



English Language Teachers' Level of Instructional Control at Selected Secondary Schools in Gamo Zone

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Abstract

This study aimed to examine the level of instructional control among English language teachers in selected secondary schools in Gamo Zone, Ethiopia. The study adopted an analytical survey research design to address the study objective. A census was used to select 62 English language teachers as participants. A validated five-point Likert scale questionnaire was employed to collect quantitative data. Statistical analyses, including one-way analysis of variance (ANOVA) and Games-Howell post hoc analysis, were conducted to determine the level of instructional control among teachers. Additionally, a one-sample t-test was conducted to compare differences between the observed and expected mean values at both scale and subscale levels. The effect size was also utilized to describe the magnitude of instructional control. The findings of the study revealed that English language teachers predominantly employed strong teacher control, followed by marginalized shared and loose control. These results suggest that teachers primarily relied on teacher-centered direct instruction which may potentially lead to achievement gaps among students. Based on these findings, the study recommends that the Gamo Zone Education Department organize on-the-job training for English language teachers on instructional control to empower them to implement varied instructional control types as required thereby promoting a more balanced and inclusive instructional environment.

Keywords: Instructional control; Loose control; Shared control; Strong control; Student-centered; Teacher-centered

1. INTRODUCTION

Quality teaching is closely linked to the level of control that teachers and students have over learning tasks (Maulana et al., 2016; Nilsen et al., 2020). This level of control directly impacts student outcomes, including motivation, engagement, and achievement (Hattie, 2009; Moustafa et al., 2013; Seidel & Shavelson, 2007; van de Grift, 2007). A shift has occurred from teacher-centered to student-centered teaching approaches, which has created a more active, dynamic, and stimulating learning environment where students take the lead in their learning (Brok, 2001; Brok et al., 2004; Postareff et al., 2008; Trigwell & Prosser, 2004). However, this shift does not diminish the importance of teachers. Instead, teachers play a facilitative and regulatory role in student-centered teaching, ensuring effective guidance and regulation of the learning process.

The concept of teacher control can be understood through three main levels: strong teacher control, shared teacher control, and loose teacher control (Brekelmans et al., 2000; Brok, 2001; Brok et al., 2004; Maulana et al., 2016). Strong teacher control refers to a teacher-led or teacher-centered classroom (Lewis, 2002) and direct instruction (Lamberigts & Bergen, 2000; Maulana et al., 2016). In this level of control, the teacher assumes the roles that students would typically perform in completing learning tasks. The teacher highlights key points, provides examples, and presents outlines (Brok et al., 2004). Consequently, in strong teacher control, teachers take over cognitive, affective, and metacognitive learning activities, reducing opportunities for student engagement in the learning process. On the other end of the spectrum is loose teacher control, which focuses on students' decision-making and allows them to work freely and independently during learning activities (Maulana, 2016). In this type of control, teachers give students the autonomy to initiate and complete learning activities with minimal intervention (Brekelmans et al., 2000; Brok et al., 2006; Maulana et al., 2016).

Shared control represents a third domain that promotes self-regulated learning and strikes a balance between strong and loose control, minimizing the polarity between the two. Shared control involves shared responsibility between teachers and students and among students themselves (Brok et al., 2002). Some studies have distinguished between student control (student-initiated control) and teacher control (teacher-initiated control) (Brok et al., 2002; 2004; Maulana et al., 2016). Shared control enables and empowers students to actively guide and complete learning tasks. It is based on social constructivist

theories, which emphasize the socially constructed nature of knowledge and the importance of scaffolding by more capable individuals, such as teachers or peers (Vygotsky, 1978). Through social interactions and co-regulation, self-regulated learning is fostered through modeling and internalizing cognitive and metacognitive processes of self-regulation (Brenner, 2022; Hadwin et al., 2018; McCaslin, 2009). This balanced approach aims to address the dichotomy between strong and loose control and create a supportive and empowering learning environment.

A meta-analysis revealed that shared control increases academic achievement by almost half a standard deviation (0.47) (Freeman et al., 2014). Additionally, the control orientations of EFL teachers in learning tasks have a statistically significant effect on student outcomes (Kiany & Shayestefar, 2010). The study further demonstrated that learners' English achievement was the lowest when teachers exerted strong control, higher when their control was low (low teacher control), and highest under shared control (Brok et al., 2004; Kiany & Shayestefar, 2010).

Research indicates that teachers' instructional control tends to change over time (Mainhard et al., 2011; Maulana et al., 2010) and varies across school years in secondary school (Way et al., 2007). This issue is dynamic and requires ongoing studies and continuous training for teachers (Maulana et al., 2016). Furthermore, instructional control is influenced by cultural context, and its interpretation may vary accordingly (Klassen et al., 2018). Therefore, studies conducted in different parts of the world may not directly apply to English language teachers in the Gamo Zone of Ethiopia. Moreover, the results regarding instructional control can differ depending on whether the study focuses on specific subjects or interdisciplinary approaches (Darmaji et al., 2019; Houichi & Sarnou, 2020; Praetorius et al., 2018). Findings from studies across disciplines may not be generalizable to teachers of English as a Foreign Language. Furthermore, there is a lack of empirical studies on the instructional control of English language teachers in Ethiopia. The existing studies on instructional control have not provided conclusive results (Maulana et al., 2016). Despite the importance of instructional control for effective teaching, there is a felt research gap regarding the instructional control of English language teachers in Ethiopia. Therefore, this study aims to examine the level of instructional control among English language teachers in selected secondary schools in the Gamo Zone, Ethiopia.

2. RESEARCH METHODOLOGY

2.1. Research Design

This study aimed to investigate the level of instructional control exerted by English language teachers in selected secondary schools in Gamo Zone, Ethiopia. An analytical survey research design was adopted to collect and analyze quantitative data to examine the level of instructional control among teachers.

2.2. Study Participants

The study included a total of 62 English language teachers selected through a census from five public secondary schools in the Gamo Zone in the 2021-22 academic years. Among the participants, 44 were males, while the remaining 18 were females. In terms of educational levels, 19 participants held a first degree in the English language, while 43 participants had master's degrees in teaching English as a foreign language. Regarding teaching experience, seven teachers had less than one year of experience, eight teachers had three to five years of experience, eighteen teachers had six to ten years of experience, and the remaining twenty-nine teachers had more than 11 years of experience.

2.3. Data Collection Tools

Data was collected using a self-rated Likert-scale questionnaire. The purpose of the questionnaire was to measure the level of instructional control among English language teachers. It was adapted from previous works (Brekelmans et al., 2000; Brok et al., 2004; Brok, 2001; Lamberigts & Bergen, 2000). The questionnaire consisted of three subscales: (a) strong control, which involves taking over or substituting the performance of learning activities from students; (b) shared control, which entails activating students' participation in the performance of learning activities; and (c) loose control, which focuses on stimulating students to perform learning activities independently. The questionnaire comprised 14 items, with five-point Likert-type scale responses ranging from strongly disagree (1) to strongly agree (5). Previous studies have established the validity and reliability of this tool for measuring instructional control (Brok, 2001; Brok et al., 2004, 2006; Kiany & Shayestefar, 2010; Lamberigts & Bergen, 2000). Therefore, the tool is considered valid, reliable, and suitable for measuring instructional control among English language teachers.

2.4. Methods of Data Analysis

The quantitative data collected through the questionnaire were analyzed using SPSS version 21. Descriptive statistics, such as mean values and standard deviations, were used to describe the characteristics of the data. To determine whether there were statistically significant variations among the dimensions of instructional control, a one-way analysis of variance (ANOVA) and Games-Howell post hoc analysis were conducted. A one-sample t-test was used to determine whether there was a statistically significant difference between the observed means and the expected mean (3.00) at the scale and subscale levels. The effect size, eta squared (η^2), was used to describe the magnitude and level of instructional control.

To ensure the validity of the descriptive and inferential statistics used in this study, the researcher checked the data for the assumptions of the statistical tests before applying them. The skewness and kurtosis values were within the acceptable range of +1.5 to -1.4, indicating normal data distributions for the use of descriptive and inferential statistics for data analysis.

3. RESULTS AND DISCUSSION

This section presents the results of the quantitative data and discussion on English Language teachers' level of instructional control.

3. 1. Results Related to English Language teachers' level of instructional control

Table 3.1.1: Descriptive statistics related to dimensions of instructional control

Dimensions	N	Mean	S.D
Shared control	62	2.99	.81
Strong control	62	3.49	.74
Loose control	62	3.06	.58

Table 3.1.1 presents the mean and standard deviation of teachers' self-ratings for instructional control dimensions. The standard deviation scores were below 1.00 and showed minimal variation, indicating that the data were closely distributed around the mean values. Strong control had the highest mean score ($M = 3.49$), followed by loose control ($M = 3.06$), while shared control ($M = 2.99$) had the lowest

mean value. However, descriptive statistics alone could not enhance to detect for statistical significant differences among the mean values. To determine the significant differences among the instructional control means, an ANOVA test was conducted, as shown in Table 3.1.2.

Table 3.1.2: ANOVA output of teachers' instructional control

	Sum of squares	df	Mean Square	F	Sig.
Between Groups	9.16	2	4.58	8.88	.000
Within Groups	94.35	183	.52		
Total	103.5	185			
N=62 $\eta^2 = .089$					

The results of the one-way analysis of variance (ANOVA) indicated significant mean differences among the three instructional control dimensions [$F(2, 183) = 8.88, p = .000$]. This finding reveals statistically significant variations among the instructional control dimensions. The effect size ($\eta^2 = .089$) suggests medium variations among the dimensions (Cohen, 1998), indicating that teachers paid unequal attention to the instructional control dimensions. The Games-Howell test of post hoc comparisons, presented in Table 3.1.3, was employed to determine the dimensions to which teachers paid more or less attention.

Table 3.1.3: Games-Howell pairwise comparisons test results on levels of instructional control

Dimensions	Mean	1	2	3
1. Strong control	3.49	---	.50**	.42**
2. Shared control	2.99		---	.08
3. Lose control	3.06			---

** $p < .001$

The Games-Howell test for comparison of mean scores revealed a statistically significant difference between the strong control ($M = 3.49, SD = 0.73$) and shared control ($M = 2.99, SD = 0.82$) dimensions at $p < 0.01$. Similarly, a statistically significant difference was observed between the strong control ($M = 3.49, SD = 0.73$) and loose control ($M = 3.06, SD = 0.58$) dimensions at $p < 0.01$. However, the results did not indicate a statistically significant mean score difference between the shared control ($M = 2.99, SD = 0.82$) and loose control ($M = 3.06, SD = 0.58$) dimensions ($p = 0.82, p > 0.05$). These findings suggest that teachers prioritized strong teacher control over the other two dimensions. Table

3.1.4 provides information on the level of instructional control compared to the cutoff mean using statistical significance.

Table 3.1.4: Levels of instructional control in comparison with expected mean values

Subscale/scale	Observed Mean	Expected Mean	SD	t-value	p	η^2
Strong control	3.49	3.00	.74	3.94	.000	.66
Shared control	2.99	3.00	.81	.078	.93	.012
Loose control	3.06	3.00	.58	.94	.35	.10
Scale	3.16	3.00	.60	2.12	.038	.27

N= 62, df= 61, test value= 3.00

The study's results indicate that teachers predominantly demonstrated strong teacher control in their classroom instruction. Additionally, the results reveal that shared and loose control received equal consideration after strong teacher control (Tables 3.2 and 3.3). Moreover, a statistically significant mean difference ($M = 3.49$, $SD = 0.74$, $t = 3.94$) was found between the observed and expected mean of 3.00 for strong control at $p < 0.001$ (Table 4). The effect size ($\eta^2 = 0.66$) is large, according to Cohen (1998). At the scale level, the study found a statistically significant difference between the scale mean score ($M = 3.16$, $SD = 0.60$) and the expected mean value of 3.00 at the $p < 0.05$ alpha level. The mean difference indicates a large effect size ($\eta^2 = 0.27$). However, statistically non-significant differences were obtained between the observed mean and expected mean for shared and loose control dimensions, respectively, at $p > 0.05$. These results suggest that English teachers did not implement shared and loose teacher control above the ideal mean. Therefore, the findings reveal that English language teachers primarily implemented strong teacher control with limited shared and loose control.

3.2. Discussion

The present study investigated the level of instructional control demonstrated by English language teachers in selected secondary schools when teaching English. The findings indicated that teachers exhibited strong control over learning, with significant effect sizes. While the teachers predominantly displayed strong control, they also made statistically insignificant attempts to incorporate shared and loose control. Thus, the sample of English language teachers primarily employed a teacher-centered direct instructional approach. This strong teacher control allows teachers to take charge of learning activities, although it may come at the expense of student empowerment (Lamberigts & Bergen, 2000;

Maulana et al., 2016). Consequently, strong teacher control enables teachers to emphasize key points, provide examples to students, and present content outlines (Brok et al., 2004). Moreover, classrooms characterized by strong teacher control could limit opportunities for student engagement since they prioritize teacher-dominated knowledge transmission (Lewis, 2002). Furthermore, teacher-centered or strong teacher-control classes may contribute to achievement gaps among students and hinder their progress, as strong teacher-control fails to address the diverse needs of all students (Schwerdt & Wuppermann, 2011). Correlational studies have also shown that English achievement among students is lowest in classes with strong teacher control, higher in classes with low teacher control, and highest in classes with shared control (Brok et al., 2004; Freeman et al., 2014; Kiany & Shayestefar, 2010). However, Schwerdt and Wuppermann (2011) argue that strong teacher control is the most effective way to impart information to students and is advantageous for high-achieving and more privileged students.

Despite Ethiopia's introduction of the learner-centered teaching approach across all education levels since 1994 (MoE, 2002), the English language teachers in the schools included in this study predominantly adopted a teacher-centered direct instructional approach. Several factors may account for the discrepancy between the introduced learner-centered teaching approach and the observed teacher-centered instructional approach. Previous studies have identified factors that contribute to the preference for a teacher-centered instructional approach over a learner-centered teaching approach. These factors include teachers' concerns about time constraints in covering the curriculum (Kazempour, 2009; Meseret, 2012; Tamim & Grant, 2013), workload and class management in large class sizes (Ebissa & Bhavani, 2017; Habtamu & Mendida, 2022; Kitaw, 2017; Meseret, 2012; Tamim & Grant, 2013), inadequate training (Meseret, 2012), teachers' tendency to teach the way they were taught (Kazempour, 2009; Lewis, 2014), resistance to implementing student-centered methods (Ebissa & Bhavani, 2017; Qhobela, 2012), and the influence of university entrance examinations (Daba et al., 2022; Kazempour, 2009; Qhobela, 2012; Surafel, 2002; Tamim & Grant, 2013).

The prevalence of strong teacher control in English language teaching does not necessarily indicate a complete absence of shared and loose control by teachers. Rather, the results suggest that teachers only marginally incorporated shared and loose control and were somewhat inconsiderate of their implementation. Loose (student-led) control allows students to have autonomy in completing learning

activities by themselves (Brekelmans et al., 2000; Brok et al., 2006; Lamberigts & Bergen, 2000; Maulana et al., 2016) and has been linked to higher levels of English achievement among students (Brok et al., 2004; Freeman et al., 2014; Kiany & Shayestefar, 2010). Similarly, shared control strikes a balance between strong (teacher-led) control and loose (student-led) control, encouraging teachers to foster cooperation among students and between students and the teacher during learning activities (Brok et al., 2002; 2004; Maulana et al., 2016; Vygotsky, 1978). Furthermore, shared control has been associated with the highest levels of English achievement among students (Brok et al., 2004; Freeman et al., 2014; Kiany & Shayestefar, 2010). Although loose and shared control offers pedagogical benefits by promoting learner-centered classrooms and enhancing students' communicative competence, the present study revealed that teachers made limited use of these control behaviors. The contextual factors mentioned earlier may have influenced teachers to adhere to a teacher-centered instructional approach at the expense of the learner-centered teaching approach.

4. CONCLUSIONS

The study findings indicate that English language teachers predominantly employ strong teacher control while exhibiting limited shared and loose control. Consequently, the teaching approach adopted by these teachers revolves around a teacher-centered model, which restricts students' active participation in their learning. Although shared and loose control possesses pedagogical advantages, such as fostering communicative competence, learner autonomy, and cooperative learning, they have been largely neglected. Consequently, the implementation of teacher-centered or strong teacher control fails to cater to the diverse needs of all students, potentially leading to achievement gaps and hindered progress at the expense of student-centered instruction. Nonetheless, various contextual factors may explain the adherence to teacher-centered instruction, despite the Education and Training Policy and the New Education Road Map (MoE, 2018) advocating for learner-centered teaching. Consequently, this study recommends conducting further research to explore the factors influencing the preference for teacher-centered instruction, while also highlighting the importance of learner-centered teaching in the aforementioned policies. Furthermore, the study suggests that the South Ethiopia Regional State Education Bureau should organize on-the-job training sessions for English language teachers, focusing on teacher control and empowering them to employ shared (collaborative) control, strong control, and loose (student-led) control as required.

It is important to acknowledge the limitations of the present study. Firstly, the sample size of English teachers selected from a few secondary schools was relatively small. Therefore, future research should aim to include a larger and more diverse sample, encompassing different educational levels, to enable more robust generalizations. Secondly, this study solely relied on questionnaires completed by teachers. To address this gap, future research should incorporate students' viewpoints and employ additional data collection tools for a comprehensive understanding of the topic.

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REFERENCES

- Brekelmans, M., Sleegers, P., & Fraser, B. J. (2000). Teaching for active learning. In P. R. J. Simons, J. L. Broke, P. den, Bergen, & Brekelmans, M. (2002). Students' perceptions of teacher control behavior. *Learning and Instruction*, 14, 425–443.
- Brenner, C.A. (2022). Self-regulated learning, self-determination theory and teacher candidates' development of competency-based teaching practices. *Smart Learning Environments*, 9(3), <https://doi.org/10.1186/s40561-021-00184-5>
- Broke, P. den, Bergen, & Brekelmans, M. (2002). Students' perceptions of teacher control behavior. *Learning and Instruction*, 14, 425–443.
- Brok, P. den, Bergen, T.C.M., Stahl, R., & Brekelmans, M. (2004). Students' perceptions of teacher control behaviors. *Learning and Instruction*, 14 (4), 425-443. DOI: 10.1016/j.
- Brok, P. den. (2001). *Teaching and student outcomes*. Utrecht: W. C. C.
- Brok, P., Bergen, T. C. M., & Brekelmans, M. (2006). *Convergence and divergence between students' and teachers' perceptions of instructional behavior in Dutch secondary education*. <http://qitu-archive.library.uu.nl/ivlos>.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Lawrence Erlbaum.
- Daba, D., Teshome, Z. & Bekele E. (2022). The interplay between EFL Teachers' Cognition and Implementation of Communicative Language Teaching: The Case of Selected Secondary School Teachers in East Wollega Zone, Ethiopia. *International Journal of Research Studies in Education*, 11(13), 1-14
- Darmaji, D., Astalini, A., Kurniawan, D. A., & Perdana, R. (2019). A study relationship attitude toward physics, motivation, and character discipline students in senior high school, in Indonesia. *International Journal of Learning and Teaching*, 11(3), 99–109. <https://doi.org/10.18844/ijlt.v11i3.4207>
- Ebissa, B. A. & Bhavani, K. D. (2017). Difficulties in Executing CLT in Ethiopia: Mismatch Between Policy Imperative and Classroom Realities. *Research on Humanities and Social Sciences*, 7(3), 39-44.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *PNAS*, 111(23), 8410–8415. At <https://doi.org/10.1073/pnas.1319030111>
- Hadwin, A., Jarvela, S., & Miller, M. (2018). Self-regulation, co-regulation and shared regulation in collaborative learning environments. In D.H. Schunk & J. A. Greene (Eds.) *Educational psychology handbook series. Handbook of self-regulation, learning and performance* (PP. 83-106). Routledge: Taylor and Francis Group.
- Habtam, A. & Mendida, B. (2022). A case study of EFL teachers' practice of teaching speaking skills vis-à-vis the principles of communicative language teaching (CLT). *Cogent Education*, 9(1), 1-23. DOI: 10.1080/2331186X.2022.2087458
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.
- Houichi, A., & Sarnou, D. (2020). Cognitive load theory and its relation to instructional design: Perspectives of some Algerian university teachers of English. *Arab World English Journal*, 11(4), 110–127. <https://doi.org/10.24093/awej/vol11no4.8>

- Kane, T. J., & Staiger, D. (2012). *Gathering feedback for teaching: Combining high-quality observations with student surveys and achievement gains*. Retrieved from MET Project website: [http://www.metproject.org/downloads/MET_Gathering_Feedback Research Paper](http://www.metproject.org/downloads/MET_Gathering_Feedback_Research_Paper)
- Karasova, J. & Nehyba, J. (2023) Student-centered teacher responses to student behavior in the classroom: A systematic review. *Frontier Education*, 8. DOI: 10.3389/feduc.2023.1156530
- Kazempour, M. (2009). Impact of inquiry-based professional development on core conceptions and teaching practices: a case study. *Science Education*, 18(2), 56–68.
- Klassen, R.M., Durksen, T.L., AlHashmi, W., Kim, L.E., Longden, K., Metsäpelto, R.-L., et al. (2018). National context and teacher characteristics: Exploring the critical non-cognitive attributes of novice teachers in four countries. *Teaching and Teacher Education*, 72, 64–74.
- Keller, L.S. (2018). Teachers' roles and identities in student-centered classrooms. *International Journal of STEM Education*, 5(34), 1-20. <https://doi.org/10.1186/s40594-018-0131-6>
- Kiany, G. R., & Shayestefar, P. (2010). High school students' perceptions of EFL teacher control orientations and their English academic achievement. *British Journal of Educational Psychology*, 81(3), 491-508. doi.org/10.1348/000709910X522177
- Kitaw, Y. Z. (2017). *Active Learning in Teaching English Language Support Courses to First-year Students in Some Ethiopian Universities*. PhD Thesis: University of South Africa, Department of Education.
- Lamberts, R., & Bergen, T. C. M. (2000). *Teaching for active learning using a constructivist approach*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Lewis, M. (2002). Classroom management. In J. C. Richards & W. A. Renandya (Eds.), *Methodology in language teaching* (1st ed., chap. 4, pp. 40–48). Cambridge: Cambridge University Press.
- Mainhard, M. T., Brekelmans, M., den Brok, P., & Wubbels, T. (2011). The development of the classroom social climate during the first months of the school year. *Contemporary educational psychology*, 36(3), 190-200.
- Maulana, R., Opdenakker, M.-C., Den Brok, P., & Bosker, R. (2010). *Teacher-student interpersonal relationships during the first year of secondary education: A multilevel growth curve analysis*. Paper presented at the International Conference on Interpersonal Relationships in Education, Boulder, CO.

- Maulana, R., & Helms-Lorenz, M. (2016). *Perceived beginning teachers' self-efficacy across the second and third years of professional practice*. Annual Meeting of the American Educational Research Association, Washington, DC, United States.
- McCaslin, M. (2009). Co-regulation of student motivation and emergent identity. *Educational Psychologist*, 44(2), 137–146.
- Meseret, T. (2012). *Perceptions and Practices of Task-based Writing*. Unpublished Ph.D. dissertation. AA: AAU.
- MoE. (2002). *The Education and Training Policy and Its Implementation*. Addis Ababa Moustafa, A., Ben-Zvi-Assaraf, O., & Eshach, H. (2013). Do junior high school students perceive their learning environment as constructivist? *Journal of Science Education and Technology*, 22(4), 418–431
- Moustafa, A., Ben-Zvi-Assaraf, O., & Eshach, H. (2013). Do junior high school students perceive their learning environment as constructivist? *Journal of Science Education and Technology*, 22(4), 418–431.
- Nilsen, T., Scherer, R., Gustafsson, J.E., Teig, N. & Kaarstein, H. (2020). *Teachers' role in enhancing equity—A multilevel structural equation modeling with mediated moderation*. https://doi.org/10.1007/978-3-030-61648-9_7
- Praetorius, A.-K., Klieme, E., Herbert, B., & Pinger, P. (2018). Generic dimensions of teaching quality: the German framework of three basic dimensions. *ZDM*, 50, 407–426. <https://doi.org/10.1007/s11858-018-0918-4>
- Postareff, L., Lindblom-Ylänne, S., & Nevgi, A. (2008). A follow-up study of the effect of pedagogical training on teaching in higher education. *Higher Education*, 56, 29–43. doi.org/10.1007/s10734-007-9087-z
- Qhobela, M. (2012). Using argumentation as a strategy for promoting talking science in a physics classroom: What are some of the challenges? *US-China Education Review*, B 2, 163–172.
- Schwerdt, G. & Wuppermann, A. (2011). Is traditional teaching all that bad? A within-student between-subject approach. *Economics of Education Review*, 30, (2), 365-379. <https://doi.org/10.1016/j.econedurev.2010.11.005>

- Seidel, T., & Shavelson, R. J. (2007). Teaching effectiveness research in the past decade: The role of theory and research design in disentangling meta-analysis results. *Review of Educational Research*, 77(4), 454–499.
- Surafel, Z. (2002). The effects of the new English Language Teaching Methodology in the First Cycle Secondary Schools. *Educational journal*, 6(13), 70 – 86.
- Tamim, S. R., & Grant, M. M. (2013). Definitions and uses: a case study of teachers implementing project-based learning. *Interdisciplinary Journal of Problem-based Learning*, 7(2), 72–101. <https://doi.org/10.7771/1541-5015.1323>
- Trigwell, K., & Prosser, M. (2004). Development and use of the approaches to teaching inventory. *Educational Psychology Review*, 16(4), 409–424. <https://doi.org/10.1007/s10648-004-0007-9>
- Van de Grift, W. J. C. M. (2007). Quality of teaching in four European countries: A review of the literature and application of an assessment instrument. *Educational Research and Evaluation*, 49 (1).
- Vygotsky, L.(1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Way, N., Reddy, R., & Rhodes, J. (2007). Students' Perceptions of School Climate During the Middle School Years: Associations with Trajectories of Psychological and Behavioral Adjustment. *American Journal of Community Psychology*, 40, 194–213. DOI 10.1007/s10464-007-9143-y