Lessons from Research on Investigating the Impact of Teachers’ Professional Development on Their Instructional Time and English Learners’ Cognitive Academic Language Proficiency (CALP)

WHAT THE STUDY SAYS

This study was derived from a larger Randomized Controlled Trial (RCT) of the English Language and Literacy Acquisition (ELLA) project. In this study, there were two types of interventions: (a) intervention to improve teachers’ professional development (PD) and (b) intervention to promote students’ Cognitive Academic Language Proficiency (CALP) development.

Researchers in the present study built their conceptual framework based on the interplay between PD, quality instruction, and English Language Learners’ (ELLs’) academic achievement. The findings revealed a core set of components of the teachers’ PD as the teachers received quality, strong, and intensive instruction and feedback. The positive impact of teachers’ instructional time in CALP was evident in ELLs’ academic language development, including expressive vocabulary, oral reading fluency, and retell fluency.

Study description

The original ELLA project utilized innovation practices and strategies, which addressed the students’ cognitive abilities for core academic subjects in English. This RCT study, funded by the Institute of Education Sciences [IES], U.S. Department of Education, PR/Award Number R30SP030032, operated on five principles of effective professional development for teachers of ELLs, such as having teachers practice through inquiry and use new skills acquired during PD to improve their approach to teaching.

Project ELLA’s PD for teachers was completely mediated through teachers’ time allocation in CALP. Earlier studies (e.g., Lara-Alecio et al. 2009) have suggested that effective PD can have a positive effect on teachers’ instruction and students’ academic achievement.

Tong et al. (2010), for example, revealed a positive impact of teachers’ quality on students’ achievement. This study was also attempted to determine the extent of teachers’ development in exploiting English language teaching strategies and the degree of their influence on students’ English language acquisition. Researchers in the present research regarded teachers’ distribution of time for teaching specific skills in CALP as one of the significant indicators of quality classroom instruction. As such, quality of instruction was defined as strategies and practices that address the students’ cognitive readiness for core academic subjects in English. Studying how teachers allocate quality of instructional time, as Lara-Alecio et al. (2009) suggested, can have an influence on effective teaching. It appears that the idea of how teachers’ PD can shape their quality of classroom instruction related to time allocation during the ESL block is still underexplored.

In this study, researchers sought to address teachers’ instructional time for the development of ELLs’ academic English proficiency with a multi-level cross-classified approach. To this end, researchers aimed to: (a) compare teachers’ time allocation on CALP during the ESL block in treatment and control conditions in transitional bilingual education (TBE) and structured English immersion (SEI) programs, (b) observe the impact of this intensive PD during the ESL instruction on ELLs’ CALP development, and (c) examine whether ELLs’ CALP development is mediated by teachers’ time allocation.

Questions

Researchers addressed the following three questions:

1. Does teachers’ time allocation on CALP during the ESL instructional period differ between treatment and control conditions in TBE and SEI classrooms in second and third grades?
2. Does ELLs’ English CALP development differ between treatment and control conditions in TBE and SEI classrooms?
3. Is the treatment effect in TBE and SEI classrooms mediated by teachers’ time allocation on CALP during the ESL instruction?

Methodology

The program served 21 elementary campuses with a total of 369 native Spanish-speaking ELLs in an urban school district in Southeast Texas. A total of 42 bilingual/ESL teachers (20 in treatment and 22 in control) in the second grade and 34 bilingual/ESL teachers (17 in treatment and 17 in control) in the third grade took part in this research. All of these 369 students were considered high-need students by the state of Texas, because they were all native Spanish-speaking students with limited English proficiency. According to the national database, students were academically underperforming compared to their counterparts in core subject areas, including reading, math, and science (National Center for Education Statistics [NCES], 2010, 2011).
At a glance

This study is focused on ELLs’ CALP development through i3 literacy innovations and examine the impact of this intensive teachers’ PD during the ESL instruction on ELLs’ growth in English CALP and examine whether ELLs’ CALP development is mediated by teachers’ time allocation. Because of the clustering nature of the data in this randomized project, analyses were performed within a multilevel framework using the Hierarchical Linear Modeling approach to control for statistical overestimation. The results revealed that treatment students statistically significantly outperformed ELLs who received regular classroom instruction on expressive vocabulary, oral reading fluency, and retell fluency.

THE STUDY


Treatment components

The treatment consisted of two components: (a) Tier I: bi-weekly teachers’ PD and (b) Tier II: on-going instructional interventions for students. The regular instruction was also used for the control classroom.

**Tier I.** The teachers’ PD sessions consisted of a number of intervention activities which were designed for the participating teachers enrolled in the treatment condition. These sessions were the systematic and structured training, mentoring and feedback with teachers receiving instruction.

The training strategies were: (a) enhanced instruction via planning, (b) support for student involvement, (c) vocabulary building and fluency, (d) oral language development, (e) literacy development, (f) reading comprehension, (g) academic language development, (h) ESL strategies, and (i) parental support and involvement.

**Tier II.** The second grade students enrolled in the treatment condition received: (a) 45 minutes of Early Interventions in Reading (EIR-Proactive Level II), (b) 10 minutes of Daily Oral and Written Language (DOWL), and (c) 35 minutes of Story-retelling and Higher-order Thinking for English Literacy and Language Acquisition (STELLA).

In the third grade, two components of instruction included: (a) 55 minutes of Content Reading Integrating Science for English Language and Literacy Acquisition (CRISELLA) and (b) 35 minutes of STELLA. The control group received regular ESL practice.

All teachers during the ESL block were observed using Transitional Bilingual Observation Protocol (TBOP). Woodcock-Language Proficiency Battery Revised test, a norm-referenced standardized instrument, as well as dynamic measures of basic literacy skills were used to evaluate students’ language proficiency. The Woodcock-Language Proficiency test consisted of a set of individually administered tests, including oral language, reading-writing, listening, and broad English ability. In the present research, average reliability coefficients (Cronbach’s alpha) were 0.82 for Picture Vocabulary (PV), 0.83 for Listening Comprehension (LC), and 0.79 for Passage Comprehension (PC).

Students’ early literacy-related skills were also tested. In this study, the subtests of Oral Reading Fluency (ORF) and Retell fluency (Retell) were used. Average reliability coefficients (Cronbach’s alpha) were 0.92 for ORF and 0.94 for Retell.

WHAT THIS MEANS FOR PRACTITIONERS

Addressing the needs of young bilingual ELLs who speak languages other than English is critical to the state’s future early learning programs (K-3) as the number of native Spanish-speaking ELLs, according to the U.S. Census, is increasing. It appears that there still remains a pressing need to educate high-need native Spanish-speaking ELLs as long as they have attended the state’s schools. The mission of the ELLA project was to prepare and support teachers to help ELLs’ academic achievement. Through a longitudinal 4-year grade K-3 intervention, ELLA was attempted to determine the extent of teachers’ PD in exploiting English language teaching strategies and practices and the impact of the teachers’ quality on students’ academic achievement. It is evident that students benefited from ELLA intervention as they received instruction in CALP. The finding implies that ELLs’ pre-literacy skills can be developed in the second grade, and we can strongly recommend that a higher portion of instructional time should be allocated in teaching CALP to ELLs so that they could continue developing their cognitive-academic language proficiency.

For practitioners of professional learning, the language environment that ELLs are exposed to in early learning programs (K-3) and the amount of instructional time teachers spent on academic activities influence ELLs’ language and literacy development. To improve ELLs’ academic achievement, English language teachers need special skills and training to teach young ELLs effectively and take advantage of their quality of instruction. On-going and intensive quality PD could develop young bilingual ELLs’ pre-literacy skills at elementary grades. Regardless of program types that ELLs received, quality of instruction, which is equally vital as the language of instruction, is still among critical factors that contributes to the ELLs’ academic growth.
WHAT THIS MEANS FOR POLICY MAKERS

So what implications does this study have for policy makers? This study provides evidence of the mediation effect of teachers’ time allocation on ELLs’ literacy development. The ELLs in early learning programs (K-3) benefit from the longer period of intervention and the increased amount of time exposed to cognitive and academic language interaction. Quality PD allows teachers to have access to useful resources and new developments in teaching practices. Policies are needed to support intensive quality PD in allocating more time to academic activities, such as oral language development and phonemic awareness, while minimizing non-instructional time, such as maintaining classroom discipline. It can thus be recommended that quality English instruction which includes direct and focused instruction, context-specific vocabulary learning, and ongoing PD is understandably needed to promote biliteracy among ELLs.

Analysis

Multilevel modeling techniques were used to answer the three research questions. Given the multilevel structure of the data, students nested within teachers and teachers nested within schools. A cross-classified random effect approach, as an extension to hierarchical linear model, for multilevel data was applied in this study.

All three models (Model 1. Treatment effect on teachers’ time allocation in CALP, Model 2. Treatment effect on students’ outcomes, and Model 3. Treatment effect on students’ outcomes mediated by teachers’ time allocation in CALP) were tested using SAS Proc Mixed.

Results

Across conditions and program types, it was found that second-grade teachers reduced their time allotted to teaching in Basic Interpersonal Communication Skills (BICS); however, third-grade teachers spent over 90% of the instructional time in teaching CALP during the ESL block. Overall, it was found that teachers in the treatment group (over 80% in the second grade and 95% in the third grade) allotted most of their instructional time to building ELLs’ cognitive-academic language proficiency as compared to their counterparts. Conversely, teachers in control classrooms spent a higher portion of their instructional time in promoting students’ basic interpersonal communication skills.

Findings from treatment effect of PD on ELLs’ English language and pre-literacy development from the second to the third grade were promising. As a robust language resource, ELLA has exerted a great influence on developing students’ English language skills and higher-order thinking skills.

The findings of this study revealed that improved instruction led to increase in students’ learning. Likewise, most of the teachers expressly articulated the influence of ELLA on the improvement of students’ skills because of improved teachers’ performance. The teachers affirmed that this program helped ELLs to improve in different skills and language areas.

Limitations

This study which was derived from the state-wide ELLA project included 21 schools, approximately 2 teachers per school and 9 students per classroom in Southeast Texas.

It can be concluded that this study could be extended to involve more ELLs from different contexts and states. A follow-up study is also needed to examine the treatment effect on teachers’ time allocation across different districts over extended time. This brings to the fore the need to focus more on the implementation and evaluation steps involved in this content-integrated project for different groups of ELLs, including ELLs’ demographics, instructional resources, economic family levels, to name only a few.

Reference


