

Investigating the Relationship between Pre-service Social Studies Teachers Professional Knowledge and Motivational Orientation in Nigerian Universities

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ABSTRACT

This research examines the relationship between the professional knowledge and motivational orientation of prospective Social Studies educators in South-South Nigerian public universities. Employing a survey design, the study encompasses a population of 866 pre-service Social Studies teachers across state and federal universities within the South-South geopolitical zone. A sample of 446 participants was drawn from the population. Data collection involved an achievement test measuring content knowledge and pedagogical content knowledge, alongside a "Social Studies Pre-Service Teachers' Motivational Orientation Questionnaire" comprising self-efficacy and interest sections. Descriptive statistics including mean and standard deviation addressed the research questions raised in the study, while the hypothesis formulated was analyzed using Pearson Product Moment Correlation (r). Results unveiled a moderate, significantly positive correlation between professional knowledge and motivational orientation among pre-service Social Studies teachers. As an implication, the study underscores the potential predictive utility of professional knowledge in determining motivational orientation. This study makes significant contributions to the existing body of knowledge. One key finding is that pre-service Social Studies teachers in universities located in South-South Nigeria exhibit both high levels of professional knowledge and a strong motivational orientation. Furthermore, the study aligns with prior research by confirming a notable correlation between professional knowledge and motivational orientation.

Article History:

Received 2023-08-15

Accepted 2023-11-06

DOI:

10.56916/ejip.v3i1.488

Keywords: professional knowledge; motivational orientation; pre-service social studies teachers; south-south nigeria; public universities

1. INTRODUCTION

In recent years, there has been an increased emphasis on the effectiveness of teacher education programs and their impact on producing high-quality educators. Education plays a vital role in societal development, making the pursuit of quality education a priority for many countries, including Nigeria. Teachers are integral to this pursuit, with quality education hinging on the competence of educators.

Among specialized fields, Social Studies education holds a unique position, fostering critical thinking, civic engagement, and societal awareness among students and requires quality teachers to effectively achieve this in learners. The efficacy of Social Studies instruction as in any other specialized domain is underpinned by two pivotal factors: professional knowledge and motivational orientation of teachers. These elements are essential for effective pedagogy and student engagement. This study delves into the complex interaction between professional knowledge and motivational orientation among pre-service Social Studies teachers in Nigeria's South-South geo-political zone. Understanding this



relationship is essential not only for enhancing teachers' overall competence but also for shaping the trajectory of Social Studies education in the region.

Teachers' effective handling of the multifaceted demands inherent to the teaching profession necessitates a combination of abilities and skills, collectively termed as "teachers' professional competence" (Baumert & Kunter, 2006). This encompasses not only professional knowledge but also motivational orientations, self-regulation abilities, and beliefs. Motivational orientations, distinct from self-regulation abilities, encompass the desires and external factors driving individuals' motivation (Kunter, 2013). Professional knowledge, a foundational element, includes content knowledge, pedagogical content knowledge (PCK), and pedagogical knowledge (PK) (Shulman, 1986). While past research primarily focused on content and pedagogical knowledge development, the motivational orientations of Social Studies teachers-in-training, encompassing self-efficacy and interest remain understudied.

Motivational orientations, rooted in intrinsic and extrinsic factors, significantly influence teaching and learning outcomes, impacting aspects like curiosity, persistence and willingness to learn and take up new task as well as overall performance (Baumert & Kunter, 2006). This study therefore adopts a comprehensive approach by addressing both cognitive (self-efficacy) and affective (interest) dimensions of motivational orientations, aligning with Kunter, Frenzel, Baumert, Nagy and Pekrun's (2011) framework. Self-efficacy, grounded in an individual's assessment of their competence and task management (Bandura, 1994), constitutes the cognitive aspect of motivational orientations. While teacher interest which is a crucial factor shaping commitment and fulfillment in teaching, impacting teaching quality and student outcomes (Hidi, Renninger, & Krapp, 2004) is the affective aspect of motivational orientation. High self-efficacy among teachers is associated with innovative teaching practices and positive student achievement (Woolfolk-Hoy, 2005). This self-efficacy is vital for building teachers' confidence in their ability to teach effectively, which in turn influences their classroom behavior and educational goals.

While the correlation between professional knowledge and teacher motivational orientation remains relatively unexplored in Nigeria, studies indicate links between teacher self-efficacy and subject knowledge (Riese & Reinhold, 2016). Additionally, connections between teachers' academic self-concept and professional knowledge have been established (Paulick, Großschedl, Harms, & Möller, 2016). This study therefore seeks to contribute valuable insights to teacher education and pedagogical development in Nigeria by meticulously exploring the interplay between professional knowledge and motivational orientation. By analyzing this relationship across public universities in the South-South region, the study aims to inform educational policymakers, curriculum designers, and teacher training programs. The findings hold potential for enhancing the effectiveness of Social Studies education and promoting holistic pre-service teacher development.

Statement of the Problem

The educational landscape in Nigeria is plagued by challenges such as inadequate infrastructure, insufficient funding, poor teacher quality and ineffective policy implementation. These issues have hindered students' ability to apply their learning to real-life situations and address societal problems as expected. While these factors have been widely discussed, limited attention has been given to the crucial role of teachers' professional knowledge and their motivational orientation, particularly in the context of Social Studies education. This neglect is further exacerbated by the pressing need to address the multifaceted challenges that have impeded effective Social Studies instruction in Nigerian schools. Therefore, a thorough exploration of the intricate relationship between teachers' professional knowledge and their perceived self-efficacy and interest is essential. Understanding this interplay is paramount for deriving implications that can enhance the teaching of Social Studies and contribute to the professional development of teachers in this critical domain.

Research Questions

To guide this study, the following research questions were raised:

1. What is the level of professional knowledge (content knowledge and pedagogical content knowledge) of pre-service Social Studies teachers in selected universities in Nigeria?
2. What is the level of motivational orientation (self-efficacy and Interest) of pre-service Social Studies teachers in selected universities in Nigeria?
3. Is there a relationship between pre-service Social Studies teachers' professional knowledge and their motivational orientation?

Hypotheses

To achieve the objectives of the study, research question three (3) was hypothesized as follows: There is no significant relationship between the professional knowledge and motivational orientation of pre-service Social Studies teachers in selected universities in Nigeria.

2. METHODS

This study utilized a survey research design to investigate the correlation between pre-service Social Studies teachers' professional knowledge and their motivational orientation. The research encompassed a population of 866 pre-service teachers from state and federal universities within Nigeria's South-South geopolitical zone, with a sample size of 446 participants selected through a multi-stage sampling process. The selection process involved purposive sampling to identify universities offering Social Studies Education, followed by proportionate stratified random sampling to choose 50% of pre-service teachers. Two instruments were employed for the study; the first instrument was an achievement test, custom-developed by the researcher and contained the professional knowledge scale, specifically tailored to evaluate pre-service Social Studies teachers' content knowledge and pedagogical content knowledge. The content knowledge items (1-15) were formulated by analyzing national teacher education policy documents and Social Studies curricula from various Nigerian universities offering the program. The pedagogical content knowledge items (16-30) encompassed aspects such as the knowledge of the Social Studies curriculum, instructional strategies, assessment, student understanding, and classroom management. The second instrument, a questionnaire, gauged pre-service teachers' motivational orientation, namely self-efficacy and interest. Section A focused on self-efficacy and was adapted from the Teachers' Sense of Efficacy Scale (TSES) by Tschannen-Moran and Woolfolk Hoy (2009), tailored to Social Studies. It contained 24 items categorized into efficacy in student engagement, instructional practices/strategies, and classroom management. Section B measured interest, adapted from the Study Interest Questionnaire (SIQ; Schiefele, Krapp, Wild & Winterler, 1993), containing 18 items divided into feeling-related, value-related, and intrinsic orientation components. Two experts in Social Studies education and an expert in educational measurement and evaluation carried out face validity while a table of specification was prepared to ensure content validity of the achievement test. To assess the reliability of the instrument for measuring professional knowledge, the Kuder-Richardson formula 20 (KR-20) was employed, resulting in a computed reliability value of 0.65. For self-efficacy and interest, internal consistency reliability (Cronbach alpha) was used, revealing coefficient values of 0.93 and 0.69, respectively. These findings indicate that the instruments were reliable and appropriate for the study's purposes. Mean and standard deviation were used to answer research questions 1 & 2 and research question 3 was hypothesized and tested using Pearson Product Moment Correlation statistic (r) at 0.05 alpha level.

4. RESULTS AND DISCUSSION

The research questions and the hypothesis raised for the study were carefully analyzed and tested respectively as follows:

Research Question 1: *What level of Professional Knowledge (Content and Pedagogical content knowledge) do pre-service Social Studies teachers possess?*

Table 1. Descriptive Statistics of Professional Knowledge of Pre-service Social Studies Teachers

Variable	Components	N	Sum	Mean	Std. Dev	Criterion	Remarks
Professional Knowledge	Content Knowledge	446	3645	8.17	2.48	7.5(50%)	High
	Pedagogical Content Knowledge	446	3541	7.94	2.65	7.5(50%)	High
	Total	446	7186	16.11	4.45	15(50%)	High

The level of content knowledge (CK) and pedagogical content knowledge (PCK) by pre-service teachers was determined by the range score of 0-15 (0-50%) = below average and 16-30 (51-100%) = above average, since the total obtainable score is 15 for CK and 15 for PCK, making a total of 30 combined. Table 1 show that the mean score of pre-service Social Studies teachers CK and PCK total was 16.11 and this falls within the average level category. This implies that majority of the pre-service Social Studies teachers have above average level of CK and PCK in Universities in South-South, Nigeria.

Research Question 2: *What level of Motivational Orientation (Self-Efficacy and Interest) do pre-service Social Studies teachers possess?*

Table 2. Descriptive Statistics of Motivational Orientation (Self-Efficacy and Interest) of pre-service Social Studies teachers

Variable	Components	N	Sum	Mean	Std. Dev	Scale Mean	Remarks
Motivational Orientation	Self-Efficacy	446	42335	94.92	17.87	72.0	Above Scale Mean
	Interest	446	28412	63.70	11.38	54.0	Above Scale Mean
	Total	446	70747	158.63	25.67	126.0	Above Scale Mean

Table 2 shows the descriptive data for the motivational orientation (self-efficacy and interest) of pre-service Social Studies teachers. The mean self-efficacy score is 94.92 with a standard deviation of 17.87, while the mean interest score is 63.70 with a standard deviation of 11.38. The combined total mean for both self-efficacy and interest is 158.63, with a standard deviation of 25.67. The mean values were all higher than their Scale Mean. Therefore it is concluded that the level of motivational orientation (Self-Efficacy and Interest) of pre-service Social Studies teachers is high.

Hypotheses Testing

Hypothesis 1: *There is no significant relationship between Pre-Service Social Studies Teachers' Professional Knowledge and their Motivational Orientation*

Table 3. Pearson Correlation showing the Relationship between Professional Knowledge and Motivational Orientation of Pre-Service Social Studies Teachers

Variables	N	R	p-value	Remarks
Professional Knowledge	446	.429	.01	Significant
Motivational Orientation				

$\alpha = .05, \quad p < .05$

Table 3 presents the Pearson correlation analysis depicting the relationship between professional knowledge and motivational orientation among 446 pre-service Social Studies teachers. The correlation coefficient (r) between professional knowledge and motivational orientation is 0.429, indicating a significant positive relationship ($p = 0.01$, $\alpha = 0.05$, $p < 0.05$). Therefore, the null hypothesis "there is no significant relationship between pre-service Social Studies teachers' professional knowledge and their motivational orientation" is hereby rejected. Hence there is a significant relationship between the two variables- professional knowledge and motivational orientation.

Discussion of Findings

The study revealed that the professional knowledge (content and pedagogical content knowledge) of prospective Social teachers is above-average. This result is consistent with the study by Pinamang and Penrose (2017), which found excellent content knowledge among pre-service teachers, but contradicts their findings on low pedagogical content knowledge. In contrast to the observations of Obeng, Opare, and Dzinyela (2003), who noted weak subject matter content knowledge among trainees, and the studies by Botha and Reddy (2011) and Sarkin (2004) reporting low pedagogical content knowledge levels among pre-service teachers in South Africa and Indonesia, respectively, this study revealed higher levels of professional knowledge. The above-average level of professional knowledge is encouraging, suggesting a positive impact on future teaching quality and student learning, consistent with Ogar's study (2006) which associated effective teachers with student progress in content and pedagogical knowledge. Durosaro's observation (2006) that Nigeria's current teacher training program yields improved content and pedagogical content knowledge aligns with these findings, although further enhancement is warranted given that scores fell short of excellence. Research by Ishola and Udofin (2017) underscores the significant influence of teacher quality, particularly in terms of content knowledge and pedagogical content knowledge, on students' performance. Thus, a robust teacher education program remains crucial to meet educational system needs and foster effective teaching.

Examining the motivational orientation (self-efficacy and interest) of pre-service Social Studies teachers, the findings indicate that these teachers possess a high level of motivational orientation (self-efficacy and interest). This is evident from the mean values surpassing the Scale Mean. The results suggest that prospective teachers hold strong beliefs in their abilities to effectively teach Social Studies, indicating their confidence and readiness for future teaching roles. This contrasts with the study by Karadeniz and Sari (2011), which found teachers' self-efficacy perception levels at a "medium" level. Notably, the pre-service Social Studies teachers exhibited higher self-efficacy levels than interest in the subject, an unexpected finding considering that many students pursuing Social Studies education did not choose it as their preferred course of study. This result aligns with the perspectives of Hidi and Renninger (2006), who emphasize the need for sustained interaction to develop interest, and Marsh, Trautwein, Lüdtke, Köller and Baumert (2005), who highlight the importance of achievement-related feedback and competence in interest development. This finding holds significance, as motivational orientation is pivotal for teachers, influencing factors such as student motivation, teaching practices, educational reforms, teaching effectiveness, job satisfaction, and psychological well-being.

In terms of the relationship between pre-service Social Studies teachers' professional knowledge and their motivational orientation, the findings unveiled a moderate yet significantly positive correlation between professional knowledge and motivational orientation. This positive association was evident across various dimensions, including content knowledge and self-efficacy, content knowledge and interest, pedagogical content knowledge and self-efficacy, and pedagogical content knowledge and interest. This implies that the development of professional knowledge, encompassing both content and pedagogical content knowledge, plays a pivotal role in influencing the motivational orientation explored

in this study—self-efficacy and interest. This result underscores the vital role that pre-service teachers' professional knowledge holds in shaping self-efficacy and interest, aligning with Holzberger, Philipp, and Kunter's (2012) research, which identified a correlation between teachers' self-efficacy beliefs and instructional quality. This finding also resonates with Battersby & Cave's (2014) assertion that teachers' self-efficacy perceptions have positive implications for educational quality and supports Schiefele's (2009) insight that students' interest enhances attention, learning quality, and academic performance. Additionally, it aligns with Mahler, Großschedl, and Harms' (2017) research, revealing a positive relationship between self-efficacy, subject-specific enthusiasm, and pedagogical content knowledge. This substantiates Salifu and Agbenyega's (2013) argument for prioritizing motivation orientation development, as it correlates with quality teaching and enhanced learning outcomes.

This finding holds significance for designing teachers' professional development programs, emphasizing not only the enhancement of content and pedagogical content knowledge but also the cultivation of self-efficacy and interest among pre-service teachers. Furthermore, it suggests that a deeper comprehension of content and pedagogical content knowledge might paradoxically lead to a more critical evaluation of their own ability to convey the material effectively and promote interest, both in Social Studies and other subjects in general.

5. CONCLUSION

Based on the findings, this study therefore concludes that pre-service Social Studies teachers in public universities in South-South Nigeria have above average level of professional knowledge and a high level of motivational orientation. This study also concludes that there is a positive relationship between the professional knowledge and motivational orientation of pre-service Social Studies teachers in public universities in South-South, Nigeria. This study makes significant contributions to the existing body of knowledge. One key finding is that pre-service Social Studies teachers in universities located in South-South Nigeria exhibit both high levels of professional knowledge and a strong motivational orientation. Furthermore, the study aligns with prior research by confirming a notable correlation between professional knowledge and motivational orientation.

Recommendations

Based on the findings and insights derived from the study, several recommendations are proposed to enhance the preparation and effectiveness of pre-service Social Studies teachers:

1. **Leverage Professional Knowledge as a Predictor of Motivational Orientation:** Given the significantly positive relationship observed between professional knowledge and motivational orientation among pre-service Social Studies teachers, it is advised that teacher education programs harness this predictive potential. Integrating targeted interventions and instructional strategies that amplify professional knowledge can effectively enhance motivational orientations, fostering a more confident and motivated teaching workforce.
2. **Reevaluate Admission Criteria and Prioritize Preferred Course of Study:** Building upon the established correlation between motivational orientation, professional knowledge, and preferred course of study, it is recommended that admission criteria within the faculty of education be reevaluated. Placing emphasis on merit-based selection while simultaneously considering students' preferred courses of study can yield multifaceted benefits. This approach ensures a diverse pool of motivated individuals entering the teaching profession while aligning their academic pursuits with personal interests. By facilitating congruence between students' passions and their chosen field of study, this strategy can facilitate a stronger alignment between motivational orientation and professional knowledge development.

3. **Strengthening Professional Knowledge Development:** The study revealed that pre-service Social Studies teachers possess above-average levels of professional knowledge, indicating the effectiveness of the present teacher training program. However, further efforts should be made to elevate their content and pedagogical content knowledge to excellent levels. Education policymakers and curriculum designers should collaborate to ensure that teacher education programs are aligned with the current educational landscape and adequately equip pre-service teachers with comprehensive subject matter expertise and effective instructional strategies.
4. **Balancing Pedagogical Content Knowledge:** While pre-service teachers demonstrated strong content knowledge, the study pointed out that pedagogical content knowledge (PCK) levels were not equally robust. It is recommended that teacher education programs emphasize the development of PCK, particularly in terms of instructional strategies, assessment techniques, and classroom management. By nurturing a well-rounded PCK, pre-service teachers can better translate their subject matter expertise into engaging and effective classroom practices.
5. **Cultivating Motivational Orientations:** The study highlighted that pre-service Social Studies teachers exhibit high levels of motivational orientation, specifically in terms of self-efficacy and interest. To capitalize on this positive disposition, teacher development programs should integrate strategies aimed at nurturing and sustaining self-efficacy and interest among future educators. Offering workshops, mentorship programs, and practical experiences that bolster teachers' confidence in their abilities and enhance their passion for the subject can contribute to improved teaching quality and student outcomes.
6. **Integrating Real-World Application:** Given the unexpected finding that pre-service Social Studies teachers possessed higher self-efficacy than interest, it is imperative to bridge the gap between academic studies and real-world application. Engaging pre-service teachers in practical experiences that showcase the relevance and impact of Social Studies in addressing societal issues can foster a deeper interest and commitment to the subject. Collaborations with local communities, NGOs, and educational institutions can provide opportunities for meaningful engagement.
7. **Holistic Teacher Development:** The study underscored the interconnectedness between professional knowledge and motivational orientations. Thus, teacher development programs should adopt a holistic approach that nurtures both domains in tandem. Training initiatives should address content mastery, instructional strategies, classroom management, and the psychological aspects of teaching, such as self-efficacy and interest. This comprehensive approach can produce well-rounded and effective educators capable of promoting engaging and impactful learning experiences.

In conclusion, these recommendations address the intricate interplay between professional knowledge and motivational orientations among pre-service Social Studies teachers. By focusing on the enhancement of subject expertise, instructional skills, and motivational dispositions, teacher education programs can produce educators who are well-prepared, confident, and passionate about their role in shaping the future of Social Studies education.

6. REFERENCES

- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Eds.), *Encyclopedia of human behaviour*, 71-81. New York: Academic Press.
- Battersby, S. L., & Cave, A. (2014). Pre-service classroom teachers' preconceived attitudes, confidence, beliefs, and self-efficacy toward integrating music in the elementary curriculum. *Applications of Research in Music Education*, 32(2), 52-59.

- Baumert, J., & Kunter, M. (2006). The COACTIV model of teachers' professional competence. In M. Kunter, J. Baumert, W. Blum, U. Klusmann, S. Krauss, & M. Neubrand (Eds.), *Cognitive activation in the mathematics classroom and professional competence of teachers: Results from the COACTIV project (mathematics teacher education)*. (25–48). New York: Springer.
- Botha, L. M. & Reddy, C. P. (2011). In service teachers' perspective of pre-service teachers' knowledge domains in science. *South African Journal of Education*, 31, 257-274.
- Durosaro D.O (2006). Teacher education in Nigeria: Past, present and future challenges. *The Pacesetter: J. Oyo State College Educ.* 13 (1): 44-54.
- Hidi, S., Renninger, K. A., & Krapp, A. (2004). Study interest, a motivational variable that combines affective and cognitive functioning. In D. Yun Dai, & R. J. Sternberg (Eds.), *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development*. Mahwah: Lawrence Erlbaum Associates.
- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41(2), 111–127.
- Holzberger, D., Philip, A., & Kunter, M. (2012). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology*, 105(3).774-786.
- Ishola, A. A. & Udofia I. G. R. (2017). Effect of demographic factors and teachers' mastery of instructional designs as predictors of pupils achievement in mathematics. *Journal of Educational Research and Development*. 15(1) 10-24
- Karadeniz, B. C., & Sarı, S. (2011). Development of Geography teaching self-efficacy scale. *Education Science Society Journal*, 9(33), 9-27.
- Kunter, M. (2013). Motivation as an aspect of professional competence: Research findings on teacher enthusiasm. In M. Kunter, J., Baumert, W., Blum, U., Klusmann, S., Krauss, & M. Neubrand, (Eds), *Cognitive Activation in the Mathematics Classroom and Professional Competence of Teachers*. (25–48) Springer, New York, USA.
- Kunter, M. Frenzel, A., Nagy, G., Baumert, J., & Pekrun, R. (2011). Teacher enthusiasm: Dimensionality and context specificity. *Contemporary Educational Psychology*, 36(4), 289–301.
- Mahler, D., Großschedl, J., & Harms, U. (2017). Opportunities to learn for teachers' self-efficacy and enthusiasm. *Education Research International*, vol.2017, Article ID 4698371, 17pages, 2017. <http://doi.org/10.1155/2017/4698371>.
- Marsh, H. W., Trautwein, U., Lüdtke, O., Köller, O., & Baumert, J. (2005). Academic self-concept, interest, grades, and standardized test scores: Reciprocal effect models of causal ordering. *Child Development*, 76(2), 397–416.
- Obeng, A. E., Opare, A. J., & Dzinyela, M. J. (2003). A case study of the centre for research on improving quality of primary education in Ghana. *Association for the Development of Education in Africa Biennial Conference*.
- Ogar, M. N. (2006). Instructional media, learner, teacher and classroom factors as correlates of secondary school students learning outcomes in English Language. Unpublished Ph. D Thesis, University of Ibadan, Ibadan, Nigeria.
- Paulick, I., Großschedl, J., Harms, U., & Möller, J. (2016). Pre-service teachers' professional knowledge and its relation to academic self-concept. *Journal of Teacher Education*, 67(3), 173–182.
- Pinamang, I., & Penrose O. C. (2017). Pre-service teachers' content knowledge and pedagogical content knowledge in teaching geometric transformation. *African Journal of Educational Studies in Mathematics and Sciences*. 13, 63-70

- Riese, J., & Reinhold, P. (2016). Pre-service physics teachers' pedagogical content knowledge in different teacher education programmes. In Bruguière, C., Tiberghien, A., & Clément, P. (Eds.), E-Book Proceedings of the ESERA 2011 Conference: Science learning and Citizenship. Lyon, France: *European Science Education Research Association*. 16,167–187, 2016.
- Salifu, I. & Agbenyega, J.S. (2013). Viewing teacher motivation in the Ghana education service through a postcolonial lens. *Current Issues in Education*, 16(3), 1-14.
- Sarkim, T. (2004). Investigating secondary school physics teachers' pedagogical content knowledge: a case study. *Post-Script*, 5(1), 82-96.
- Schiefele, U., Krapp, A., Wild, K. P., & Winteler, A. (1993). Der Fragebogen zum Studien interesse (FSI) [The Study Interest Questionnaire {SIQ}]. *Diagnostica*, 39, 335–351.
- Schiefele, U. (2009). Situational and individual interest. In K. R. Wensel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 197-222). Routledge/Taylor & Francis Group.
- Shulman, L. S. (1986). Those who understand: knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.
- Tschannen-Moran, M. & Woolfolk Hoy, A. (2009). Teacher efficacy scales. Retrieved from <http://people.ehe.osu.edu/ahoy/files/2009/02/tses.pdf>
- Woolfolk-Hoy, A. & Burke Spero R (2005). Changes in teacher efficacy during the early years of teaching. *Teaching and Teacher Education* 21(4): 343–356.