teaching practicum has been emerging. No overview of this literature exists, however. Therefore, this study analyzes self-assessment tools

used in practicum and identifies the benefits of incorporating STSA into practical learning, based on an overview of the existing research literature.

The paper argues that studies of self-assessment are oriented towards formative assessment of practical learning, which is essential for enhancing the quality of educational practice. Additionally, we find that knowledge, comprehension, reflection, planning, and attitude toward professional learning in the practicum define preservice teachers' self-assessment. More importantly, there is a need to incorporate self-assessment of preservice teachers due to its contribution to reflective practice during the practicum.

Self-assessment, practical learning, and student teacher practicum

Self-assessment is crucial for improving learning at all stages of education because active participation in assessment contributes to and forms an integral part of the learning process. When students are actively engaged in their learning, and this engagement is continuous and ongoing (rather than only at the end), it inherently contributes to their learning. However, self-assessment remains relatively uncommon in certain educational contexts (Brown & Harris, 2013). Despite considerable theoretical knowledge, there are still unexplored areas. Self-assessment has limited presence in university education in various European contexts, including Spain (Panadero, Fraile, Fernández Ruiz, Castilla-Estévez, & Ruiz, 2018) and Greece (Papanthymou & Darra, 2018).

Self-assessment is a process where students analyze and assess their actions and productions to adjust their learning and improve their performance. It enables students' active involvement in their learning. According to Panadero-Calderón and Alonso-Tapia (2013, p. 174), self-assessment is defined as a "qualitative assessment of the learning process and of the end product obtained based on certain assessment criteria". This definition considers assessment criteria as fundamental (H. L. Andrade, Wang, Du, & Akawi, 2009) and confines self-assessment within instruments such as rubrics, which, in turn, generate specific methodologies. Understanding and familiarity with such criteria enhance self-assessment (Hinett & Weeden, 2000).

Self-assessment is a crucial skill for students as it enhances learning and academic performance. It helps students regulate their learning by requiring metacognitive monitoring of their work and processes, aligning with specific standards, expectations, objectives, or goals (Panadero et al., 2016). Self-assessment empowers students in the assessment process, increases the activation of learning, and promotes the use of self-regulatory strategies. It applies principles from the field of psychology that focus on self-regulation, defining self-assessment as self-generated thoughts, emotions, and behavior planned and adapted cyclically to achieve personal objectives (Zimmerman, 1986). In theory, students with greater self-regulation approach learning tasks with attention and confidence, proactively establish goals, and develop plans to achieve them. Hence, applying self-assessment to practical learning, both at the beginning and throughout the profession, is valuable.

Student teachers should recognize the importance of self-assessment during their practicum and its potential to influence their professional growth (Powell, 2000). Self-assessment contributes to teaching growth by enhancing the capability to recognize one's standards for teaching quality, setting improvement goals, facilitating communication with colleagues, and increasing the capability to implement changes suggested by external agents (Ross & Bruce, 2007). Incorporating self-assessment in initial teacher training is essential, enabling students to guide their improvement process throughout their professional activity.

The underlying assumption is that practical learning can be enhanced through self-assessment, allowing students to become aware of the learning acquired, identify strengths and weaknesses (H. Andrade & Du, 2007), and critically analyze and assess their actions (Rodríguez Gómez, Ibarra Saiz, & García Jiménez, 2013). A significant contribution of the practicum is the opportunity to engage with and reflect on one's future profession from the start, with supervision and guidance. Student teachers must, therefore, learn and be capable of critically assessing themselves (Majzub, 2013). Self-assessment becomes a conscious, intentional, and structured reflection on practical learning. enabling assessment of various aspects based on specific criteria. Results are then utilized for decision-making (Latkovska & Rutka, 2014). These authors emphasize the cognitive, practical, and moral aspects of STSA in the practicum, including knowledge acquisition, understanding the concept of self-assessment and its criteria, the application of knowledge, and the development of a self-assessment-oriented attitude contributing to professional development. Based on this STSA approach, we establish an analytical category used in this study, to be divided into five criteria and indicators (Latkovska & Rutka, 2014).

This study aims to understand Students Teachers' Self-Assessment (STSA) during the teaching practicum to explore new learning opportunities and improve educational practice. This systematic review responds to calls in prior studies of STSA (Castaño, Poy, Tomşa, Flores, and Jenaro, 2015; Sampson, Linek, Raine, and Szabo, 2013; Tülüce and Çeçen, 2016) and their evidence on the positive results of self-assessment tools used in practicums. These factors contribute to the proper implementation of STSA in practicum.

The review aims to analyze research on STSA during the teaching practicum, synthesizing the available empirical evidence and identifying the benefits of incorporating STSA into practical learning. The research questions driving this systematic review are: What research approach do studies of STSA adopt? (RQ1) What issues are self-assessed during practicum? (RQ2) What systems are used for STSA? (RQ3).

METHOD

To answer these research questions, we conducted a systematic search and review of empirical evidence on STSA in practical learning in teacher training during teacher training, specifically focusing on the teaching practicum, following established eligibility criteria. This approach "uses explicit, systematic methods chosen to minimize bias, providing more reliable findings from which to draw conclusions and make decisions" (Moher et al., 2015, p. 3). The steps involved the formulation of goals and research questions, definition of inclusion and exclusion criteria, strategy for searching for studies, and categorization and analysis of results (Perestelo-Pérez, 2013; Sánchez Meca et al., 2010).

Inclusion and exclusion criteria

To ensure the relevance of the selected literature, the following inclusion criteria (IC) and exclusion criteria (EC) were applied. The articles included had to be available in journals; conference papers or book chapters were not included (IC1). They should analyse practicums in Bachelor's degrees in Education (IC2), be published between 2007-2022 (IC3), and be written in English or Spanish (IC4). The articles whose full text was not available in the database were excluded (EC1), as well as studies of practicum in other Education degrees (EC2), studies including "inservice" and "novice teachers" (EC3), studies of subject-specific practicums (EC4), theoretical reviews (EC5), or self-study (EC6).

Literature search strategy

The literature search was conducted during November-December 2022 to obtain records from the Educational Resources Information Center (ERIC), Web of Knowledge (WOS), Scopus, and Dialnet (Table 1) - databases containing publications that fit the inclusion criteria.

Three sets of keywords were combined to cover the essential concepts of the topic: "self-assessment or self-evaluation," "preservice teachers or student teachers," and "practicum or field experiences." Subject terms and Boolean operators were slightly modified to fulfill the unique functions of each database (Table 1).

Data base	Search	Results
ERIC	self-assessment OR self-evaluation AND practicum OR field experiences AND student teachers OR preservice teachers	95
WOS (SSCI)	*TOPIC: (self-assessment) AND TOPIC: (preservice teacher) AND TOPIC: (field experiences) OR TOPIC: (practicums)* *Refined by: WEB OF SCIENCE CATEGORIES: (EDUCATION EDUCATIONAL RESEARCH)* *Timespan: 2007-2022. Indexes: SSCI.*	68
Scopus	(TITLE-ABS-KEY (self AND evaluation) OR TITLE-ABS-KEY (self AND assessment) AND TITLE-ABS-KEY (practicums) OR TITLE-ABS-KEY (field AND experiences) AND TITLE-ABS-KEY (preservice AND teachers) OR TITLE-ABS-KEY (student AND teachers)) AND PUBYEAR >2007 AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Spanish"))	134
Dialnet	self-assessment, practicum, and teachers	5

Table 1. Literature search strategy

Figure 1 describes the search for studies and the different screening stages, based on the number of articles found in the databases (n = 302), according to the latest revised version of PRISMA for systematic reviews (Page et al., 2021).

We initially obtained n= 302 studies and analysed the titles and abstracts. The full text of the study was scrutinized the IC (n = 56). Ambiguous cases were also examined. Snowballing incorporated an additional study (Wohlin, 2014) that met the IC. The literature search, filtered through these processes, enabled selection of 19 journal articles. Mendeley software was used to manage and share the bibliographic references.
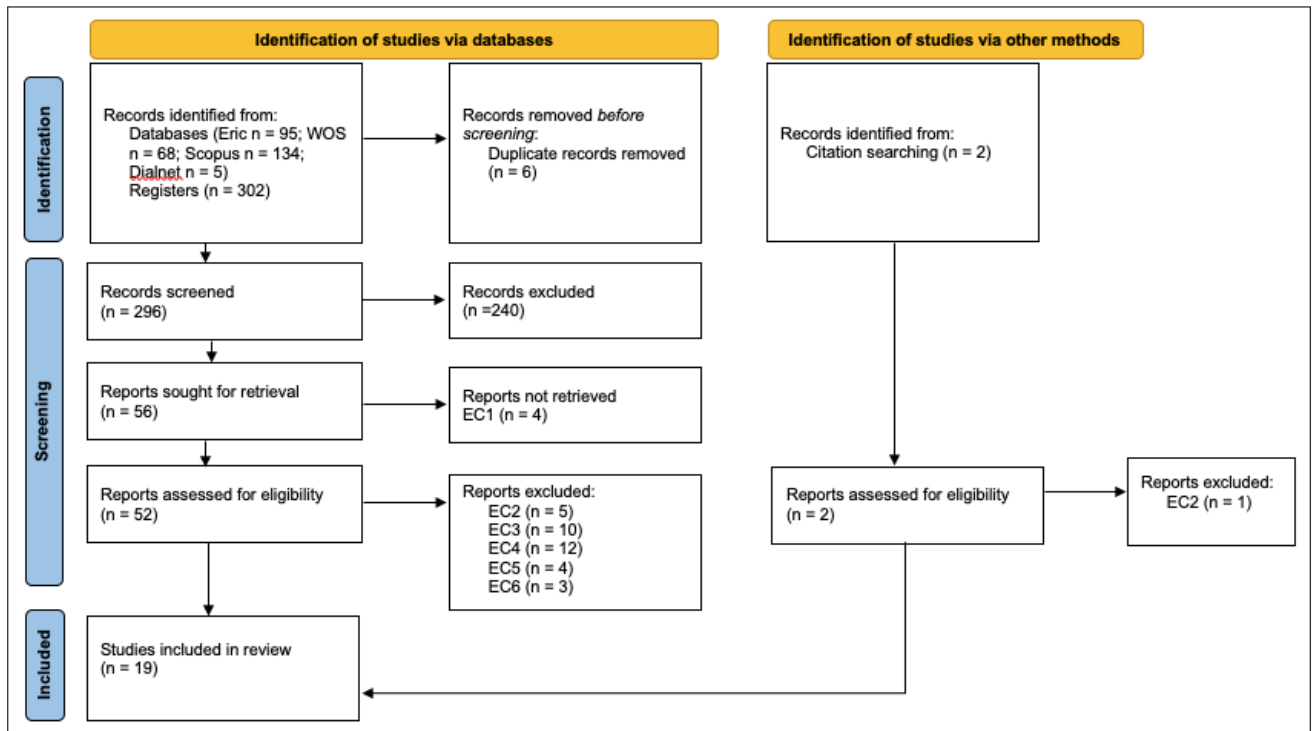
Figure 1. Flow diagram of article selection process
Note: Flow diagram for systematic reviews, adaptation of Page et al. (2021).

Coding

To provide an overview of the studies, we cataloged and classified them in a synthetic table by characteristics and content: dimensions, author(s), goals, design, sample, procedure, self-assessment system, results, and discussion.

We then used a categorization process to analyse similarities and differences between studies and answer the research questions. The studies were classified into the studies into three categories: research approach, self-assessed aspects, and student teachers' self-assessment systems in the practicum (Table 2).

Research approach Focus on research processes and methodologies to examine facts and descriptions	- Quantitative studies - Qualitative studies - Mixed methods combining one or more qualitative and quantitative methods for information collection and analysis
Student teachers' Self-Assessment in practicum Analysis of evidence on use of student teachers' self-assessment in practicum, answering the question: What issues are self-assessed during practicum? Adaptation of Latkovska and Rutka (2016)	(A) Knowledge of self-assessment: function, structure, and use in practicum (B) Comprehension of self-assessment: criteria, use to guarantee quality of practical learning process, benefits (C) Reflection on practical learning: impact, behavior, competences, opinions of student teachers (D) Planning future educational actions: goals, development, tasks, anticipation of results (E) Attitude to STSA: initiative, willingness for cooperation, responsibility
Students Teachers' Self-Assessment (STSA) Systems Adaptation of Brown and Harris (2013) and Panadero-Calderón and Alonso-Tapia (2013) according to self-assessment response format	(A) Self-ratings or judgments of quality and quantity, using rating system with scores and feedback comments to improve (B) Self-marking, scoring of one's work, following standards or criteria (C) Rubrics (holistic or analytic, in different platforms), help teachers reflect on the quality of work according to assessment criteria (D) Self-assessment scripts, help provided in performing a task, presentation as structured questions

Table 2. Analytical categories

RESULTS

This section presents an overview of the studies that fulfilled the inclusion criteria (Table 3), organized by research question (RQ1, RQ2, and RQ3).

ID	Authors	Research method	Sample (n)	Self-assessment of learning	Self-assessment tools
(1)	Aşık and Kuru Gönen (2016)	Qualitative (Intervention Research)	23 Primary education, EFL	A, B, C, D, E	Self-assessment scripts
(2)	Castaño et al. (2015)	Quantitative (Correlational quasi-experimental)	153 (41 Early Childhood and 112 Primary (70 P. I & 83 P. II)	C, E	Self-marking
(3)	Gabarda Méndez and Colomo Magaña (2019)	Quantitative (Non-experimental, descriptive)	230 (28 P. I; 57 P.II; 80 P.III; 65 P. IV)	D, E	Self-marking
(4)	Goh et al. (2009)	Quantitative (Correlational quasi-experimental)	139 Primary P. I & II	C, E	Self-rating
(5)	González Garzón and Laorden Gutiérrez (2012)	Quantitative (Non-experimental, descriptive)	65 Early Childhood 60 Primary P. I	C, E	Self-marking
(6)	Guven et al. (2012)	Qualitative (Descriptive)	27 Early Childhood and EFL	A, B, C, D, E	Self-Assessment scripts
(7)	Linn and Jacobs (2015)	Mixed (Case study)	4 Early Childhood P. II	A, B, C, E	Self-Assessment scripts
(8)	Martín-Gómez et al. (2021)	Qualitative (Descriptive)	10 Early Childhood P. II	A, B, C, D, E	Self-Assessment scripts
(9)	McFadden and Hindin (2012)	Quantitative (Quasi-experimental, Correlational)	95 (55 P.I; 40 P.II)	C, D, E	Self-rating Self-Assessment scripts
(10)	Nickel et al. (2010)	Qualitative (Case study)	3 Early Childhood	A, B, C, E	Self-Assessment scripts
(11)	Ozmantar (2019)	Qualitative (Descriptive)	22 P. II	A, B, C, E	Self-Assessment scripts
(12)	Pascual-Arias and Molina Soria (2020)	Quantitative (Non-experimental, descriptive)	6 (4 Early Childhood; 2 Early Childhood and Primary education) P. II	A, B, C, D, E	Self-rating Self-marking Rubric
(13)	Pérez-Torregrosa and Gallego-Arrufat (2021)	Mixed (Descriptive)	60 Early Childhood or Primary education P.I	A, B, C, D, E	Rubric
(14)	Portillo Vidiella and Cano García (2016)	Mixed (Longitudinal, Sequential comparative exploratory)	38 P. II	A, B, C, D, E	Self-rating Self-Assessment scripts
(15)	Portillo Vidiella et al. (2012)	Mixed (Sequential comparative exploratory)	69 P. II	A, B, C, D, E	Self-rating Self-Assessment scripts
(16)	Sampson et al. (2013)	Mixed (Sequential comparative exploratory)	18 Primary	A, B, C, D, E	Self-rating Self-Assessment scripts

ID	Authors	Research method	Sample (n)	Self-assessment of learning	Self-assessment tools
(17)	Sinclair (2008)	Mixed (Concurrent triangulation)	211 Primary	A, B, C, E	Self-rating
(18)	Tülüce and Çeçen (2016)	Qualitative (Case study)	13 EFL	A, B, C, E	Self-Assessment scripts
(19)	Yoo and Kang (2021)	Qualitative (Case study)	10 Preservice music teachers	C, D, E	Self-rating Self-Assessment scripts

Table 3. Selected articles.
Note: In the sample column, P. replaces the word practicum, followed by I, II, III, IV according to the tranches to which the samples belong, as indicated in the articles.

First, the **research approach** (RQ1) includes articles with quantitative, qualitative, or mixed approaches (see Table 3). The most prevalent research approach is qualitative, employed in seven of the analyzed articles (1, 6, 8, 10, 11, 18, 19). Research designs vary (see Table 3). The number of participants is relatively small, and eight studies do not provide information on the characteristics of the practicum.

Second, **STSA** during in teaching practicum (RQ2) involves self-assessment criteria A-E (see Table 3). The results indicate that criteria (C) and (E) are the most commonly addressed. The criterion reflection of practical learning (C) is present in eighteen articles, demonstrating reflection on behavior, competences, and opinions about practical learning. An indicator presents in all articles (N=19) is the attitude toward STSA (E). The indicators showing initiative and willingness to cooperate in STSA are present in all articles, while the indicator responsibility for quality of STSA is absent from seven (2, 3,4, 5, 9, 17).

The third and final category, **STSA systems** (RQ3), is based on the frameworks of Brown and Harris (2013) and Panadero-Calderón and Alonso-Tapia (2013) (see Table 3). The most frequently utilized technique, the self-assessment script, is employed in eleven of the analysed articles — either as the sole system in seven articles (1, 6, 7, 8, 10, 11, 18) or combined with self-rating in five articles (9, 14, 15, 16, 19).

DISCUSSION

Research approach

Studies of STSA adopt a range of approaches to teaching practicums, with a predominant qualitative reliance on qualitative methods — a trend in commonly observed in practicum studies (Lawson, Çakmak, Gündüz, & Busher, 2015). Mixed methods are infrequent, as is the use of quantitative study designs. Similar to self-assessment other studies in higher education (Papanthymou and Darra, 2018; Pastore, 2017) quasi-experimental and non-experimental designs are prevalent.

Increased empirical validity in STSA could be achieved by conducting more mixed-focus studies, particularly those incorporating quantitative approaches and experimental design. Several articles employed small case study samples, and even mixed-focus articles had relatively small participant number (under 70), with the exception of Sinclair (2008) (n=211). Quantitative articles, while providing strength, also pose also pose a potential weakness, as participants assess different types of practicums with varying goals, competences, commitments, and maturity levels.

Qualitative and case study methodologies are more common, often involving localized research in small contexts. However, the emphasis on qualitative methods is a limitation in STSA, considering the diverse nature, contexts, and characteristics of teaching practicums, which, in turn, hinders the generalization of results.

Students Teachers' Self-Assessment (STSA) in practicum

STSA content in teaching practicum is classified into the five criteria: knowledge, comprehension, reflection, planning, and attitude. Each criterion includes the following content indicators:

(A) The criterion **knowledge of STSA** most frequently includes the indicators knowledge of the structure and functions of STSA during the practicum. Student teachers are familiar with functions, structure, and how to use them — in writing or orally using different instruments — in formative and continuous assessment during the practicum. When students submit self-assessment scripts each week, they are aware of the structure and function of their self-assessments and ask to what extent they have achieved the qualities, strengths, and interactions in the classroom to improve, basing self-assessment on their evolution (Linn and Jacobs, 2015; Ozmantar, 2019).

These indicators also appear when they use self-assessment scripts in discussion with supervisors to recognize positive change and personal growth through self-assessment (Nickel et al., 2010).

The knowledge of how to use STSA in school practicums is only present in five articles (Aşık and Kuru Gönen, 2016; Linn and Jacobs, 2015; Ozmantar, 2019; Pascual-Arias and Soria, 2020; Pérez Torregosa et al., 2021). These articles focus on forums, student-tutor interaction, or observations. There is a need for a specific STSA task, such as incorporating targeted interventions in the classroom. This indicator is not usually used in teaching practicums. Although secondary education teachers evaluate its use, they typically do so verbally and without established criteria (Deneen et al., 2019), highlighting the necessity for training in self-assessment and peer assessment. Employing this indicator in the analysis of classroom dynamics would enable students to conduct self-observation, facilitating the development of their ability to self-regulate their learning (Panadero et al., 2016).

(B) The **comprehension** criterion **of STSA** has three indicators: criteria, use of results, and benefits. The indicator comprehension of STSA criteria appears when instruments are provided with criteria that must be understood for the purpose of self-assessment. Effective self-assessment requires clear, concise criteria in a manageable number (Portillo Vidiella & Cano Garcia, 2016). Understanding these criteria helps students develop reflexive, critical self-assessment (Aşık and Kuru Gönen, 2016; Linn and Jacobs, 2015; Pérez Torregosa et al., 2021), enabling them to question whether they possess pedagogical qualities and to what degree (Ozmantar, 2019). It also aids in assessing when positive changes and personal growth occur (Nickel et al., 2010), fostering self-regulation, and providing a more reflexive, justified view of their teaching at the end of the practicum (Pascual-Arias and Soria, 2020; Portillo Vidiella et al., 2012; Tülüce and Çeçen, 2016). The criteria can be provided before or during the teaching practicum. This practice benefits student teachers, as not having access to the criteria until after the practicum means they will probably discover aspects of their performance that should have been included from the beginning (Panadero et al., 2016).

Another uncommon indicator that can guarantee the quality of the learning process in school practicums in school practicums is the utilization of STSA results. This particular indicator heightens the awareness of student teachers regarding their teaching techniques, behavior, attitudes, and skills for teacher-student interaction in the classroom. It serves to identify potential areas for improvement (Guven et al., 2012; Linn and Jacobs, 2015). Student teachers not only a knowledge effective and ineffective practices but also face the challenge of reflecting on the possible causes underlying each observation (Nickel et al., 2010).

The third indicator, present in several studies, is comprehension of self-assessment benefits for professional development. STSA focuses on practical learning acquired, enabling awareness of competences needed, and identifying how to improve competences for greater professional development. Student teachers are aware of teaching techniques, classroom dynamics, and delivery of their lesson plans, and identify potential ways to improve Martín Gómez, García Rodríguez, Mena Marcos, et al. (2021) (MARTIN, 2020; Pascual-Arias and Soria, 2020; Pérez Torregosa et al., 2021). Further, they feel stimulated as positive change occurs and they perceive personal growth (Nickel et al., 2010). One element that can improve this indicator is the use of video-recordings to analyse student teachers' teaching practices in detail and increase their self-awareness (Tülüce & Çeçen, 2016). A self-assessment tool is a constructive strategy when combined with other strategies that support professional growth, such as peer review, tutors' observation of student teachers, feedback that focuses on teaching strategies (Ross & Bruce, 2007), peer discussions, individual sessions based on self-assessment reports (Linn and Jacobs, 2015; Tülüce and Çeçen, 2016), and meetings with the academic tutor to obtain feedback and reflect (Nickel et al., 2010; Portillo Vidiella and Cano Garcia, 2016; Portillo Vidiella et al., 2012; Sampson et al., 2013). It is important to incorporate these STSA strategies into the teaching practicum.

(C) One widely-used criterion is **reflection on practical learning**. Self-assessment of behavior, competences, and opinions about their experience in the practicum involves giving student teachers opportunities to reflect systematically. Self-reflection provides opportunities to establish specific goals and strategies, review progress, and adjust actions in class McFadden and Hindin (2012) Various procedures foster reflection: face-to-face tutorials or group discussions (Nickel et al., 2010; Pascual-Arias and Soria, 2020; Tülüce and Çeçen, 2016), blogs (Portillo Vidiella and Cano Garcia, 2016; Portillo Vidiella et al., 2012), online group discussion (Linn & Jacobs, 2015), video-recording of one's teaching (Aşık and Kuru Gönen, 2016; Tülüce and Çeçen, 2016; Yoo and Kang, 2021), and practicum diaries (Aşık and Kuru Gönen, 2016; Linn and Jacobs, 2015; Martín Gómez et al., 2021; Nickel et al., 2010; Pascual-Arias and Soria, 2020; Pérez Torregosa et al., 2021; Sampson et al., 2013). Most studies combine two or more procedures to foster reflection. Tülüce and Çeçen (2016) combine recordings, self-assessment scripts, and group discussions with tutors based on self-assessment reports. Yoo and Kang (2021) show that video-recordings enable analysis of one's teaching to perceive errors and find potential ways to improve. Recordings enable self-reflection and self-assessment, while increasing awareness of classroom dynamics, management, and other pedagogical and educational constructs, including how one could improve if one taught the class again.

Through reflection, student teachers understand the meaning of good educational practice (Nickel et al., 2010), observe and assess real situations in their profession, discover their fears as teachers (Ozmantar, 2019), and examine their abilities during their actions (McFadden & Hindin, 2012). According to McFadden and Hindin

(2012), clearly identified goals and opportunities to reflect and self-assess encourage students to focus on learning specific positive orientation strategies to interact with students. When applying reflection to teaching practicums, it is very important not only to narrate one's experience but also to go farther, decode that experience, refer to it, assess it, and integrate it into cognitive schemas. Combining various methods to achieve reflective practice helps students, since teaching reflection is fundamental to assessing teachers' professional performance, above all self-assessment performance. Training programs must include this criterion, as STSA can promote a self-critical process and provide enriching habits of reflection for future teaching. Teacher education has the potential to increase learning by promoting deeper reflection through the use of self-assessment tools (Samuels & Betts, 2007).

(D) Another criterion present in very few studies is **planning of future educational actions**, with indicators focusing on goals, development, and tasks. Student teachers can establish goals in the middle of the practicums to reflect, plan tasks to adapt their actions, identify specific examples of success, and address areas needing improvement (Martín Gómez et al., 2021; McFadden and Hindin, 2012; Pascual-Arias and Soria, 2020; Pérez Torregosa et al., 2021). Studies of STSA indicate that teaching without planning is not effective and underscore the importance of preparing plans in advance, identifying problems caused by insufficient knowledge about preparing plans, lack of experience, difficulty of classroom management, and tutors' insufficient time or interest (Guven et al., 2012). Portillo Vidiella et al. (2012) conducted an experiment using blogs as practicum diaries to self-assess planning actions. The blogs recorded that the most frequent competence was planning and development of teaching and learning activities. Aşık and Kuru Gönen (2016) involved student teachers in a continuous cycle of self-observation and self-assessment, in which they thought about what they had done, what in their plans worked well, what did not work in class, and how to improve future planning. The students indicated that this cycle made them aware of their planning skills.

Several studies have used video recordings in combination with self-assessment scripts (Aşık and Kuru Gönen, 2016; Tülüce and Çeçen, 2016) and video-recordings and self-rating (Yoo & Kang, 2021). These studies agree that students are aware of the improvements needed to make future planning more effective, especially in allocating their time more carefully.

The indicator anticipating the results of future educational actions appears infrequently in articles of STSA. It could, however, be complemented with results expected from the lesson plan script. After the lesson, students could also revisit, self-assess, and reflect on the plan. Another script for reporting after the lesson focused on self-assessment of one's action, such as whether the amount of time teaching coincided with time planned (Sampson et al., 2013). It is important for students to receive feedback and external motivation from tutors if student teachers perceive that self-assessment does not enable them to achieve what they planned. Otherwise, they may feel they have failed. Guven et al. (2012) warn that student teachers may perceive that they have not fulfilled their expectations, face challenges during the process, or define their teaching practice as difficult when they do not achieve the results expected from classroom management, discipline, communication, and respect from students.

(5) The criterion **attitude toward STSA** appears in all analysed articles. Student teachers show initiative and willingness to self-assess their practical learning but must have the tools to guide the analysis of their action and participation in order to foster reflective self-assessment. Based on comments, reflections, and scores in the studies, we conclude that students realize how the importance of self-assessment, although awareness of responsibility for the quality of self-assessment is less common. Since performing STSA as a final evaluation with self-marking makes it difficult to analyze this criterion, it is important that STSA be a processual assessment of practical learning and the student teachers' results based on predefined high-quality criteria that focus not only on scores but on understanding the procedure. Students must be able to learn from errors and achievements (Ross & Bruce, 2007). Furthermore, if tutors guide and encourage student teachers and provide feedback, student teachers can take more responsibility and improve every time. More studies are needed on student teachers' commitment to achieving high-quality self-assessment of their practical learning.

Student Teachers' Self-Assessment (STSA) Systems

STSA systems are varied. **Self-ratings** enable students to judge quantity and quality through scoring and feedback. Facilitating the effectiveness of self-assessment requires clear, concise instrument descriptors with a manageable number of competences (Portillo Vidiella and Cano Garcia, 2016; Yoo and Kang, 2021). One advantage of self-rating is the ease of comparing student teachers' scores with tutors' scores and/or of comparing students at different levels of the practicum (Portillo Vidiella & Cano Garcia, 2016). In contrast, Goh et al. (2009) obtain information about knowledge, skills, and confidence levels achieved by the end of the teaching practicum. Comments on scores for each item also improve understanding of responses. Self-ratings thus provide both qualitative information (understanding changes) and quantitative data, determining significant differences and student teachers' levels throughout the practicum — for example, by self-rating student motivation and commitment (Pascual-Arias and Soria, 2020; Sinclair, 2008).

Self-ratings can also be combined with self-assessment scripts (McFadden and Hindin, 2012; Portillo Vidiella and Cano Garcia, 2016; Portillo Vidiella et al., 2012; Sampson et al., 2013). Such combinations help to make students

more conscious of their actions during the school practicum (Sampson et al., 2013), gather information on how to develop their teaching knowledge and skills and identify their strengths and weaknesses (McFadden & Hindin, 2012). Instruments can be combined into blogs to help students be more aware of competences achieved when they are required to link blog publication to numerical labels (Portillo Vidiella & Cano Garcia, 2016). They can also serve (like a checklist) for tutors to include qualitative comments with feedback to students (Portillo Vidiella et al., 2012). This process facilitates a quick comparison of their scores with those of other classmates or tutors.

Self-marking enables student teachers to rate their work following specific standards or criteria, using items that focus on their teaching activity during the teaching practicum (Castaño et al., 2015; Gabarda Méndez et al., 2019; González-Garzón and Gutiérrez, 2012). Clearly defined standards or criteria using items encourages analysis and correlation among tutors' and students' scores. One negative aspect is administering self-ratings at the end of the practicum, as self-assessment takes on a summative character that focuses on the product. Self-assessment is more beneficial for practical learning when used formatively (H. L. Andrade, 2019). Another negative challenge is that students tend to assign higher scores than their tutors (Castaño et al., 2015). The consistency of self-assessment can be improved through experience, tutor feedback, guidelines, and promotion of reflective practice opportunities (H. L. Andrade, 2019; Castaño et al., 2015). Negative effects may also arise if student teachers do not receive feedback on their self-assessment or assess fewer aspects of their learning with the instrument. Introducing feedback as part of the STSA process would improve its performance: merely administering the self-assessment instrument encourages students to make less significant, more superficial reviews (Papanthymou & Darra, 2018).

Self-assessment scripts are the most frequently used technique, in various formats or in combination with other instruments. These scripts help student teachers in analyzing observed teaching practices, questioning actions, guiding learning toward reflection, gaining awareness of their behavior and attitudes, and recognizing their strengths as teachers and areas for improvement (Linn and Jacobs, 2015; Martín Gómez et al., 2021; Nickel et al., 2010; Ozmantar, 2019). When students address questions on the scripts in their reports, they focus on specific issues and articulate them in a developed and detailed manner, thereby enhancing their reflection skills. It is important to use clear criteria for self-assessment of practical learning about teaching (Diggelen, den Brok, & Beijaard, 2013).

Self-assessment scripts are also effective in combination with audio (Aşık & Kuru Gönen, 2016) or video-recordings (Tülüce and Çeçen, 2016; Yoo and Kang, 2021) as guides to focus STSA. These studies observe changes in the nature of self-assessment and reactions to successive use of the same scripts combined with recordings. The use of critical self-assessment increases, and self-assessments become less descriptive and more reflective at the end of the practicum, focusing on the student teacher's actions (Aşık and Kuru Gönen, 2016; Tülüce and Çeçen, 2016; Yoo and Kang, 2021). Successive scripts + recordings constitute a good system to improve the capability to self-regulate practical learning. Although scripts enable STSA at the end of the practicum, student teachers may not be able to correct the mistakes they identify (Panadero-Calderón & Alonso-Tapia, 2013). Video recordings can also serve as recorded models for future teachers. Baecher, Kung, Jewkes, and Rosalia (2013) compared two groups of student teachers, one with video models and the other without, before participants recorded and assessed their teaching. The results indicated that introducing video models reduced inflation of self-assessment scores and made the student teachers feel better prepared to evaluate themselves.

Administering scripts without assessment criteria is counterproductive, as it leads to confusing self-assessment with self-rating. It can prevent effective self-assessment, impeding proper self-regulation and learning (Panadero-Calderón & Alonso-Tapia, 2013). We recommend informing students about self-assessment with this instrument and, if possible, supporting them with tutor sessions to guide them toward self-assessment questions and with meetings to obtain feedback and reflect (Guven et al., 2012; Nickel et al., 2010). Greater benefits can be obtained if tutors introduce self-assessment during practicums, combining it with coaching. The idea is not to limit coaching to a single tutorial for fostering self-assessment or providing feedback. Linn and Jacobs (2015), and Paul et al. (2001) demonstrate the benefits, importance, and orientations of coaching for student teachers during practicum.

Rubrics are the least commonly utilized STSA system during teaching practicum. Pascual-Arias and Soria (2020) and Pérez Torregosa et al. (2021) employ a rubric based self-assessment diary for formative, progressive, and collaborative evaluations. Rubrics aid students in assessing their own progress and reflecting on the practical knowledge acquired during teaching practicum. They can utilized in their electronic version (e-rubric), as demonstrated by Pérez Torregosa et al. (2021) through the use of the CoRubric application.

CONCLUSIONS

This review offers an overview of the benefits of STSA, a synthesis of available empirical evidence on its efficacy in teaching practicum, and directions for future research. This evidence reveals the current state of STSA during teaching practicum.

Although self-assessment exists in higher education, few empirical studies analyse its use in teaching practicum. To implement self-assessment, tutors need greater agreement, not only on how to use STSA but also on how to homogenize it. This review is useful for homogenization. Research with larger samples is needed. The number of studies with large samples is limited.

The review indicates urgent need to analyze STSA in practicum using rubrics. Numerous studies demonstrate the positive impact of rubrics on learning, assessment, and grading (H. L. Andrade et al., 2009; Jonsson and Svingby, 2007). Incorporating rubrics into student-centered assessment helps students comprehend their learning goals and quality standards for specific tasks, enabling them to judge their work reliably to revision and improvement (Reddy & Andrade, 2010). Considering these benefits for student teachers, additional studies are warranted on the use of rubrics for self-assessment in practical learning during the practicum.

While self-assessment may not provide an instant solution for assessment challenges, over time, with commitment and sensitivity, it can assist student teachers in evaluating themselves as learners (Hinett & Weeden, 2000). Encouraging STSA from the onset of the teaching practicum familiarizes student teachers with assessing their decisions and various pedagogical options. This ensures that self-assessment becomes a valuable tool for their future professional development. Learning during this pre-professional phase has the potential to envolve into lifelong learning. Without introducing self-assessment from the beginning, it may become superficial when students become teachers, hindering its application in their daily work. Practicum administrators must recognize the importance of self-assessment and revise programs to include opportunities for student teachers to self-assess their practical learning. Tutors and administrators are urged to consider implementing self-assessment, following recommended steps such as developing a justification, establishing realistic objectives, teaching application of self-assessment criteria, providing sufficient time for review, and offering feedback and support post self-assessment. Prior research on self-assessment aligns with these recommendations (H. Andrade and Valtcheva, 2009; Hinett and Weeden, 2000).

Despite the potential benefits, this review indicates that self-assessment is not yet a fully established mode of pre-professional learning. STSA experiences in teaching practicum lack the necessary guidance for both tutors and student teachers and require greater homogeneity. Future studies exploring different systems and tools are crucial for enhancing the STSA experience in practicums and guiding those involved on how to effectively perform STSA.

One limitation of this study arises from its data source. The systematic review of these databases has the advantage of identifying high-quality international studies based on journal impact indexes. However, the reliance on these filters involves may pose a risk of excluding other high-quality studies by narrowing the selection of sources too rigidly.

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NOTAS DA OBRA E CONFORMIDADE COM A CIÊNCIA ABERTA

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