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Journal of Curriculum Studies

ISSN: 0022-0272 (Print) 1366-5839 (Online) Journal homepage: https://www.tandfonline.com/loi/tcus20

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To cite this article: Mary A. Burkhauser & Nonie K. Lesaux (2017) Exercising a bounded autonomy: novice and experienced teachers' adaptations to curriculum materials in an age of accountability, Journal of Curriculum Studies, 49:3, 291-312, DOI: 10.1080/00220272.2015.1088065

To link to this article: https://doi.org/10.1080/00220272.2015.1088065

JOURNAL OF CURRICULUM STUDIES, 2017
VOL. 49, NO. 3, 291–312
http://dx.doi.org/10.1080/00220272.2015.1088065

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Exercising a bounded autonomy: novice and experienced teachers' adaptations to curriculum materials in an age of accountability

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ABSTRACT

This study explores teachers' first enactments of a set of theory-based curriculum materials designed to support academic language instruction. Specifically, this multiple case study looks at how six middle school English teachers in three US schools adapted the materials; each case includes a pair of teachers, one novice and one more experienced. All schools were located in the same district where a school performance measurement system was being used to publicly rank schools' academic performance and growth. Multiple measures were used to look for evidence of adaptations and why teachers made adaptations. We found that all teachers adapted the curriculum, most often in response to either perceived student needs or district reform pressures. In two cases, patterns of adaptation differed by teacher experience; experienced teachers appeared better able to adapt curriculum materials to meet instructional goals. This pattern did not hold up at the third school, where teachers faced greater reform pressures. Taken together, these findings suggest that researchers should pay more attention to the role of school and district policy on teachers' enactments of theory-based reforms. We conclude with guidance to researchers, instructional leaders and others interested in the potential of theory-based curricula as a lever for improving classroom instruction.

KEYWORDS

Curriculum adaptation; accountability policy; beginning teachers; language arts; educational environment

While the field of educational research has produced an enormous amount of basic knowledge relevant for improving teaching and, ultimately, student outcomes, the field has been less successful at producing deep and lasting instructional change at scale – that is, at supporting the effective utilization of this knowledge in schools and classrooms over time (Coburn, 2003; Elmore, 2004; Lewis, 2015). For example, despite evidence of its importance in improving reading comprehension outcomes, academic language instruction has been documented to be relatively rare in US classrooms (Scott, Jamieson-Noel, & Asselin, 2003; Watts, 1995). Curriculum materials are one logical strategy for carrying promising instructional practices into classrooms (Ball & Cohen, 1996). Of particular interest are curricula that are grounded in research-based principles of effective instruction, that is, that are 'theory-based' (McLaughlin & Mitra, 2001). At the same time, however, researchers acknowledge that even

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high-quality materials are not a panacea (Davis & Krajcik, 2005), as previous scholarship suggests that a teacher's ability to use curriculum materials effectively is 'bounded' by both teacher (e.g. Remillard, 2005) and setting-level characteristics (e.g. Coburn, 2004).

While much has been published on how teacher-level characteristics can influence the implementation of curriculum materials, studies of teachers' enactments of theory-based curricula tend to pay less attention to the role of setting, especially settings beyond the immediate classroom context. Seminal earlier work examined the relationship between instructional policy and practice, which was often mediated through textbooks (e.g. Cohen & Ball, 1990). The institutional context, however, has changed significantly over the last two decades. The No Child Left Behind Act of 2001 launched the US education sector into an unprecedented 'Age of Accountability', with states holding teachers and schools accountable for student performance through policy tools such as learning standards, high-stakes standardized tests and teacher evaluation systems. Furthermore, this legislation pushed for greater utilization of theory-based curriculum materials as a means of improving student performance. Thus, the role that setting plays in teachers' enactments of theory-based curricula – and the interaction between teacher and setting-level characteristics – is only becoming more relevant as accountability policies strengthen ties between the intuitional policy environment and the classroom. This phenomenon, however, is not unique to the US context and, in response to these global trends, the *Journal of Curriculum Studies* recently called for more scholarship on the implications of accountability policy: '… we should address … the room to move that is available for all involved from students, teachers and parents at the local level to the national and international policy shapers' (Hopmann, 2013, p. 2).

This study begins to address this call by exploring whether and how six middle school English teachers across three schools in one district found 'room to move' while enacting a theory-based curriculum for the first time. This is an important context in which to study, as secondary English instruction is a domain that may be especially in need of curricular supports, many teachers in these roles having been trained to teach literature rather than to provide reading instruction. Furthermore, to date, there has been little research directly comparing novice and experienced teachers' curriculum use. While novices – those with fewer than four years of experience – may be most eager for and most open to curriculum materials (Kauffman, Johnson, & Kardos, 2002), experienced teachers may find themselves glad of curricular supports in the face of new standards. In this qualitative study, we employ a multiple-case embedded design (Yin, 2009) to examine both novice and more experienced teachers' enactments. The curriculum is grounded in principles of effective vocabulary instruction and was designed to support academic language instruction. The state in which the district is located was using a school performance measurement system to publically rank schools' academic performance and growth, as well as to assign rewards and sanctions. Thus, we were presented with a particularly good opportunity to study teachers' first-time enactments of a theory-based curriculum within a context of mounting accountability pressures. Each case includes a pair of teachers at the same school, one novice and one more experienced. Specifically, we pose the following questions:

(1) How and why do novice teachers adapt an academic language curriculum?
(2) How and why do more experienced teachers adapt an academic language curriculum?
(3) How do teachers' curriculum adaptations differ across school settings?

Studying teachers' curriculum enactments

Remillard's (2005) unifying framework for studying teachers' curriculum use positions the teacher as active designer of the curriculum. She argues that teachers are active mediators of the curriculum with the ability to enact the materials in ways that afford students opportunities to learn, or not, as some teachers will use the curriculum more skilfully than others. Teachers 'enact' curriculum materials as they read, evaluate and adapt them; for example, teachers adapt materials by adding or omitting lesson activities, increasing or decreasing teacher control over an activity, or changing the amount of time spent on an activity (Drake & Sherin, 2006). At the same time, teachers are bounded in their ability to effectively use curriculum materials – by their own resources and the settings in which they work. In the next two sections, we review studies that investigate teachers' enactment of curriculum materials and the ways in which enactment was influenced by characteristics of the teacher and the setting.

How teacher characteristics can influence curriculum enactment

It is well-established that key teacher characteristics moderate curriculum enactment, including knowledge (Hill & Charalambous, 2012; Sherin & Drake, 2009); beliefs, goals and experiences (Collopy, 2003; Davis, Beyer, Forbes, & Stevens, 2011); perceptions of the curriculum (Lloyd, 1999; Remillard & Bryans, 2004); prior curriculum enactments (Choppin, 2009); identity (Drake & Sherin, 2006); and design capacity (Beyer & Davis, 2012b; Brown, Pitvorec, Ditto, & Kelso, 2009). Most relevant to this study is research that examines the role that teacher experience plays in the teacher–curriculum relationship. Findings on this question are limited and somewhat mixed.

Research suggests that novices appreciate the support that curriculum materials can provide; however, they may be reluctant to adapt materials in substantive ways, even when students' needs warrant it. For example, in a study of how three secondary English teachers enacted a variety of curriculum materials in their first three years of teaching, Grossman and Thompson (2008) found that all of the teachers eagerly sought out materials and tended to follow the materials closely the first time they used them, making few adaptations. In subsequent uses, teachers made adaptations, although they tended to 'tinker with the details of the curriculum materials, while remaining faithful to the original imprint and direction' (p. 2020). According to the authors, teachers remained uncritical of the materials and missed opportunities to improve them. As part of the same study, Valencia, Place, Martin, and Grossman (2006) followed four elementary teachers across their first three years of teaching. Two of the teachers were using mandated reading curricula; when they adapted the materials, they tended to adapt procedures ('the how'), such as time allocation, rather than concepts ('the what'). Additionally, adaptations tended to be 'isolated or compartmentalized', rather than integrated into larger instructional goals.

While these studies only considered novice teachers, other studies have included both novice and experienced teachers. For example, Remillard and Bryans (2004) studied how eight elementary teachers, three novice and five experienced (between 12 and 30 years), enacted a mathematics curriculum. In examining teachers' patterns of curriculum use, they found that all of the novice teachers and only one of the experienced teachers exhibited a 'piloting' pattern, as opposed to an 'intermittent and narrow' or 'adopting and adapting'

pattern. In other words, the novice teachers followed the curriculum more closely and were more open to the lessons that the new curriculum could teach them. Most of the experienced teachers, on the other hand, resisted using and learning from the new materials; they tended to adopt or adapt the materials without fully engaging with them. In doing so, the authors suggest that these teachers may have missed opportunities that the novice teachers were able to capitalize on.

Not all studies of teachers' curriculum use, however, have found differences by level of teacher experience. For example, Sherin and Drake (2009) observed how ten elementary teachers read, evaluated and adapted a mathematics curriculum. While the experienced teachers tended to either add, omit or substitute lesson components, the two novice teachers studied did not share the same pattern. While both teachers studied the materials closely beforehand, one novice tended to adapt materials during instruction in response to students' needs by creating and replacing activities, while the other novice did not adapt the materials.

How settings can influence curriculum enactment

Teachers are also bounded by the settings in which instruction is embedded (Kennedy, 2010), which in turn influence their curriculum use. For example, within classrooms, teachers' decisions about how to enact a curriculum may be influenced by students' instructional (Allen, Matthews, & Parsons, 2013; Remillard, 2000) or behavioural needs (Eisenmann & Even, 2009). At the school-level, teachers may be influenced by scheduling pressures (Keiser & Lambdin, 1996) or by the availability of professional supports (Valencia et al., 2006; Van Zoest & Bohl, 2002). Specifically, Valencia et al. (2006) found that two of the novices in their study were bounded in their ability to skilfully adapt their curriculum materials by the lack of resources at their schools. In contrast, the two novices with greater pedagogical content knowledge and better access to resources 'learned the most and were able to adapt instruction' (p. 114).

Broader district and state-level policy environments can also influence teachers' instructional decision-making (Johnson, Thompson, Smagorinsky, & Fry, 2003). However, while district policies may focus a teacher's attention on certain tools, for example, a textbook or a set of learning standards, policy alone may not provide teachers with enough support to use these tools effectively (Spillane, 2004). In the 1990s, several published case studies examined teachers' interpretations and enactments of a mathematics reform. Specifically, they examined the relationship between the instructional policy, which was often communicated to teachers through textbooks, and teachers' practices. Looking across these studies, Cohen and Ball (1990) suggested that teachers' interpretations and enactments – of both instructional policy and textbooks – vary with respect to their pre-existing knowledge, beliefs and experiences. They also concluded that while textbooks can serve as a tool for communicating and supporting policy implementation, the guidance provided by these types of material supports is relatively weak. Importantly, the curriculum materials used by teachers in these earlier studies were not typically theory-based; that is, they were not always grounded in research-based principles of effective instruction. Indeed, the practices promoted by the textbooks sometimes worked against the innovative instructional policies being implemented by reformers (Cohen, 1990).

More recently, Grossman and Thompson (2004) studied three first-year teachers in two districts that were 'actively attempting to promote changes aimed at the classroom' (p. 281). Although all of the teachers were tuned into district priorities, they reported not knowing

how best to respond to them. For example, while district standards directed one novice to 'engage students in authentic reading and writing activities', they failed to tell her how. It may be, however, that more experienced teachers are better able to respond to their policy environment; Pardo (2006) followed three teachers across one year, asking the question: What influences beginning teachers as they translate and implement a particular aspect of their writing curriculum into practice? She found that teachers' writing instruction was influenced by the settings in which they taught, including the 'various policies and mandates that create curricular and assessment expectations' (p. 390). One fourth-year teacher felt that her writing instruction was constrained by the dictates of a federal grant her school held for improving early reading instruction. A second-year teacher's instruction was heavily influenced by the state assessment. Interestingly, while the fourth-year teacher was able to 'finesse' her teaching context to 'balance the requirements of policy and education reform with the needs of [her] own students', the second-year teacher was not (p. 390). Rather, this teacher 'acquiesced to the policy expectations of the test and to the wishes of her reading teacher as she strove to prepare her students to perform well on the state assessment' (p. 388).

Collectively, these studies suggest that setting-level factors play a role both in the types of curriculum materials that teachers use and in how they enact them. Instructional policies may direct teachers' attention to certain aspects of their practice or to certain instructional tools; however, policy in and of itself is not enough to push teachers to make deep and lasting changes. Earlier studies looking at the relationship between instructional policy and practice found that policies were often communicated to teachers through textbooks, which teachers then interpreted in light of their existing beliefs and practices, diluting the effects of the reform. More recent studies highlight the importance of other policy tools, including state assessments. None of these studies, however, consider teachers' use of theory-based curriculum materials or the relationships between these materials, teacher-level characteristics and accountability policy. This study expands the literature on teachers' curriculum enactments in two ways: first, by explicitly examining differences between novice and more experienced teachers – findings on this question are at present limited and somewhat mixed – and second, by looking closely at teachers use of a theory-based curriculum within a context of mounting accountability pressures and a press for literacy reform in the secondary-school context.

Study context: curriculum materials and participating teachers and schools

This study comes out of a larger evaluation of the effects of an academic language curriculum [Academic Language Instruction for all Students (ALIAS)], on sixth graders' literacy skills (Lesaux, Kieffer, Kelley, & Harris, 2014). This larger study presented us with a unique opportunity to study teachers' enactments of a theory-based curriculum in a state where accountability policies were just starting to take hold. Teacher participation in ALIAS was mandated by the district as part of their press for raising adolescents' literacy rates.

The ALIAS curriculum

ALIAS was designed using three research-based principles of effective vocabulary instruction: (1) the goal of vocabulary instruction should be deep understanding of a small number of

words, (2) instructional time should be spent on 'general-purpose academic words' (e.g. affect, establish), and (3) instruction should include a mix of direct teaching of words and teaching of word-learning strategies (Beck, McKeown, & Kucan, 2013; Stahl & Nagy, 2006). ALIAS's nine units take place over twenty consecutive weeks. Each day, teachers spend 45 minutes working with students on a set of target words that appear in an informational text. Prior to the start of the school year, teachers in this study participated in a full-day training and were given the ALIAS teacher's guide. For each unit, the teacher's guide included a short framework outlining the core components of each lesson and corresponding model lesson plans with sample scripts. For example, core components from *Unit 1*, *Lesson 1* include 'teacher previews article', 'teacher reads aloud and discusses article', 'teacher introduces vocabulary words'; the corresponding lesson plan includes example language that a teacher might use as she previews the article, reads aloud and discusses the article, etc.

A nine-day cycle comprises each ALIAS unit, over the course of which the teacher releases responsibility for the target words to the students. On *Days 1, 2, 5* and *6*, the teacher provides more direct instruction. On *Days 3, 4, 7* and *8*, the teacher begins with a mini-lesson in which she models what students are then asked to do independently or in pairs. During students' independent work, the materials direct the teacher to monitor the room and assist struggling students. More specifically: On *Day 1*, the teacher reads an informational text aloud, introduces the target words and leads the class in a discussion of the article. On *Day 2*, having reviewed dictionary definitions as a class, students work in pairs to create personal definitions for the target words. On *Day 3*, the teacher models how to answer text-based questions using the target words; students work in pairs to complete the remaining questions. On *Days 4* and *7*, students participate in activities that engage them with target words in contexts outside of the article. On *Days 5* and *6*, the teacher works with students on morphology; these are more teacher-centred lessons. On *Day 8*, the teacher reads a second article and reviews a writing prompt. Using a graphic organizer, students plan for writing. On *Day 9*, students use the organizer to write a paragraph in response to a prompt.

ALIAS is a scaffolded curriculum; that is, it includes a variety of supports to help students successfully complete activities (Tomlinson et al., 2003). For example, texts are read aloud by the teacher and the teacher models activities before asking students to complete them independently. ALIAS was not designed, however, to support teachers in providing differentiated instruction. Teachers differentiate instruction when they give students different scaffolds or different activities to help them meet the same objectives (Tomlinson et al., 2003). In the ALIAS curriculum, all students are expected to participate in the same set of activities.

Participating teachers

Of the twenty six teachers randomly assigned to implement the curriculum in the larger study, six were chosen for this investigation. As a consequence of the draw associated with random assignment, three of the treatment teachers were in their second year of teaching and were also at the same school as a more experienced treatment teacher. We decided to take advantage of this to learn more about curriculum adaptations across teacher experience and school context. All six teachers[1] taught sixth-grade English, and all but one had primary certification in this subject area. None had worked with the curriculum previously. Although we did not purposely select second-year teachers, research suggests that they are still eager for support but perhaps better able than first-year teachers to make use of

Table 1. Demographic profiles of sample teachers and number of videotaped lessons.

	Longfellow Middle School		Miller Middle School		Hemingway Middle School	
	Nate	Elizabeth	Nancy	Emily	Natasha	Enid
Years teaching, counting this school year	2	10	2	9	2	5
Years teaching at current school, counting this school year	2	5	2	7	2	1
Years teaching current subject, counting this school year	2	10	1	9	1	5
Highest degree held	BS/BA	MS/MA	BS/BA	BS/BA	BS/BA	MS/MA
Teaching certification held	Preliminary credential	Full credential	Preliminary credential	Full credential	Full credential	Full credential
English language arts is primary area of certification	Yes	Yes	Yes	Yes	No	Yes
Number of videotaped lessons	4	2	3	3	3	2
Number of meetings with Curriculum Specialist	6	6	6	5	3	4

the tools at their disposal (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Grossman et al., 2000). Experienced teachers were in their fifth, ninth and tenth years of teaching. See Table 1 for additional demographic information.

Schools

ALIAS was implemented in a large, urban district in the south-west United States. The three participating schools differed with respect to income, as measured by the percentage of students who qualified for free or reduced-priced lunch (FRPL).[2] The sample included one low-poverty school (Longfellow), one moderate-poverty school (Miller), and one high-poverty school (Hemingway). Going into the study year, Hemingway had a lower score than the other two schools on the state's school performance measurement system and had failed to meet its target growth in the year prior to the study year. Hemingway also had an influx of second-year teachers at the beginning of the study year; and teachers at Hemingway, on average, had fewer years of experience than at the other schools.

Data sources

To strengthen internal validity through data triangulation, we used multiple measures to look for evidence of adaptations and why teachers made adaptations.

Teacher interviews

Each teacher participated in a 45 minutes interview at the end of the study year. Teachers were asked about their professional background, the similarities and differences between ALIAS and their standard practice, and their experiences with ALIAS. Interviews were recorded and transcribed.

Observation notes

Teachers were observed teaching five ALIAS lessons. Observations occurred every two or three weeks and were scheduled so as to capture a range of lessons across the lesson cycle and units. Three trained observers used a structured observation protocol to rate the lessons. We used video examples to establish reliability during training; 20% of observations were then double-coded to estimate reliability. Rater 1 observed fourteen lesson; Rater 2 observed eighteen lessons; and Rater 3 observed two lessons. All teachers were observed by at least two different raters. In some cases, two raters observed the same lesson. Teachers were rated both on the presence or absence of critical ALIAS lesson components (Cohen's $\kappa = .99$) and on the teaching quality (Cohen's $\kappa = .80$). Critical lesson components – that is, 'the most essential and indispensable components' of ALIAS (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005 p. 24) – varied by lesson. For example, critical lesson components for *Day 2* included 'teacher introduces context clues'; 'students brainstorm word meanings'; 'teacher and students create and record informal definitions'. While teachers were not required to read the script word-for-word, they were asked to teach all of the critical components for each lesson. Observers described adaptations that teachers made during lesson enactment. Teaching quality was measured by rating teachers 'low', 'medium' or 'high' on fifteen 'Hallmarks of Good Academic Vocabulary Instruction', which included general good teaching practices (e.g. *effectively leads classroom discussions*, *manages students to maximize time on task*) and vocabulary-specific good practices (e.g. *affirms correct definitions and usages*, *reviews previously taught words*).

Videotaped lessons

A random sample of lessons was selected to be videotaped. Each teacher was videotaped enacting an ALIAS lesson between two and four times. Lessons ranged in length from 30 minutes to an hour.

Specialists' meeting notes

Curriculum Specialists (Specialists) were tasked with guiding teachers through the ups and downs of trying a new curriculum for the first time. Specialists were not tasked with supporting teachers' adaptations to ALIAS; part of their role was to encourage and support fidelity to the curriculum, while also troubleshooting with teachers in light of classroom and student characteristics. Teachers in this study met with their Specialist between three and six times for about 30 minutes over the course of the study year. Specialists took notes following each meeting, summarizing what was discussed and often noting adaptations that teachers made or suggested. These notes also provided insight into why teachers made or suggested adaptations. Additionally, Specialists sometimes noted relevant setting-level information.

Data analyses

In addressing the first two research questions – How and why do novice teachers and their more experienced peers adapt an academic language curriculum? – we primarily relied on the analytic technique of explanation building, the goal of which is to posit a 'set of causal links' about how or why a phenomenon happened. We began by separately analysing the data associated with each teacher, proceeding through three steps. Through this iterative process, we were able to make propositions related to the research questions, compare them against the emerging data and revise propositions as needed. The first author carried out all coding. To increase the validity of her codes, she engaged in the process of 'peer debriefing', as described by Creswell and Miller (2000), wherein a colleague 'provides support, plays devil's advocate, challenges the researchers' assumptions, pushes the researchers to the next step methodologically and asks hard questions about methods and interpretations' (p. 129). She also took steps to improve the stability and accuracy of her codes, two types of reliability (Krippendorff, 2012). Specifically, in the process of developing a detailed codebook, the first author reviewed the data on multiple occasions. Once the codebook was finalized, she reviewed all of the data with fresh eyes, revising codes as necessary to better align with the established codebook.

First, meeting notes and interviews were coded. Initial codes reflected what the literature suggests matters with respect to the participatory relationship between teachers and curriculum materials, including characteristics of the teacher (e.g. *professional identity*, *stance towards curriculum*) and setting-level characteristics (e.g. *student characteristics*, *principal leadership*). These codes reflected preliminary propositions about how and why teachers might adapt curriculum materials, for example, that experienced teachers may be more likely than novices to reject a new curriculum or to adapt materials to fit with existing practice (Remillard & Bryans, 2004). By including the code *stance towards curriculum*, we were able to systematically examine the relationship between teachers' stances towards ALIAS and the adaptations they made. During this first round of coding, adaptations discussed by teachers and Specialists were coded. Initial codes were drawn from the literature (e.g. *adding* or *omitting activities*, *increasing amount of time for lesson activity*); additionally, new codes emerged (e.g. *extending activities*). The first author wrote detailed memos to record her thinking.

In the next step, the observation notes were reviewed – each set of notes was compared with the written description of the lesson outlined in the ALIAS teacher's guide and, when available, the enacted lesson as captured by video. All adaptations defined as 'modifications that substantially altered either the content of the lesson or the role of the teacher and students in the lesson' (Drake & Sherin, 2006, p. 163) were coded. Additionally, notes were made about what was happening in the classroom at the time of the adaptation, for example what students were doing or saying. A checklist outlining the characteristics of effective vocabulary instruction as laid out in the programme was used as a lens through which to watch the videos and provided some data on the quality of instruction. Here, again, detailed memos were written.

In the final step, the first author looked across the two sets of memos, triangulated the data (Yin, 2009) and conducted a second round of coding (Strauss & Corbin, 2008). Two triangulation techniques were employed: triangulation by data source (e.g. across persons, times, places) and triangulation by data method (e.g. across observation and interview notes) (Miles, Huberman, & Saldana, 2013, p. 267). For example, the first author looked for evidence

of adaptations and teachers' rationales for making adaptations across time – findings were deemed more representative of a teacher's relationship with the curriculum if there were multiple instances of the teacher making a certain kind of adaptation across the year, rather than just one example. Additionally, the first author looked for evidence across multiple methods, including observation notes, interview notes and Specialists' notes – findings were deemed more valid if, for example, instances of what teachers described in their interviews were also captured on video or noted by an observer or by their Specialist.

The following strategies were used to look for themes related to the research questions: repetitions, similarities and differences, and linguistic connections (Ryan & Bernard, 2003). New codes emerged around why teachers adapted ALIAS (e.g. *to scaffold*, *to meet district standards*), as well as for whom teachers made adaptations (e.g. *higher- or lower-achieving students*). Additionally, when possible, coding also captured the effect of the adaptation on the intellectual rigour of the lesson activity, that is the extent to which the adaptations either increased or decreased the cognitive demand placed on students. After looking at each teacher separately, the data were examined for each teacher-pair, treating each pair as its own study. Commonalities in teachers' patterns of adaptation, as well as ways in which patterns differed between the novice and the more experienced peer, were noted.

To address the third research question – How did teachers' curriculum adaptations differ across school settings? – a cross-case synthesis (Yin, 2009) was conducted, comparing the results of the three individual case studies to see whether the same patterns between novice and experienced teachers held up across settings. Codes relating to setting-level characteristics were of particular interest, as research suggests that such characteristics can influence how teachers engage with curriculum materials. Relevant codes included *teacher collaboration, principal leadership and support*, *school policy*, *district policy*. See Appendix A for the full list of codes.

Findings

All teachers adapted the ALIAS curriculum. In general, teachers tended to add or extend existing activities, rather than omit activities or parts of activities. Discussed in more detail below, a careful examination of their adaptations suggests two cross-cutting themes: (1) teachers most often adapted ALIAS in response to perceived student needs and district reform pressures, which teachers felt more or less directly, depending on their school; and (2) experienced teachers seemed better able than novices to use the curriculum to meet instructional goals.

RQ 1: How and why did novice teachers adapt an academic language curriculum?

Background: Nate, Nancy and Natasha

All three novices appreciated ALIAS, which they noted was more different from than similar to their standard practice. In some ways, though, their stances towards ALIAS differed. Nate said that he liked adding a 'creative bent' to the lesson frameworks. Nancy, on the other hand, talked about how her reading changed over the course of the year. At the beginning of the

year, the teacher's guide was her 'Bible'. As Nancy became more comfortable, she was able to 'go off' the scripts. Natasha similarly followed the curriculum most closely in the beginning.

Responding to perceived needs of students

Nancy and Natasha tended to adapt 'the how' of particular lesson activities, and they most often did so in an effort to make activities more accessible to their lower-achieving students. Across the study year, Nancy shared concerns with her Specialist about her English Language Learners (ELLs). She mentioned several adaptations in her interview and in meetings with her Specialist whose purpose appeared to be providing additional scaffolding for all students, with the hope of really supporting ELLs and students on Individualized Education Programs. In one lesson, for example, Nancy allowed students to work in pairs rather than independently when answering text-based response questions. In another lesson, Nancy utilized a class brainstorm to prepare students for writing. Before beginning the independent writing activity, Nancy had students share out their plans for incorporating the target words and using evidence from the article. She recorded their ideas on chart paper that all students could refer to during writing. On multiple occasions, Natasha increased the amount of time she spent modelling ALIAS activities before sending students into their independent work.

But effective scaffolding can be challenging. For one, the teacher may end up doing too much of the work for students, rather than 'coach[ing] for success with a task slightly more complex than the child can manage alone' (Tomlinson et al., 2003, p. 126). Recall that on *Day 2* of the ALIAS cycle, students work independently or in pairs to create personal definitions for the target words. During one *Day 2* lesson, Nancy instead led the whole class through this activity. But far from giving students the answers, she called on a number of students to share their thinking; thus, the class worked together to co-construct definitions, with many students actively participating. Natasha's scaffolding, on the other hand, sometimes took much of the cognitive demand away from students. During one *Day 2* lesson in the beginning of the year, Natasha allowed her students to copy dictionary definitions, rather than supporting them to create their own definitions. In another lesson at the end of the year, the Specialist noted that Natasha had to 'walk most of [her students] through [writing captions]', an activity which the curriculum encourages students to do in pairs. Similarly, Nate was observed teaching two *Day 2* lessons, one at the beginning of the year and one much later. On both occasions, Nate took over and led the class through the activity. The observer noted after the second lesson that there had been 'very little opportunity for student input'.

In addition to adapting 'the how' of lesson activities, Nate sometimes adapted 'the what', for example, by changing a lesson objective or adding a new lesson component. In his interview, Nate talked about his desire to make the ALIAS lessons more 'interesting' for students, which may have been behind these adaptations. During one lesson, the curriculum asks students to pretend to be celebrities and to interview one another, planning ahead to incorporate the target words into the interviews. The purpose of this lesson is to give students an opportunity to actively work with the target words in a new context. The teacher's guide instructs the teacher 'to point out how the definitions are correctly applied, and fix incorrect uses'. During Nate's enactment of this lesson, however, as students started to plan their interviews, much of their talk was focused on deciding whom to be, rather than on the target words, and Nate did not redirect students. During the presentations, rather than focusing on students' use of the target words, Nate emphasized the importance of characterization and

accents. He told students: 'To get full credit, you have to try and *be* the character'. Not until the fourth pair had presented, did Nate ask, 'Did you use the target word in your response?' To which the students replied: 'Did we have to?' Here too, we see that Nate's adaptation compromised the cognitive rigour of the lesson.

Responding to district standards

Teachers in this study were being held accountable to the district standards through a series of mandated, district-developed assessments. All of the novices identified having to meet the demands of both ALIAS and the district standards as a challenge; although each novice responded to this challenge differently. Nate tended to keep ALIAS separate from the rest of his curriculum, some weeks holding off teaching ALIAS to focus on the district standards and other weeks holding off teaching the district standards to focus on ALIAS. At one point, his Specialist wrote: '[Nate] decided to teach them separately. He seemed to want to get ALIAS out of the way to concentrate on prep [for the district assessments]. He did not seem to connect the two'. At Hemingway, as will be discussed in more detail below, Natasha's principal reacted to district pressures for her, preventing Natasha from spending as much time on ALIAS as she would have liked by enforcing a strict schedule. Nancy was the only novice teacher who was observed trying to integrate ALIAS with other aspects of her curriculum, specifically, by adapting ALIAS to better meet the district's writing standards.

Nancy felt that many of her students could and should be doing more writing than what was asked of them by ALIAS. Thus, Nancy adapted ALIAS to create additional writing opportunities for students. By the end of Unit 7, Nancy was pushing her students to write more than a paragraph. She wanted them to write 'essays'. In one lesson, Nancy explained to students how they could turn ALIAS paragraphs into essays:

> Now we don't even call them paragraphs anymore. We call them essays because we're going a little deeper. It's not just a paragraph for us anymore. You have to have at least how many sentences that explain your proof? Two, sometimes three. So it ends up becoming more like an essay because we have different paragraphs. We do one for intro, one for closing. We have little mini ones for our reasons why.

It was unclear, however, what additional scaffolds, if any, Nancy provided students to support them in doing this additional writing work. In a subsequent writing lesson, Nancy also did not provide additional scaffolds. This was surprising, given Nancy's use of scaffolding at other points during the year. Essentially, as described by Nancy, the defining feature of an essay is length; essays have multiple paragraphs. In this lesson, however, students worked with the same support as before to plan their writing – an ALIAS graphic organizer, designed to support students in writing a paragraph – but were asked to write more.

RQ 2: How and why did more experienced teachers adapt an academic language curriculum?

Background: Elizabeth, Emily and Enid

Unlike the novices, Elizabeth and Emily came to ALIAS with some experience teaching vocabulary, though they still named many ways in which ALIAS differed from their standard practice. While neither teacher resisted the curriculum materials outright, their stances towards

ALIAS were more complex. Emily was not excited when she first heard about ALIAS: 'My initial thought was, oh great, groan, groan. Here comes something else'. But the training won her over; she recognized the good instruction in ALIAS and appreciated the high-quality material supports. Elizabeth approached ALIAS as 'an experiment'. She hoped that ALIAS, with its well-specified routines, would be an improvement over her other curricula.

Enid also appreciated ALIAS, yet she differed from the other experienced teachers in that she did not report any prior experiences teaching vocabulary. At the beginning of the year, Enid reported sticking closely to the curriculum but she took this to an extreme, often reading the optional scripts word-for-word. Even in her exit interview, the way Enid spoke about ALIAS suggests that her way of using ALIAS persisted through the year: '… I didn't really need help. I knew how to follow the stuff by myself. I'm pretty good at following directions'.

Responding to perceived needs of students

Elizabeth and Emily made adaptations to ALIAS in an attempt to make the activities more accessible to their students. To some extent, these experienced teachers employed some of the same scaffolding strategies as the novices. On several occasions, for example, Elizabeth dedicated additional instructional time to explicit modelling in order to ensure that students were set up to complete activities successfully. Unlike the novices, however, Elizabeth and Emily were not observed making adaptations that compromised the cognitive rigour of the lessons. For example, whereas both Nancy and Emily identified differentiation as a challenge, only Emily adapted the curriculum to allow for differentiated instruction. Emily was observed teaching the same *Day 2* lesson described above. Rather than work as a class to create personal definitions, however, Emily set her students up to do this work independently and then intentionally pulled a small group of lower-achieving students to work with her more closely. This strategy – creating small 'teaching-learning groups' – is one of the markers of effective differentiation identified by Tomlinson et al. (2003), and Emily was observed using it on multiple occasions across the year.

Emily's knowledge of differentiation strategies was also apparent when she discussed her ideas for extending the writing activities. For example, she would have liked the graphic organizer to be differentiated so as to support a wider range of student abilities. Beyond this, Emily had suggestions for how ALIAS could be adapted in future enactments in order to help all students meet grade-level writing standards, for example the addition of supplementary texts. Emily discussed how such texts could support learners at all levels, providing 'lower kids' with more 'knowledge to pull from when they come to the table' and allowing 'high kids' to learn about both sides of an issue before making a well-supported argument.

Responding to district standards

The previous example also illustrates how Emily, like Nancy, saw opportunities to adapt ALIAS writing activities to move students towards the district's writing standards. Emily told her Specialist: 'I know we're after just using the writing in a paragraph, but I set the expectation higher for many students … especially to prepare for the seventh-grade writing test'. Elizabeth too found ways to extend ALIAS activities, adapting 'the what' of ALIAS to create additional writing opportunities for students. While all three teachers – one novice and two more experienced – expressed the same concern and saw the same extension opportunities,

the more experienced teachers, and especially Elizabeth, were better able to use the materials to meet this instructional goal.

While Elizabeth loved that ALIAS had students writing every day, she did not feel that students did enough extended writing. In several instances, Elizabeth took additional time to work with students on extending their ALIAS writing. For example, at the end of Unit 1, the ALIAS assignment is to write a paragraph, but Elizabeth spent three days working with students to do an expository essay. Her Specialist wrote: 'Because [Elizabeth] feels she does not have the time to prepare students for [the district] tests on expository writing … she extended the paragraph for Day 9 to an expository essay, complete with thesis, introductory statement, and citations from the article'. Later, Elizabeth turned a short ALIAS writing prompt into a research essay. She gave her students several days to work on this extended assignment. Elizabeth described her adaptation decisions in this way: '… by the end of sixth grade … they need to be writing compositions at this point in time. They need to be writing essays. And we need to be getting beyond just basic one-to-two paragraphs'. While these adaptations extended the amount of time students spent on ALIAS-related activities, the time was used to move students towards district standards. Thus, Elizabeth worked to integrate the ALIAS materials and the district curriculum to prepare students for the district exam.

Emily and Elizabeth also responded to district standards by trying to integrate the two sets of materials, for example, using the ALIAS curriculum as another opportunity to instruct students around how to read an informational text. Elizabeth reported:

> On the expository [district exam], I felt like they were ready, they were prepared. We were using the same language. I made sure that when we were reading, I used the language that I knew would show up on the [district exam]. They knew how to look at the text features. They knew what to do.

As noted, each ALIAS unit begins with a read-aloud of an informational text. Elizabeth, Emily, Natasha and Nancy were all observed teaching a *Day 1* lesson. Both Elizabeth and Emily, while previewing the article with their classes, took extra time to walk through the text features with their students, which seemed to be a part of their regular routine when reading this type of text.

> Elizabeth: What is the first thing that we do when we start to read an article? Skim the article. But what do we skim? Let's go in order … the text features … and what text features do we start with? Title, subtitles … let's start right here …

> Emily: There are some things that I want to do because we know it's just good reading before we read. One, we're going to preview. Look at title. Look at pictures. I'm going to read the sub-headings first … Just like we do in social studies. Just like we do in our other persuasive articles we've been reading …

Natasha, on the other hand, breezed through a few text features in passing: 'What's the sub-title? Let's find out what happened. Look at the picture on the side. What's happening? What is the caption? You guys are going to be so ready for your test', while Nancy was not observed discussing text features at all during this lesson.

In general, Enid made very few adaptations to the ALIAS materials, perhaps due to her lack of experience with vocabulary instruction or to her general stance towards the materials as 'directions' to be followed. There was one lesson, however, where Enid was observed integrating an extra step into the ALIAS four-step process to answering text-based questions. Enid reminded students about the four steps but then referred to a 'fifth step', saying: 'Sentences should include wording from the question'. This is a popular test-taking strategy.

RQ 3: How do teachers' curriculum adaptations differ across school settings?

At Longfellow, where Nate and Elizabeth taught, and Miller, where Nancy and Emily taught, teachers' patterns of curriculum use were similar – both novice and more experienced teachers adapted ALIAS and tended to do so for the same overarching reasons (i.e. to meet students' needs, to meet district standards). Furthermore, in both cases, the experienced teacher seemed better able to use the ALIAS materials to meet her instructional goals without diminishing the rigour of the activities. As described above, Emily and Elizabeth were more successful at adapting ALIAS to scaffold and differentiate instruction as well as extending and integrating ALIAS activities so as to better meet district standards. While we did find a few instances of negative evidence – for example, we describe above where Emily successfully scaffolded an activity – this pattern generally held up across the data corpus. This pattern did not hold, however, at Hemingway, where Natasha and Enid faced the same two school-level challenges. First, both teachers were working with students who were performing far below grade-level. Second, both teachers were under pressure from their principal to simultaneously incorporate multiple initiatives into their day in an effort to improve students' standardized test scores. With respect to adaptations made, Natasha and Enid looked more similar to one another than the other teacher pairs.

Hemingway Middle School: a divergent case

Beyond readily observable differences in income and student achievement levels, Hemingway differed from Longfellow and Miller in other ways. At both Longfellow and Miller, teachers reported that their principal was supportive of ALIAS but only minimally involved in day-to-day decisions about classroom instruction. Thus, when Elizabeth, for example, wanted to extend the ALIAS lessons to meet district standards, she was able to do so. The principal at Hemingway, on the one hand, seemed not to know much about the details of ALIAS (e.g. Natasha reported that because the principal had never observed ALIAS, she could not know 'how much went into the program') but on the other hand, was more prescriptive about teachers' instruction. Natasha reported that the principal was 'trying to keep everyone uniform, so we have to meet certain standards'. Halfway through the year, the principal asked Natasha and Enid to follow a strict schedule, with ALIAS slotted for 7:20–8:05am. In her interview, Natasha brought up the challenges associated with handling multiple initiatives at once.

> We've added and implemented a lot of new programs this year alone … So it was figuring four components in and getting the results we needed to improve our [standardized test] scores. So it was challenging to fit all of it in.

These school-level characteristics seemed to affect Natasha and Enid's participation with ALIAS in at least two ways, as compared to the other teachers studied. First, Natasha and Enid made many fewer adaptations to ALIAS overall than did the other teachers. Second, both teachers slowed down their pacing significantly, spending many more days on each unit than suggested by the curriculum developers. This likely resulted from a desire to give students more time to complete the activities, particularly in light of their low literacy levels, combined with a lack of flexibility to extend ALIAS beyond its allotted 45 minutes per day, as teachers at Longfellow and Miller were able to do. Both Natasha and Enid talked about the challenges of pacing in their exit interviews and this topic often came up during meetings

with their Specialist. In the beginning of the year, Natasha found herself spending up to three days on the text-based response questions (a one-day activity). The Specialist had to push Natasha and Enid to keep up with the suggested pacing schedule.

Discussion

Within the context of a middle school literacy reform, the participating teachers studied were required by their district to implement a theory-based, academic language curriculum with which they had no prior experience (i.e. ALIAS). Specifically, we examined how novice and experienced teachers across three schools enacted this curriculum in the face of rising accountability pressures. Our results show that all of the teachers were tuned into the reform efforts being undertaken by their district and that this awareness influenced their enactments of the curriculum – although the teachers did not necessarily see the connection between the two. All six teachers expressed concerns about their ability to enact the curriculum while at the same time meeting the demands placed on them by the district standards and the associated exams to which their students would be held accountable. Thus, in addition to reading the curriculum through the lens of their students' needs and abilities, which has often been observed in the literature, teachers read the curriculum through a lens imposed on them by the district. Indeed, some of the more substantial changes that teachers made to the curriculum – instances where teachers adapted 'the what' (i.e. concepts) rather than 'the how' (i.e. procedures) – were made with the goal of better meeting the district standards. This finding extends previous work on the relationship between instructional policy and practice. While earlier work focused mainly on how teachers' interpretations of policy influenced their existing practice (and vice versa), this study adds a theory-based curriculum into the mix – examining the interactions between school and district-level policies, teachers' existing practice and a set of curriculum materials grounded in research-based principles of effective instruction. The latter is an important addition, given that high-quality materials are a prevailing strategy for improving teachers' existing practice at scale.

Our results also suggest that some teachers had more 'room to move' when it came to adapting the curriculum to meet their instructional goals, an apparent function of both teacher experience and school context. With respect to teacher experience, in two of the three cases, the experienced teacher appeared better able to adapt the materials to meet students' needs as well as district standards (i.e. Elizabeth and Emily). Their novice counterparts, while not unwilling to make adaptations, either did not take notice of opportunities to integrate and extend the curriculum materials (i.e. Nate) or seemed unsure of how to do this effectively (i.e. Nancy). Thus, even though some novices may see the potential for extension and integration across standards and materials, they may not have the capacity to realize their curricular vision. These types of adaptations may be easier for experienced teachers, who may have a clearer sense of where they need to get their students, as well as a better handle on the practical tools needed to do so. Of course, it is important to note that prior research (Henningsen & Stein, 1997) has found that even experienced teachers do sometimes make adaptations that compromise the cognitive demands of the activities. That we did not observe this in our sample may be due to the fact that, for the most part, teachers added or extended activities, rather than omitting or substituting activities. The teachers in our sample may have been reluctant to leave off parts of the curriculum due to their lack of familiarity with academic language instruction.

But not all teachers in the sample had the same opportunities to adapt the curriculum. Specifically, this pattern did not hold at the third school, where students were academically further behind and teachers faced even greater reform pressures. Teachers at the highest-poverty school experienced the greatest administrator oversight and also had the least room to move. Due to the strict schedule imposed on them by their principal, these teachers had less autonomy over their instruction and over how the academic language curriculum fit into that instruction. In addition to being required to work with the curriculum, there were other very specific demands upon their time and both teachers struggled to fit it all in. With so many moving pieces, in addition to classrooms with students who were almost all reading below grade-level, it may have been harder for these teachers to develop a vision for how they could start to fit all of the pieces together, let alone act on that vision. The teachers at the highest-poverty school were bounded by the pressures put on them by their school, which in turn was responding to district demands.

Conclusion

This study contributes to the field's understanding of how and why teachers adapt theory-based curriculum materials in the face of mounting accountability pressures. This study suggests that many teachers are likely reading and evaluating curriculum materials through a lens imposed on them by the broader policy environments in which they are embedded (e.g. district or state standards). Furthermore, this study suggests that experienced teachers may be better able than their novice counterparts to notice and to capitalize on opportunities to use curriculum materials to meet these outside demands, for example, through the extension of curriculum activities or the integration of materials and activities from different sources. These types of adaptations may be more challenging for teachers and less likely to occur, however, at schools where teachers are overwhelmed with competing demands on their time and where many students are reading below grade-level.

These findings have important implications for researchers who are hopeful that high-quality curriculum materials can help carry promising instructional practices into classrooms. Promising curricula tend to come and go in schools, and this churn is particularly common among researcher-developed programmes, given that these programmes tend to be 'inconsistent with the stable features of instruction in the school systems', such as textbooks and standardized tests (Meyer & Rowan, 2012, p. 78). Knowing that teachers are likely to be reading, evaluating and adapting materials through these broader lenses, researchers would do well to anticipate ways in which a curriculum might be adapted to be more consistent with the local context, perhaps through consultation with more experienced teachers in a particular school or district setting. In this way, researchers might be able to better support teachers in making more successful or 'productive' adaptations, that is adaptations that are in line with the reform's 'theoretical base' or, at least, not antithetical to it (McLaughlin & Mitra, 2001). While this has not been the traditional role of the researcher, in light of the challenges that researchers have faced in bridging the research-to-practice divide, some are suggesting that researchers could do more to 'partner with schools and districts to adapt and test which supports are most needed' (Gutiérrez & Penuel, 2014). Of course, this is not to suggest that *all* researchers ought to take on this new work.

These findings also have important implications for school leaders and others whose role it is to develop teachers professionally. These individuals should anticipate that teachers will

have questions and concerns about how any given curriculum will help them to address their local standards. Knowing this, school leaders should put supports in place (e.g. coaching, professional learning communities) to answer teachers' questions and to support them in making productive adaptations, rather than adaptations that could undermine the curriculum's rigour. Our findings suggest that, in some cases, novice teachers may be able to find this support from the more experienced teachers at their schools. Curriculum developers and teacher preparation programmes could also do more to support what researchers are calling a teacher's 'pedagogical design capacity' – that is her ability to 'critique and adapt curriculum materials to achieve productive instructional ends' (Beyer & Davis, 2012a). In their high-level guidance to developers of educative curriculum materials, Davis and Krajcik (2005) suggest that such materials should include supports to help teachers make 'good decisions about changes' (p. 6). Additionally, teacher preparation programmes could enhance preservice teachers' pedagogical design capacity; indeed, researchers are currently studying different approaches for doing just that (Beyer & Davis, 2012a).

Limitations and future research

While this study was able to capture how and why a small sample of teachers made adaptations to a theory-based curriculum, there are necessarily limitations and directions for further research. Specifically, we did not empirically study the effect of particular types of adaptations on student outcomes, nor did we follow-up with teachers after the implementation year. Thus, it is unknown whether experienced teachers were more likely to sustain the curriculum (or components thereof), providing them with additional opportunities to learn from the materials. It is also unknown whether students benefited in any tangible way from the adaptations that teachers made. Future research should continue to ask questions about what teachers learned from enacting the curriculum materials and how that learning influenced their future practice, the extent to which those changes persist over time and changing conditions, and the impact of particular adaptations on students.

Notes

1. Names are pseudonyms. Novice teachers' names begin with 'N'. Experienced teachers' names begin with 'E'.
2. Schools were classified based on the criteria set by the National Center for Education Statistics (Aud et al., 2010), where high-poverty schools have 75–100% students receiving FRPL; moderate-poverty schools have 45–74% FRPL; and low-poverty school have less than 45% FRPL.

Acknowledgements

The authors would like to thank Carol Barry, Teresa Walter, Jennifer Cheatham, Andrea Anushko, Taralynn Kantor, Amy Griffiths and Phoebe Sloane for their instrumental roles in carrying out the overall study. The authors thank Heather Hill, Susan Moore Johnson and members of the Language Diversity and Literacy Development Research Group for their thoughtful comments on earlier drafts of this manuscript. We are also grateful to the participating students and teachers.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research was supported by a grant from the Institute of Education Sciences, U.S. Department of Education [grant number R305A080631] and a William T. Grant Foundation Scholars Award, both awarded to Nonie K. Lesaux.

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Appendix A. Data codes

Teacher characteristics

Stance toward ALIAS curriculum
Stance toward ALIAS Specialist
Professional identity
Preexisting beliefs and practice
    How ALIAS is similar to teacher's beliefs and practices
    How ALIAS is different from teacher's beliefs and practices

Setting characteristics

Student characteristics
Teacher collaboration
    Teacher collaboration generally
    Teacher collaboration around ALIAS
Principal leadership and support
    Principal leadership and support generally
    Principal leadership and support for ALIAS
    Suggestions for additional principal leadership and support
School policy
District policy

Adaptations

- Nature of adaptation
  - Content changes
    - Adding a new activity
    - Extending an existing activity
    - Omitting an activity or parts of an activity
  - Changes made to time spent on activity or pacing of curriculum
  - Changes made to participant structure
  - Increasing or decreasing teacher control over an activity
- Why adaptation made
  - To differentiate
  - To scaffold
  - To meet parents' expectations
  - To better align instruction with teacher's expectations for students
  - To address pacing challenges
  - To address student interest
  - To better align instruction with school/district expectations
- For whom adaptation made
  - All students
  - Subset of students
    - Lower-achieving students
    - Higher-achieving students
- Effect of adaptation on cognitive rigor
  - Increased cognitive demand placed on students
  - Decreased the cognitive demand placed on students