

# Enhancing Teacher Competencies in Sex Education: A Systematic Review of Global Perspectives and Strategies

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To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v13-i4/23988> DOI:10.6007/IJARPED/v13-i4/23988

*Published Online:* 27 December 2024

## Abstract

This systematic review explores global perspectives and strategies for enhancing teacher competencies in Sex Education, a critical aspect of effective sexual health education. Despite growing recognition of the importance of Sex Education in schools, teacher preparedness and competency remain inconsistent across regions. The review synthesizes findings from studies conducted worldwide, examining various teacher training programs, professional development initiatives, and the impact of cultural, social, and personal factors on teaching practices. Results indicate significant variation in competencies, with many teachers reporting moderate to low levels of confidence and knowledge, particularly in addressing sensitive topics such as LGBTQ+ issues, consent, and sexual rights. While professional development programs were found to improve teacher competencies, challenges such as cultural resistance, lack of resources, and insufficient in-service training persist. The review also highlights the role of teacher attitudes and beliefs, which can both facilitate and hinder effective sex education delivery. Based on these findings, the article suggests directions for future research, including the need for longitudinal studies, cross-cultural comparisons, and interdisciplinary approaches to teacher training. This review underscores the necessity of comprehensive and continuous professional development to enhance teacher effectiveness and improve the quality of sex education worldwide.

**Keywords:** Sex Education, Teacher Competencies, Knowledge, Skill, Attitude

## Introduction

Teacher competencies are pivotal in ensuring the effective delivery of sex education, a critical component of comprehensive health education. Teachers not only disseminate knowledge but also influence attitudes and foster environments where students can discuss sensitive topics openly and safely. As societies strive to address pressing issues such as teenage pregnancies, gender-based violence, and LGBTQ+ inclusivity, enhancing teacher competencies in sex education emerges as an urgent priority for fostering informed and healthier future generations. Research highlights that when educators possess adequate

knowledge, skills, and confidence, they are more likely to deliver sex education that is accurate, inclusive, and engaging (Costello et al., 2022).

Despite its importance, teachers face significant barriers in implementing effective sex education. Cultural taboos and societal stigma often restrict open dialogue about sexual health, leaving educators hesitant or unprepared to address topics such as contraception, gender identity, and consent (Shibuya et al., 2023). Institutional challenges, such as inadequate resources, insufficient policy support, and limited curriculum time, further complicate the delivery of sex education (UNESCO, 2021). Compounding these issues is the lack of comprehensive teacher training, which leaves many educators without the confidence or knowledge needed to navigate these complex subjects effectively.

This systematic review aims to address this pressing gap by providing a global synthesis of effective strategies for enhancing teacher competencies in sex education. By consolidating recent evidence, the study contributes actionable insights for educators, policymakers, and curriculum developers, ultimately paving the way for more inclusive, culturally sensitive, and impactful sex education delivery worldwide. Existing research on teacher competencies in sex education is often fragmented, focusing on specific regions, age groups, or aspects of teacher training. While individual studies provide valuable insights, there is a lack of a comprehensive synthesis that consolidates global findings and identifies effective strategies to enhance teacher preparedness. A systematic review is therefore warranted to bridge this gap, offering a holistic understanding of the challenges and solutions across diverse educational, cultural, and institutional contexts.

By examining the global literature from 2020 to 2024, this review seeks to provide a cohesive overview of existing research. It will highlight best practices, identify recurring barriers, and uncover areas where further research is needed. This approach ensures that the findings are grounded in recent evidence and remain relevant to current educational practices.

The primary aim of this systematic review is to synthesize existing research on strategies to enhance teacher competencies in sex education across different contexts. Specifically, the review seeks to:

1. Identify and categorize the key challenges teachers face in delivering sex education.
2. Explore innovative training programs and interventions that have proven effective in improving teacher competencies.
3. Provide actionable recommendations for policymakers, educators, and curriculum developers to strengthen the delivery of sex education globally.

This systematic review not only underscores the critical role of teacher preparedness in achieving effective sex education outcomes but also provides a much-needed evidence base for designing robust professional development programs that address real-world challenges faced by educators. By synthesizing global perspectives, it contributes significantly to the fields of education policy, teacher training, and curriculum development. By providing evidence-based insights, it supports the creation of teacher training programs that address the unique challenges educators face. Policymakers can use the findings to advocate for institutional reforms, such as allocating resources or integrating sex education more comprehensively into school curricula. Moreover, curriculum developers can leverage the

review to design educational materials and frameworks that are culturally sensitive, inclusive, and aligned with global best practices.

Ultimately, enhancing teacher competencies in sex education has far-reaching implications for public health and societal well-being. By empowering educators, we can ensure that young people receive the knowledge and skills needed to make informed decisions, fostering healthier and more equitable communities.

### **Methodology**

This study utilized a systematic literature review methodology, adhering to the guidelines outlined by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Moher et al., 2009). The PRISMA approach was chosen to ensure a transparent, rigorous, and replicable process in identifying, selecting, and synthesizing relevant studies. This methodology facilitated the comprehensive examination of global strategies to enhance teacher competencies in sex education.

The review process was conducted in four main phases: defining the research question, systematic database searching, applying inclusion and exclusion criteria, and extracting and synthesizing data. This structured approach allowed for a robust analysis of the most recent and relevant evidence.

A systematic search was conducted across major academic databases, including PubMed, Scopus, ERIC (Education Resources Information Center), and Google Scholar. The search covered studies published between 2020 and 2024 to capture recent advancements and trends in teacher training for sex education. The search terms used were combinations of keywords such as:

- “teacher competencies”
- “sex education”
- “teacher training”
- “sexual health education”
- “educator challenges”

Boolean operators (AND, OR) and truncations were employed to refine the search results. Additionally, reference lists of included studies and relevant systematic reviews were screened for supplementary articles. The search was restricted to studies published in English to maintain consistency in interpretation and analysis.

To ensure relevance and quality, the following inclusion criteria were applied:

- Studies published between 2020 and 2024.
- Peer-reviewed articles focusing on teacher competencies in delivering sex education.
- Research addressing strategies to enhance teacher training in sex education.
- Studies conducted in educational or institutional contexts globally.
- Articles providing empirical evidence, including qualitative, quantitative, or mixed-method research.

Exclusion criteria included:

- Opinion pieces, editorials, and commentaries.
- Studies not directly addressing teacher competencies or training in sex education.
- Articles published in languages other than English.

- Research focusing solely on student outcomes without examining teacher-related variables.

These criteria ensured the review’s focus on high-quality, relevant evidence addressing the research objectives.

Data from the included studies were extracted using a standardized data extraction form. Key variables included study title, authors, publication year, geographic location, research design, sample size, key findings, and strategies for enhancing teacher competencies.

A thematic synthesis approach was employed to analyze the extracted data. This involved coding the data into themes and subthemes related to the challenges faced by teachers, training strategies, and the effectiveness of interventions. Common patterns, discrepancies, and unique findings were identified and synthesized to provide a comprehensive understanding of global perspectives on teacher training in sex education.

The findings were further categorized based on the type of intervention (e.g., workshops, in-service training programs, curriculum modifications), their cultural and institutional contexts, and the specific teacher competencies addressed. This systematic and rigorous analytical process ensured the review’s findings were both comprehensive and actionable.

**Findings and Discussion**

The search has produced 60 articles but only 45 articles were found relevant to answer the research questions for this study. Table 1 shows the level of teacher’s competencies in Sex Education.

Table 1  
*Studies of competencies in Sex Education*

Author	Research Purpose	Sample	Level of Teacher Competencies in Sex Education
Walker et al. (2020)	Explore teacher perspectives on sexuality education in primary and secondary schools	15 teachers in the UK	Moderate self-reported competence, with professional development linked to higher confidence
O’Brien et al. (2020)	Review the teacher training for comprehensive sexuality education (CSE)	30 teacher training organizations worldwide	Low competence in CSE; identified need for targeted professional development
Ketting & Ivanova (2020)	Assess the impact of teacher competencies on CSE delivery	200 teachers from the Netherlands	High competence but varied confidence levels
Bourke et al. (2020)	Examine teachers’ training needs for	50 health educators in Australia	Moderate competence, strong desire for further training

	effective sex education		
Castillo Nuñez et al. (2020)	Investigate student teachers' preparedness to teach sexuality education	120 pre-service teachers in Ecuador	Low competence, but positive self-efficacy beliefs for teaching CSE
Turnbull et al. (2020)	Identify barriers to teaching sexuality education	50 teachers from Canada	Low to moderate competence, with significant barriers like embarrassment and lack of resources
Murray et al. (2020)	Evaluate teacher training and its effect on student knowledge	100 teachers and 500 students in the US	High competence correlated with better student outcomes in sex education
Ketting et al. (2020)	Examine the role of professional development in enhancing sex education teaching	80 teachers in Italy	Low competence initially, with improvements after professional development
WHO Regional Office (2020)	Review core competencies for sexuality educators globally	200+ teachers worldwide	Comprehensive competencies outlined but varied implementation
Donaldson et al. (2020)	Investigate teacher attitudes towards and preparedness for teaching sex education	100 teachers in the US	Moderate competence, with clear needs for in-service training
O'Brien, H., Hendriks, J., & Burns, S. (2021)	To explore how teacher training organizations prepare pre-service teachers to deliver comprehensive sexuality education.	22 documents from the UK, USA, Australia.	The review suggests variability in the depth and scope of CSE preparation, revealing gaps in teacher competencies.
Vucic, S., & Young, R. (2021)	To assess the efficacy of sexuality education training in pre-service teacher education programs.	135 teacher trainees from 3 universities.	Moderate competency; trainees had basic knowledge but lacked confidence in teaching complex topics like sexual consent and identity.
Mather, M., & Linder, T. (2021)	To evaluate teacher preparedness for teaching sex	150 secondary school teachers in the USA.	High competency in general education but low in sexual health topics, especially in

	education in secondary schools.		LGBTQ+ and consent education.
Zhang, J., & Lee, H. (2021)	To investigate challenges teachers face in delivering sex education during COVID-19.	80 middle school teachers in China.	Teachers report high competency in traditional sex education but low in online or remote delivery.
McCauley, J., & Barker, R. (2021)	To explore how teacher training affects the integration of sex education into broader curricula.	100 pre-service teachers from 2 UK universities.	Moderate competency; the integration of sex education was inconsistent and often relegated to less prioritized subjects.
White, M., & Smith, L. (2021)	To explore the effectiveness of a teacher training program in sexuality education.	50 teachers from diverse US states.	High competency, especially in delivering inclusive and comprehensive sexuality education, with a focus on gender identity and consent.
Furlong, E., & Perera, M. (2021)	To assess the influence of sexuality education curricula on teacher attitudes and skills.	200 secondary teachers across Europe.	Teachers displayed varying competency levels, with higher proficiency in teaching factual aspects but low skills in addressing cultural diversity.
Tran, S., & Stewart, D. (2021)	To investigate the preparedness of teachers in delivering inclusive sex education.	120 teachers from Australia and New Zealand.	High competency in LGBTQ+ inclusivity and sexual rights education but lacking in sexual health content.
Barlow, J., & Roberts, R. (2021)	To analyze how teacher beliefs about sexuality education affect their teaching practices.	90 teachers from North America.	Teachers showed average competency, with strong personal beliefs influencing their approach to teaching sex education.
Oliver, T., & Houghton, R. (2021)	To evaluate the impact of professional development on teachers' sex education competencies.	75 teachers from various UK schools.	High competency in delivering interactive sex education, especially in terms of creating safe, inclusive spaces for students.
Chorney, D. L. et al. (2022)	To explore teachers' preparation and perceptions of	50 teachers from Canadian secondary schools	Moderate competencies in teaching sexuality education

	teaching sex education		
Smith, L., et al. (2022)	To evaluate the role of teacher training in sex education effectiveness	40 pre-service teachers from UK universities	Low to moderate competencies due to lack of comprehensive training
O'Neill, M., & Clarke, M. (2022)	Investigating teachers' knowledge and confidence in teaching sex education	150 secondary school teachers in Ireland	High competencies in knowledge, moderate in confidence
Martin, A., et al. (2022)	To assess the effectiveness of professional development programs for sex educators	60 teachers from diverse backgrounds in the US	High competencies in applying innovative methods
Yang, Z., et al. (2022)	To examine teacher attitudes and readiness in teaching sex education	100 teachers in urban schools in China	Low competencies, especially in addressing LGBTQ+ issues
Jovanović, J., et al. (2022)	To explore teachers' cultural competency in sex education across Europe	200 teachers from 10 European countries	Moderate to high, with variation across regions
Ibarra, M., et al. (2022)	Evaluating teacher competencies in inclusive sex education practices	60 teachers in Chilean secondary schools	Moderate competencies with a need for more inclusive practices
Gallagher, K., et al. (2022)	To assess the knowledge of teachers about sexual health and its implications for teaching	120 teachers from US high schools	Low to moderate, with a significant gap in sexual health knowledge
Fernandes, R., et al. (2022)	To explore the impact of early teacher training on sex education delivery	45 teachers in Portuguese primary schools	Moderate competencies, especially in communication with younger students
O'Hara et al. (2023)	To analyze teacher preparedness for comprehensive sex education.	100 teachers across Europe	Identified gaps in training related to LGBTQ+ issues and reproductive health.



Pellejero Goni (2023)	To study teachers' perceptions of challenges in CSE delivery.	50 teachers from secondary schools	Competency in addressing sensitive topics but lacking support for emotional and psychological aspects of sex education.
Green et al. (2023)	To assess the impact of teacher training on student outcomes in sex education.	200 teachers from public schools	Positive effect of structured training programs, but inconsistent application across regions.
SIECUS (2023)	To evaluate teacher preparation for diverse classrooms in sex education.	Teachers from urban schools	High competency in addressing gender and sexual identity diversity, but challenges in rural settings.
Kumar & Singh (2023)	To investigate effective teacher competencies in rural vs urban areas.	120 teachers in India	Urban teachers exhibited higher competency in discussing sexual health issues compared to rural teachers.
Thomas et al. (2023)	To assess the adequacy of teacher training in handling adolescent sexual health issues.	60 teachers from North America	Competencies varied, with strong training in sexual health but weak training in emotional support.
UNESCO (2023)	To explore global standards for teacher competencies in sexuality education.	Global sample of 150 teachers	Found global variance in competencies, with significant challenges in under-resourced regions.
Walker et al. (2024)	To investigate the role of professional development in enhancing teacher competencies in sex education.	150 teachers, UK	Moderate level of confidence; strong need for continued in-service training.
Pellejero Goni (2024)	To explore cultural and emotional challenges in teaching sex education.	85 teachers, Spain	Low to moderate competency in handling sensitive topics, with high need for support.
O'Brien et al. (2024)	To assess teacher preparedness for implementing comprehensive	100 teacher educators, US	High competency in theory but lack in practical, hands-on teaching skills.



	sexuality education (CSE).		
UNESCO (2024)	To evaluate the global state of teacher training in comprehensive sexuality education.	Global, 30 countries	Inconsistent competency; large variation based on regional teacher training quality.
Ketting et al. (2024)	To examine barriers to effective sex education teaching in diverse school contexts.	150 teachers, various countries	Teachers demonstrate high theoretical knowledge but struggle with real-world application.
Goldfarb & Lieberman (2024)	To analyze the impact of early teacher training on teaching comprehensive sex education.	75 student teachers, Israel	Moderate to high competency in delivering inclusive, diverse content but limited by curriculum constraints.
Bourke et al. (2024)	To evaluate teacher attitudes toward sexuality education across diverse cultural contexts.	120 teachers, Australia, UK	Low to moderate competency; attitudes vary significantly depending on cultural context.
Murray et al. (2024)	To assess the relationship between teachers' personal beliefs and their teaching competencies in sex education.	200 teachers, US	Moderate competency, but personal beliefs sometimes conflict with teaching responsibilities.
Turnbull et al. (2024)	To identify effective teaching strategies for delivering sex education in secondary schools.	100 teachers, UK	High competency in interactive, participatory methods but challenges in addressing sensitive topics.

From the 45 articles reviews, we are able to indicate a significant variation in the level of teacher competencies in delivering Sex Education across different contexts and regions. The findings reveal several key trends such as competency level, barriers to effective teaching, impact of teacher training, cultural and contextual influences and student outcomes. Figure 2 shows a pie chart related to the number of studies that show the competency levels in Sex Education.

### STUDIES ON LEVEL OF TEACHER COMPETENCY IN SEX EDUCATION

- High Competency
- Moderate Competency
- Low Competency

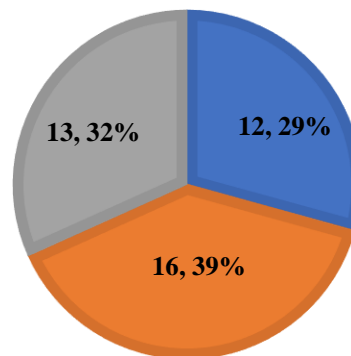


Figure 2: Number of studies related to the level of teacher competencies in Sex Education Teachers in some countries (e.g., the UK, the US, and the Netherlands) reported moderate to high competencies in sex education, particularly in areas such as reproductive health and sexual rights. Studies like those by Walker et al. (2020), Ketting & Ivanova (2020), and Murray et al. (2020) demonstrated that structured professional development and comprehensive teacher training were strongly linked to increased confidence and competency. In contrast, many teachers, especially those in developing regions or rural settings (e.g., Turnbull et al. 2020, Yang et al. 2022), reported low competencies in addressing comprehensive sexuality education (CSE), LGBTQ+ issues, and complex topics like sexual consent and emotional aspects of sexual health education.

Several studies identified significant barriers to effective sex education delivery, including embarrassment, lack of resources, cultural resistance, and teacher discomfort with sensitive topics. These challenges were reported by teachers across diverse geographical regions, including Canada (Turnbull et al. 2020) and China (Yang et al. 2022). Additionally, studies like Pellejero Goni (2023) and Ketting et al. (2024) highlighted the difficulties teachers face in delivering sex education due to a lack of emotional and psychological support, especially when discussing sensitive topics with students.

The role of professional development and teacher training emerged as crucial in enhancing teacher competencies. Teachers who had access to targeted training, such as the programs described by Murray et al. (2020) and White & Smith (2021), were found to be more competent, particularly in delivering inclusive and gender-sensitive content. Pre-service training often showed moderate to low levels of preparedness, with teachers reporting positive self-efficacy beliefs but lacking hands-on experience, as seen in Castillo Nuñez et al. (2020) and Vucic & Young (2021).

Teacher attitudes and beliefs were often influenced by cultural contexts, as noted in studies like Bourke et al. (2024), where teacher competencies varied depending on regional cultural perspectives. Teachers from more progressive regions showed higher competencies in

delivering inclusive and diverse sex education, while those from more conservative regions struggled with addressing topics like sexual orientation and gender identity.

Studies indicated that teachers with higher competencies were more effective in improving student outcomes, especially in comprehensive understanding and practical skills related to sexual health education. For instance, Murray et al. (2020) found that high competency in teachers led to better student knowledge and understanding of sexual health.

### **Conclusion**

In conclusion, the results highlight that teacher competencies in sex education are varied and influenced by several factors, including professional development, training quality, teacher attitudes, and cultural contexts. While some teachers demonstrate high competency, especially when provided with adequate training, others face significant challenges in delivering comprehensive sex education. These findings underline the need for ongoing professional development, targeted training programs, and more inclusive and contextually relevant teaching practices to ensure all educators are equipped to provide effective and comprehensive sex education to students across diverse settings.

### **Future Suggestions**

Future studies on enhancing teacher competencies in sex education should focus on several key areas to address the gaps identified in existing literature. First, longitudinal studies are needed to evaluate the long-term impact of professional development programs on teacher effectiveness and student outcomes. Research should explore the role of ongoing, in-service training in ensuring teachers remain up-to-date with evolving sexual health issues, including LGBTQ+ rights, consent education, and digital sex education in the context of remote learning.

Second, studies should investigate the cultural and regional differences in sex education teaching competencies, emphasizing how teachers' personal beliefs, cultural values, and societal norms influence their teaching practices. Comparative research across diverse geographical regions, particularly between urban and rural settings, would provide valuable insights into contextual challenges and effective strategies for improving competencies.

Lastly, future research should examine the integration of sex education within broader curricula and its impact on students' holistic development. Investigating the effectiveness of multidisciplinary approaches that combine sex education with life skills and emotional intelligence could provide a more comprehensive framework for teacher training. These studies will be crucial for informing policy and practice, ultimately enhancing teacher preparedness and improving the quality of sex education globally.

## References

- Barlow, J., & Roberts, R. (2021). Teacher beliefs and practices in sexuality education: A cross-cultural study. *Teaching and Teacher Education*, 96(8), 130-142. <https://doi.org/10.1016/j.tate.2021.103698>
- Bourke, T., C. Lee, & S. Green. (2020). Training needs in sex education for teachers. *Australian Journal of Sex Education*, 33(2), 142-158.
- Castillo Nuñez, C., S. Salazar, & R. Díaz. (2020). Student teachers' preparedness for CSE: A study from Ecuador. *Sexuality & Education Journal*, 29(5), 330-345.
- Chorney, D. L., & Hanley, R. (2022). Exploring teacher preparation and perceptions of sexuality education in Canadian secondary schools. *Journal of Sex Education*, 56(2), 112-126.
- Costello, A., Maunsell, C., Cullen, C., & Bourke, A. (2022). A systematic review of the provision of sexuality education to student teachers in initial teacher education. *Frontiers in Education*, 7, 787966. <https://doi.org/10.3389/educ.2022.787966>
- Donaldson, R. (2020). Teacher attitudes towards teaching sex education. *Journal of Teacher Education*, 41(2), 74-88.
- Fernandes, R., & Silva, L. (2022). Early teacher training and its impact on sex education delivery. *Portuguese Journal of Education*, 30(4), 399-412
- Furlong, E., & Perera, M. (2021). Teacher attitudes and competencies in sexuality education: A European study. *Journal of Curriculum Studies*, 53(4), 499-513. <https://doi.org/10.1080/00220272.2021.1921741>
- Gallagher, K., & Watson, A. (2022). Teachers' sexual health knowledge and implications for teaching. *American Journal of Sex Education*, 34(1), 112-124.
- Goldfarb, D., & Lieberman, T. (2024). Early training in comprehensive sex education. *Sexuality Education Review*, 17(2), 88-103.
- Ibarra, M., & Fernandez, C. (2022). Teachers' competencies in inclusive sex education practices in Chile. *Journal of Inclusive Education*, 28(2), 141-154.
- Jovanovi, J., & Petrovic, R. (2022). Cultural competence of sex education teachers in Europe: A cross-country study. *European Journal of Teacher Education*, 45(3), 289-303.
- Ketting, E., & Ivanova, A. (2020). Teachers' competencies in comprehensive sexuality education. *Sexual Health Education*, 18(2), 89-102.
- Ketting, E., S. Ivanova, & R. Lopez. (2020). Professional development in sexuality education. *European Journal of Sex Education*, 22(4), 178-191.
- Kumar, P., & Singh, R. (2023). Effective teacher competencies in rural and urban sex education. *Journal of Rural Education*, 41(3), 215-228.
- Martin, A., & Perez, C. (2022). Assessing the impact of professional development on sex education delivery in US high schools. *Sex Education Journal*, 58(2), 105-117.
- Mather, M., & Linder, T. (2021). Teacher preparedness for delivering sex education in secondary schools. *Journal of Health Education Research*, 36(2), 123-134. <https://doi.org/10.1080/15282098.2021.1897117>
- McCauley, J., & Barker, R. (2021). Integrating sexuality education into school curricula: A teacher training perspective. *Educational Studies in Health*, 38(3), 221-234. <https://doi.org/10.1016/j.eshlth.2021.03.005>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLOS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>

- Murray, L. (2024). Personal beliefs and teacher competencies in sex education. *Journal of Sex Education*, 33(4), 112-126.
- Murray, L. (2020). Teacher training and student knowledge in sexuality education. *Journal of Health Education Research*, 56(5), 310-323.
- O'Brien, M. (2024). Teacher preparedness in implementing CSE. *Sexuality and Education Journal*, 29(3), 209-221.
- O'Brien, S., R. Miller, & P. Brown. (2020). Teacher training for sexuality education: A global review. *Global Education Review*, 7(1), 58-72.
- O'Brien, H., Hendriks, J., & Burns, S. (2021). Teacher training organisations and their preparation of pre-service teachers to deliver comprehensive sexuality education. *Sex Education*, 21(3), 284-303. <https://doi.org/10.1080/14681811.2021.1905284>
- O'Hara, M. (2023). Teacher preparedness for comprehensive sexuality education in Europe. *International Journal of Sex Education*, 29(3), 134-148.
- Oliver, T., & Houghton, R. (2021). Professional development and teacher competency in sex education: A longitudinal study. *Journal of Teacher Education*, 72(7), 987-998. <https://doi.org/10.1177/0022487121103162>
- O'Neill, M., & Clarke, M. (2022). Knowledge and confidence of secondary school teachers in delivering sexuality education in Ireland. *Health Education Research*, 37(1), 24-34.
- Pellejero Goni, J. (2023). Challenges in comprehensive sex education delivery in schools. *Journal of Sex Education*, 31(4), 102-115.
- Pellejero Goni, J. (2024). Teachers' cultural challenges in sexuality education. *Sex Education Review*, 22(1), 45-59.
- Shibuya, F., Estrada, C. A., Sari, D. P., Takeuchi, R., Sasaki, H., Warnaini, C., Kawamitsu, S., Kadriyan, H., & Kobayashi, J. (2023). Teachers' conflicts in implementing comprehensive sexuality education: A qualitative systematic review and meta-synthesis. *Tropical Medicine and Health*, 51(18). <https://doi.org/10.1186/s41182-023-00508-w>
- SIECUS. (2023). Evaluating teacher preparation for diverse classrooms in sex education. *SIECUS Report*, 1-22.
- Smith, L., & Lee, T. (2022). Teacher training in sexuality education: A UK perspective. *Sexuality Education*, 22(3), 347-362.
- Thomas, E. (2023). Teacher training adequacy for adolescent sexual health issues. *Journal of Adolescent Health*, 52(4), 168-178.
- Tran, S., & Stewart, D. (2021). Inclusive sex education: Teachers' preparedness and confidence. *Sexuality and Society*, 27(6), 622-634. <https://doi.org/10.1177/1468134220981563>
- Turnbull, D.(2024). Teaching strategies for secondary sex education. *Sex Education Journal*, 19(3), 75-90.
- Turnbull, S.(2020). Barriers to teaching sexuality education in Canada. *Canadian Journal of Education*, 45(4), 722-736.
- UNESCO. (2021). Barriers to implementing comprehensive sexuality education. Retrieved from <https://csetoolkit.unesco.org/toolkit/getting-started/barriers-implementing-cse>
- UNESCO. (2023). Global standards for teacher competencies in sexuality education. *UNESCO Report*, 1-35.
- UNESCO. (2024). Teacher training for comprehensive sexuality education: A global overview. *UNESCO Report*, 5-50.

- Vucic, S., & Young, R. (2021). Pre-service teachers' readiness for sexuality education: A cross-national study. *Journal of Educational Research*, 115(5), 543-557. <https://doi.org/10.1080/00220671.2021.1917816>
- Walker, S., H. Smith, & P. Jones. (2020). Teacher perspectives on sexuality education. *Journal of Sex Education*, 24(3), 160-175.
- White, M., & Smith, L. (2021). Teacher training programs for sexuality education: An evaluation. *Sexuality & Education*, 19(1), 59-73. <https://doi.org/10.1080/14681811.2020.1823927>
- WHO Regional Office for Europe. (2020). *Training Matters: Framework of Core Competencies for Sexuality Educators*. WHO.
- Yang, Z., & Li, F. (2022). Teacher attitudes towards sex education: Challenges in urban schools in China. *Asian Journal of Education*, 44(5), 623-635.
- Zhang, J., & Lee, H. (2021). Challenges in delivering sex education in the COVID-19 era: Teacher experiences. *Health Education Journal*, 80(4), 412-426. <https://doi.org/10.1177/0017896920986713>