Fall 2021

Adult Educator Views On Impact And Learner Fit In Integrated Digital English Acceleration (I-Dea) Classrooms

Peter Gray

ADULT EDUCATOR VIEWS ON IMPACT AND LEARNER FIT IN INTEGRATED DIGITAL ENGLISH ACCELERATION (I-DEA) CLASSROOMS

by

Peter W. Gray

A capstone thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in Teaching English to Speakers of Other Languages (MA TESOL).

Hamline University

Saint Paul, Minnesota

September 2021

Primary Advisor: Andreas Schramm
Content Expert: Monika Gadek-Stephan
Peer Reader: Jennifer Siegfried

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

Introduction

Overview

The United States is a nation of immigrants, and adults arriving to the country receive attention from labor economists who anticipate that foreign-born workers are most likely to replace the "Baby Boomer" generation retiring from the workforce in large numbers. In their 2019 analysis of census data, researchers with the Migration Policy Institute (MPI) concluded that adult immigrants will be the "primary source of future U.S. labor-force growth*"* (Batalova & Fix, 2019, p. 1). MPI researchers asked whether first-generation immigrants were ready to "fully engage in the knowledge-based U.S. economy" (p. 1) and found that in most cases, the answer was "no". In 2017, more than half of the 58 million immigrants who responded to the U.S. Census reported that they lack a postsecondary (college) credential, a prerequisite for higher-wage work.

This skills gap – in which the largest growing group of workers also lacks the education required to obtain in-demand, family-supporting jobs – is a problem noted by the American Association of Community Colleges (AACC), which aims to transition two-year public colleges from "the industrial era of the 20th century to the new knowledge-based society of the 21st century... where knowledge and skill sets are the crucial determinants of career achievement..." (AACC Mission Statement*,* n.d.). According to the 2019 MPI study previously mentioned, the rate that U.S.-born college graduates enter the workforce is not high enough to keep pace with demand for workers who are both fluent in English and technology-literate. Immigrants, refugees, permanent residents, and other adults are seen as a group with the potential to address this shortage

of skilled workers in the U.S. (Batalova & Fix, 2019). Consequently, basic skills training and English language instruction remains a priority for education policymakers.

If increasing educational opportunities for adult newcomers to the U.S. provides a possible solution to anticipated shortages of tech-savvy workers, this renewed push for job training at Community and Technical Colleges (CTCs) and Community-Based Organizations (CBOs) also presents new challenges for educators to overcome. New pressure has been placed on teachers of English to Speakers of Other Languages (TESOL) to deliver adult education instruction that will open career pathways to English language beginners. In this thesis, it will be argued that the redefinition of adult education in federal law amounts to a shift in paradigm – away from one which assumes that English language acquisition should occur *prior* to entry into the English-dominant U.S. workforce, and toward one in which language instruction occurs *alongside* or *as a part of* "upskilling" for college and careers.

The *Pathways* paradigm shift has significant implications for adult education classrooms designed to serve the needs of adult English Language Learners (ELLs). This push toward vocationalism following the passage of the Workforce Innovation and Opportunity Act (WIOA) of 2014 is a major change for adult educators accustomed to providing "general English" or "life skills" curricula. Teachers affiliated with the Washington State Board of Community and Technical Colleges were among those to lead a pivot away from life skills curricula by designing an instructional method to fast-track English learners' entry into high-tech, in-demand careers. *I-DEA*, short for *Integrated Digital English Acceleration,* was launched in 2013, and has been called as a "better idea for adult ELLs" (WSBCTC, 2020). *I-DEA* is the focus of this MA TESOL capstone thesis, which investigates the impact and fit of this Flipped Classroom (FC) method.

The online questionnaire described in Chapter Three was created to prompt reflection on the impact and learner fit of *I-DEA*, and it aims to begin answering these two research questions (RQs):

RQ1: What do teachers' experiences with *I-DEA* reveal about the method's *(I)mpact* on teaching and learning in adult education programs?

RQ2: What do teachers' experiences with *I-DEA* reveal about the method's *(F)it* for the adult English Language Learners (ELLs) they serve?

Definitions

Integrated Digital English Acceleration is operationally defined in this thesis as a flipped and integrated instructional delivery method to equip adult newcomers to the U.S. with the foundations of communicative competence needed in English-dominant workplaces and social settings. *I-DEA* is referred to here as a *method* of teaching because its complexity makes labels like *program, technique*, or *model* inadequate or imprecise.

Implementation of *I-DEA* at a school might be referred to as a *program*, and the *model* of teaching that *I-DEA* employs is Integrated Education and Training, or IET. Several *techniques* are used as part of the *I-DEA* method, including Computer Supported Collaborative Learning, or CSCL. The practice of *I-DEA* builds on the successes of "flipped" (or "blended") learning *models* that give students more autonomy to complete tasks asynchronously (outside of class), through "pre-work" activities delivered by a Learning Management System, or LMS.

To avoid semantic entanglements, *method* is the label for *I-DEA* used throughout this thesis. The *I-DEA* method refers to *I-DEA* teaching practices as well as the classroom setting and conditions that support English language acquisition (ELA) and digital literacy skills development.

Topic Background

The *Integrated Digital English Acceleration* method was created by adult educators in the Seattle, Washington area, and it emerged from Integrated Education and Training (IET) techniques for adult education (Kerr, in Delott Baker et al., 2009, pp. 58–60). *I-DEA* was designed to help beginner-level adult ELLs (U.S. National Reporting Standard Levels One through Three, or NRS 1-3) acquire language and basic job skills prior to enrolling in vocation-specific courses offered by their nearest community college.

Vocational skills training courses with English language supports are referred to as *Integrated Basic Education and Skills Training* (*I-BEST*). *I-DEA* has been described as an "on-ramp" to *I-BEST*. According to the method's creators, *I-DEA* was conceived as a response to the growing population of adult immigrants in Washington state. In 1990, foreign-born adults made up 7% of the civilian workforce (WSBCTC, 2020). By 2016, the portion of foreign-born workers in the state had more than doubled, to 17.7% percent. Perhaps recognizing that nearly one out of every five workers in Washington may need English language supports in the workplace, state officials set out to transform instruction statewide, to "help English Language learners pursue their dreams and bring their talents to [Washington's] communities and economy" (WSBCTC, 2020, p. 2).

I-DEA has two objectives: 1.) To prepare adult ELL beginners for professional and civic life in the U.S., and 2.) To help educators keep pace with the changing workforce needs of employers. *I-DEA*'s first objective is learner-centered, while its second is not. This thesis will focus on *I-DEA*'s primary goal – to prepare adult ELL beginners for entry into (and advancement within) workplaces in the United States.

How impactful do instructors feel this method of instructional delivery has been in their classrooms? How well-suited is the *I-DEA* method for adult ELL beginners?

Finding answers to these questions may help teachers and researchers better understand whether *I-DEA* is meeting its primary goal. These are the questions that inspired the background research conducted for this thesis, which evaluates the impact and learner fit of *Integrated Digital English Acceleration* as an example of a "flipped" (blended) method of Computer-Assisted Language Learning (CALL) for adult education.

More information about CALL evaluation is provided in the next chapter's synthesis of *I-DEA*-related literature. An explanation of how Carol Chapelle's CALL evaluation framework (2001) was adapted for this thesis is explained in Chapter Three. In the next several pages, attention will be given to the rationale for this research, but first it is worth mentioning my role as a teacher-researcher, and how I became motivated to begin evaluating *Integrated Digital English Acceleration* as a possible method of serving my adult ELL students' needs.

Researcher Background

As a junior researcher (Swales & Feak, 2012) and a newcomer to the field of Teaching English to Speakers of Other Languages (TESOL), my objective is to make a modest contribution to TESOL and CALL literatures, while determining if *I-DEA* is a method I should consider using. I have tried to identify gaps in *I-DEA*-related research to contribute something new to ongoing discussions within CALL-focused Communities of Practice, as guided by the TESOL Technology Standards (Healey et al, 2011). I am interested in *I-DEA* because the adult learners I serve might benefit greatly from implementation of *I-DEA* at community colleges in my area (Chicago, Illinois). The 18 to 80-year-old adults I have served for the past six years since entering the field of TESOL are the target audience for *Integrated Digital English Acceleration*.

I first became aware of the *I-DEA* method when my TESOL mentor, Monika Gadek-Stephan, was invited to participate in an *I-DEA* pilot program at College of DuPage, in Glen Ellyn, Illinois. We learned that *I-DEA* students in Washington state were more likely to show progress on standardized assessments than their peers in "traditional" English Language Acquisition (ELA) classes, and early findings from the method's creators piqued my curiosity. Could implementation of *I-DEA*, I first asked myself in 2018, help adult educators meet learning outcome goals set by education policymakers?

For the past three years, I have speculated that what has been working in Seattle might work just as well in Chicago, since both metropolitan areas have linguistically diverse communities, workplaces, and schools. I have wondered about the above-average learning outcomes reported in Washington state, and what might be their cause. What is *I-DEA*'s mechanism of change? Is it the method of blended or "flipped" teaching and learning? Is it the vocational and sociocultural curriculum? Or is it the provision of computers and wireless internet access points ("hotspots") to underserved populations of adult learners? These questions have percolated in my mind since I first learned about the *I-DEA* method. By inviting *I-DEA* instructors throughout the United States to complete an online questionnaire focused on impact and learner fit, I aim to gather data that may help determine what makes the method impactful and suitable for adult ELL beginners.

Research Rationale, Niche, and Timing

I-DEA is a method of delivering English language instruction that is worthy of systematic investigation because it employs a Flipped Classroom (FC) design in a new context: Adult Basic Education (ABE). FC methods have been shown to be demonstrably effective on university campuses, as will be discussed in Chapter Two. But their use for English language beginners acquiring basic skills has not been adequately investigated

and reported. Any firsthand accounts of the *I-DEA* method's impact and learner fit may therefore constitute an important contribution to CALL of TESOL literature. There is a clear rationale for this research (CALL project evaluation) as well as a niche to occupy ("Flipped" CALL in Adult Basic Education contexts).

A second, and more important, rationale for evaluating the impact and learner fit of the *I-DEA* method relates to professional development and *I-DEA* Communities of Practice. A practical need exists for instructors to share information, and this research invites participation from teachers who may already belong to local, regional, or statewide networks of *I-DEA* practitioners. The mixed methods questionnaire described in Chapter Three is designed to help teachers evaluate the impact and learner fit of this flipped classroom method for adult ELL beginners, *as it is currently practiced*. Any noteworthy findings should directly benefit teacher-researchers in the United States who are considering flipped classrooms for adult education; especially those who are beginning to use the *I-DEA* method.

Before continuing with a review of the *I-DEA*-related literature that guided and focused this thesis, a brief disclaimer related to the timing of this research must be provided. The global public health crisis presented by the COVID-19 influenza pandemic delayed the data collection phase of this research by several months, and it is believed that the level of participation was lower than it would have been if not for the stresses that school closures placed on teachers around the United States. Data collection did not begin until summer 2021, to allow instructors to attend to their own safety and the viability of their adult education programs, most of which were forced to adopt fully online teaching methods while schools closed to prevent further spread of a deadly virus. This thesis could not be delayed until schools had fully returned to normal operations,

and there were several prospective participants who stated in e-mails that their plans to implement *I-DEA* had been stalled as a consequence of their COVID mitigation efforts. It is difficult to overstate the negative impact this global public health emergency had on teachers and students, and the timing of this study was far from optimal. The results obtained and discussed in Chapters Four and Five point to some measure of success, despite the numerous challenges teachers and researchers faced in 2020 and 2021.

Conclusion

In this chapter, the topic of research was introduced and defined, the questions to be investigated were shared, and the rationale for the research and role of the researcher were disclosed. To summarize, *Integrated Digital English Acceleration* is a Flipped Classroom (FC) method for delivery of pre-vocational instruction to adult English language beginners. The impact of FC methods like *I-DEA* has been measured extensively over the past decade in undergraduate or graduate school contexts. But a review of *I-DEA*-related research (as will be seen next, in Chapter Two) reveals an important gap in knowledge related to FC implementation for adult education. No evaluations of *I-DEA* have been published, apart from those completed in Washington state that suggest *I-DEA* students outperform their peers in "traditional" English Language Acquisition courses. In the next chapter, a synthesis of *I-DEA*-related literatures will be presented, to build a case for researching the impact and learner fit of the *I-DEA* method.

CHAPTER TWO

Literature Review

Overview

Integrated Digital English Acceleration does not yet have its own body of literature to review, as it is a relatively new application of Computer-Assisted Language Learning (CALL) and Integrated Education and Training (IET) theories. In practice for less than a decade, *I-DEA* is in trial phases in a dozen or more states throughout the U.S., but longitudinal data that might shed light on its impact or learner fit have yet to be published outside of the state of Washington, where the method was scaled up to a state-level intervention (WSBCTC, 2020). Some action research in *I-DEA* classrooms has taken place (e.g., Bohr-Buresh, 2020), but published reports are in limited supply. This review identifies gaps in *I-DEA*-related literatures and opens a research space for the mixed-methods study detailed in Chapters Three through Five.

Relative to other CALL projects and programs (such as *DuoLingo* or *Rosetta Stone*), *I-DEA* is still in its infancy as of 2021, in practice for fewer than ten years. As a result, this chapter synthesizes a variety of *related* texts, from "golden age" CALL project summaries found in educational research archives to current action research projects. This literature review identifies how CALL evaluation literature (particularly Chapelle, 2001) provides a theoretical framework for the research and identifies important gaps in knowledge about "flipped" (blended) CALL methods. There is plenty of scholarly support for blended CALL (based on interactionist Second Language Acquisition theories), but there is a lack of exploration into "flipped" CALL methods practiced in Adult Basic Education (ABE) contexts.

An additional gap identified in this chapter relates to *I-DEA*'s sociopolitical context and the education policy reforms that spurred the method's creation. Very little is known about how the *I-DEA* method has increased adult English language learners (ELLs) access to career pathways. The *Pathways* paradigm (as explained in the final section of this chapter) has important implications for English language instruction at U.S.-based community and technical colleges, where this thesis research takes place.

Because the *I-DEA* method was created as a policy response to the social and economic problem of too few adult immigrant English learners attaining college credentials, it has stakeholders both inside and outside of the classroom. This makes studying *I-DEA* an example of applied research in the field of Educational Linguistics. As Hult (2008) explains (summarizing Hornberger, 2001), educational linguistics is "problem-oriented in its focus on specific ways in which *theory, research, policy and practice inter-relate*" (p. 16, italics added). This thesis analyzes data from *I-DEA* instructors, and a classroom focus can be seen in the research questions posed, which were formulated to focus on instructors' experiences with the *I-DEA* method:

RQ1: What do teachers' experiences with *I-DEA* reveal about the method's *(I)mpact* on teaching and learning in adult education programs?

RQ2: What do teachers' experiences with *I-DEA* reveal about the method's *(F)it* for the adult English Language Learners (ELLs) they serve?

Computer-Assisted Language Learning (CALL) Evaluation

According to Carol Chapelle, whose work in the linguistics sub-field of Computer-Assisted Language Learning (CALL) most directly inspired this thesis, English language instructors should evaluate their own use of CALL as rigorously as they may praise or criticize the use of educational technology (2020, p. 44-5). Chapelle's call

for thorough evaluation of technologies supporting language teaching and learning assisted in the formulation of the two research questions listed on the previous page. Chapelle's *Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing, and Research* provides a balanced retrospective of computer use in 20th Century language classrooms, and advocates for mixed methods CALL evaluation.

Chapelle characterizes the earliest decades of CALL as a time of "idiosyncratic learning, quirky software development, and naïve experimentation" (2001, p. 175), and calls for more rigorous evaluations in the future. Chapelle acknowledges some of the problems of early CALL research, and cites critics like Clark (1994), who accused turn-of-the-century computer advocates of presenting *solutions in search of problems*. Chapelle responds to critics of ed tech solutionism by offering guiding principles for CALL evaluation grounded in Second Language Acquisition (SLA) theory. Chapelle's principles have, in the last two decades, helped teachers (among them Leakey, 2011) determine for themselves whether digital tools are appropriate for their classrooms.

While *Integrated Digital English Acceleration* is an example of a CALL method, it is not an example of ed tech "solutionism", because it addresses an existing problem. Education policymakers in the United States have determined that too few adult immigrant English learners have been able to advance in the workplace and pursue socioeconomic mobility. There is an education access problem which *I-DEA* seeks to address, and the *I-DEA* method is not, therefore, a solution in search of a problem.

Chapelle's most direct influence on this thesis relates to her criteria for evaluating specific CALL tasks and activities. Her evaluative framework was adapted slightly and applied to an entire CALL method (*I-DEA*), rather than to individual tasks. The two research questions which focus this MA TESOL thesis have embedded in them two of

Chapelle's "ideal qualities for CALL" (2001, p. 94) – learner fit and impact. Chapelle's defines her six criteria for evaluating CALL in the following ways (p. 55, italics added):

> **Language Learning Potential**: the degree of opportunity present for beneficial focus on form
>
> ***Learner Fit***: the amount of opportunity for engagement with language under appropriate conditions given learner characteristics
>
> **Meaning Focus**: the extent to which learners' attention is directed toward the meaning of the language
>
> **Authenticity:** the degree of correspondence between the CALL activity and target language activities of interest to learners out of the classroom
>
> **Positive *Impact***: the positive effects of the CALL activity on those who participate in it
>
> **Practicality**: the adequacy of resources to support the use of CALL

Chapelle offers important advice to teacher-researchers looking for the six "ideal qualities" of CALL in their classrooms. These criteria are not, Chapelle cautions, to be used to make *categorical* decisions about CALL effectiveness. Instead, they should only help indicate "in what ways a particular CALL task is appropriate for particular learners at a given time" (p. 53). Consequently, the questionnaire described in Chapter Three invites *I-DEA* instructors to share *their experiences* with the method, and to reflect on its fit and impact in *their classroom*. The wording of the data collection instrument itself attempted to reinforce the primacy of context, and the rationale for this is given next.

Teachers responding to the questionnaire designed for this MA TESOL thesis research may report very different overall experiences in *I-DEA* classrooms, and still reach consensus about specific features of the method that contribute to fit or impact.

Any data that might point to *I-DEA*'s theory or mechanism of change, generalizable or not, would constitute a small but important contribution to existing bodies of CALL literature, given how little is currently known about how *I-DEA* is practiced in the field. The *I-DEA* method's novel use of the Flipped Classroom (FC) classroom design for adult ELL beginners, for instance, merits further study. This MA TESOL thesis aims to take a small step in this direction, by asking teachers to weigh in on the two CALL effectiveness criteria over which they have the most influence: (I)mpact and (F)it.

Fit and Impact as Indicators of "Ideal" CALL

While I may be among the first to systematically investigate the impact and learner fit of *Integrated Digital English Acceleration*, given the newness of this CALL method, I am not the first Hamline University graduate student to apply Chapelle's criteria for CALL evaluation to an MA TESOL thesis topic. Gail Katherine Ellsworth, in her thesis evaluating the use of *DynEd* software in a U.S. Community and Technical College, considered *all six* of Chapelle's criteria (Ellsworth, 2015).

Learner fit was investigated by Ellsworth in terms of how students were placed into course levels by the *DynEd* software, whereas this thesis looks at learner fit through a narrower lens. Ellsworth's thesis is not limited to questionnaire data (as this thesis is) because she benefitted from direct access to students participating in CALL activities and tasks. This access to CALL program stakeholders enabled her to triangulate data using questionnaires, focus groups, and CALL software usage reports.

Ellsworth was directly involved in the CALL setting she evaluated (her own school), whereas I am not involved with the CALL method I am studying and have deliberately positioned myself as a distant observer of *I-DEA*. Despite these differences, Ellsworth's 2015 thesis was a useful point of departure for my own, and it was helpful to

read how she adapted Chapelle's CALL evaluation framework. Both theses, I would argue, respond to a call for teacher-researchers to "marshall coherent and detailed professional knowledge to develop, use, and evaluate" CALL (Chapelle, 2001, p. 157).

The question of how to support optimal computer-user interactions is central to this thesis and is the reason that interactionist theory will be discussed next as a subtopic of this literature review. All CALL-related texts reviewed for this thesis, without exception, mention interactionism's influence on CALL program design and use. In 1999, TESOL professionals investigating interaction saw great potential in the "World Wide Web" to provide new tools for synchronous (in the moment) and asynchronous (time-delayed) interaction. Egbert, Chao, and Hanson-Smith (1999) outlined eight conditions for optimal *environmental conditions* in computer-supported classrooms. Not surprisingly, the first of these is taken directly from interactionist theory, and states that CALL must include "opportunities to interact and negotiate meaning" (p. 3).

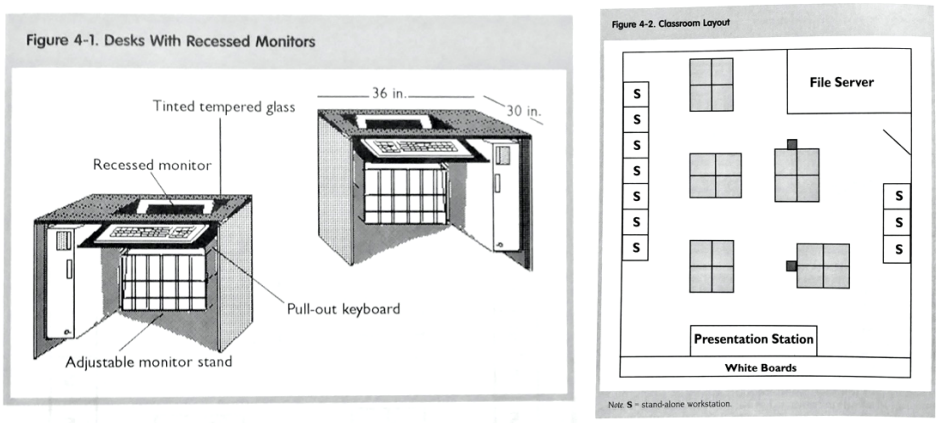
Peyton (in Egbert et al., 1999), goes a step further by referring to social interaction as central to effective CALL, and cites the "explosion" of electronic interaction available via real-time group messaging (chat), time-delayed one-on-one messaging (e-mail), and online discussion boards. These new forums and tools for online interaction were, at the end of the 20th Century, predominantly in one mode – writing. Interactivity, in that early era of CALL, primarily involved interaction with texts on a two-dimensional (but increasingly graphical) screen. These screens, as will be explained next, were not always seen as adequate interactive stimuli.

Sivert and Egbert (in Egbert et al., 1999), in a chapter titled "Building a Computer-Enhanced Language Classroom", explain how physical spaces might be set up to balance computer-learner interaction with learner-learner interactions. Sivert & Egbert

designed and constructed what they considered an "optimal" CALL classroom environment, in which technology use would be "subordinate to discovery and understanding" (p. 41). In a deliberate departure from what they referred to as the "cold, sterile" educational computer labs of the 1970s and 1980s (in which individuals were focused on screens and isolated from each other), Sivert and Egbert removed computer monitors from learners' lines of sight, and placed desks in groups of four (see Figure 1). Implicit in the design is the importance of collaboration and interaction. Computer equipment was viewed as "subordinate" and hidden within classroom furniture. This had the added benefit of allowing more space for tried-and-true educational technology (textbooks, notebooks, and pencils or pens) on each square island of four student desks.

Figure 1. ***Computer Desks and Classroom Layout at Palomar College***

(Sivert & Egbert, 1995, summarized in Egbert et al., 1999: pp. 45-6).



What makes Sivert & Egbert's CALL classroom balancing computer access and social interaction particularly relevant to this thesis is its similarity in educational setting. Palomar College, the community college near San Diego, California where Sivert and Egbert built their "optimal" CALL classroom, is much like the community and technical

colleges (CTCs) in Washington state where the *I-DEA* method was created, as well as the CTC setting where I have worked for six years and gained an interest in studying *I-DEA.*

While novel in its application of the Flipped Classroom (FC) method for an adult English learner audience, *Integrated Digital English Acceleration* is not entirely new. In many ways, it continues the tradition of interactive CALL exemplified by Sivert and Egbert's late 20th Century Palomar College classroom. As CALL technologies have evolved in the intervening decades since Sivert & Egbert's experiment with classroom layout, questions about the merits of computer use in classrooms have endured. In many ways, the questions guiding this research are no different than those asked about CALL for decades: How suitable is it for students? What is its impact on teaching and learning?

Computer-Supported Collaborative Learning (CSCL)

While reviewing "turn-of-the-millennium" (late 1990s) texts concerned with the "state of the art" in computer-assisted instruction (CAI) for language learning, a somewhat uncanny prediction of the conditions now observed in "blended" (half in-class, half asynchronous) classrooms emerged. Carla Meskill (in Egbert et al., 1999) shared a prescient fictional narrative which exemplified the hopes of Computer-Supported Collaborative Learning (CSCL) advocates of that era. She tells a story about "Thong".

Thong is a fictional, 16-year-old English learner with round-the-clock access to his high school's ESL class on a networked laptop computer and spends most of his time geographically separated from his class – he only meets face-to-face once each month. Thong is not left to his own devices, however, since his educational technology includes a lifelike tutor avatar providing guidance and motivation. His computer also provides live and recorded videoconferencing with his teacher and classmates. Thong calls up video files on demand, uses voice recognition and nonlinear video editing software, and

demonstrates mastery of content knowledge and target language structures throughout the task-based learning experience. Because Thong's computer is battery-operated, he completes his project before reaching home, while riding public transportation. When he gets home, he connects to his home's internet network, transmits the video project to his teacher, and waits to present it and receive feedback from his peers. Aside from the Artificial Intelligence (AI) tutor Meskill imagined in the 1990s, all of the technologies just described from her story about Thong are in wide use today.

During the same period that Meskill was predicting with remarkable accuracy the educational technologies used in 2021, Chapelle (2001) was asking important questions about *how* computer-assisted language learning activities (like the video project Thong completed) should be designed to promote development of communicative L2 ability (p. 41). Thong's fictional story, it might be argued, is an example of Computer-Supported Collaborative Learning (CSCL) approaches to English teaching, with their emphasis on "situated" learning and roots in cultural constructivism (Chapelle, 2001, p. 31, citing Scott et al., 1992).

Constructivists, Chapelle maintains, draw from Vygotskyan psychology to make sense of learning "by reference to the *social structure of activity* – rather than by reference to the mental structure of the individual" (2001, p. 32, italics added). Social structures and interactions important to the constructivists include those provided by computer software and those provided by learners connecting synchronously and asynchronously online. Because *Integrated Digital English Acceleration* situates learning in real-world (workplace) contexts and requires adult ELLs to work asynchronously (as in Meskill's 1990s-era vision of "blended" learning methods used today), *I-DEA* can be considered an example of Computer-Supported Collaborative Learning (CSCL).

According to Chapelle, evidence of language learning in CSCL contexts can be found by analyzing the discourse that occurs in the collaborative environment. Qualitative (discourse) analysis is the preferred methodology of CSCL researchers (Chapelle, 2001, p. 32), and qualitative methods are used to evaluate *I-DEA* in this thesis. Studies of CSCL have been pursued since the 1990s, when widespread internet use first enabled text-based online collaboration. But collaborative online activities for adult education classrooms have not been as adequately researched as CSCL in other contexts (e.g., university math or science courses). There is a gap in literature related to CSCL in ABE contexts, and this gap might be filled by analyzing data from adult educators who use CSCL for adult ELLs just beginning to develop English language proficiency. The mixed methods study described in Chapter Three was designed to elicit reflections from *Integrated Digital English Acceleration* instructors that may shed light on its impact on teaching and learning in adult education classrooms and its fit for ELL beginners.

CALL, CSCL, and Second Language Acquisition (SLA) Theory

CALL and CSCL are both heavily influenced by Second Language Acquisition (SLA) theory, particularly interactionist and cognitivist schools of thought. Linguistics researchers and language teachers have debated for decades about the extent to which Second Language Acquisition (SLA) is dependent on social interaction. As previously mentioned, educators influenced by 20th Century developmental psychologist Lev Vygotsky argue that, just as children learn to produce their first language through exposure to adult speech, so do second language learners attain proficiency through social interaction. The cognitivist approach to SLA, on the other hand, views language development as an individual process of internalizing rules and patterns (Celce-Murcia et al., 2014, p. 7) – a process not reliant on abundant social interaction.

SLA scholar Rod Ellis (in Celce-Murcia et al., 2014) appears to have found a way to reconcile opposing views about the internal and external processes impacting second language acquisition. As Ellis puts it, “both cognitive-interactional... and sociocultural theories of SLA have viewed social interaction as the matrix in which acquisition takes place” (p. 39). Ellis includes in his guiding principles for *instructed* SLA the view that interacting in the second language (L2) is “central to developing L2 proficiency” (p. 39). Ellis considers Long’s Interaction Hypothesis particularly important to instructed SLA. In 1996, Long had posited that interaction *itself* fosters acquisition, especially when a language problem arises and “learners are engaged in *negotiating for meaning*” (Ellis in Celce-Murcia et al., 2014, p. 39).

The phrase *negotiation of meaning* appeared in most CALL and SLA texts reviewed for this thesis. “Negotiation”, or interactive meaning-making, can occur between humans or between humans and computers. The notion of computers as human language users remains more science fiction than science fact in 2021, despite decades of Natural Language Processing (NLP) advances. Until computers can spontaneously and naturally participate in a class discussion, English language instructors remain the best source for the interaction that some SLA researchers believe create optimal conditions for communicative competency development. The task of crafting interactions through technology use is a balancing act, and the notion of “blending” instructional delivery – with half in-class and half online (asynchronous) assigned tasks – is one of the more recent ideas to emerge in the long tradition of interactive CALL. A “flipped” classroom makes the role of the instructor one of an interaction facilitator rather than a transmitter of linguistic knowledge. It gives learners the right and responsibility to introduce new content to themselves before applying it during collaborative in-class activities.

The next section of this chapter reviews literature on the "flipped" subgenre of blending learning (Figure 2) and cites primary research suggesting that Flipped Classroom (FC) designs improve learning outcomes and promote student motivation. As will be seen next, there has been inadequate evaluation of FCs in Adult Basic Education (ABE) contexts. The study described in Chapters Three through Five begins to occupy this niche by asking adult educators using the *I-DEA* method to begin to evaluate its impact on teaching and learning and suitability (fit)for the English learners they serve. This study aims to contribute to a growing body of FC effectiveness literature and may provide new insights about CSCL activities in adult education (ABE) contexts.

Flipped Classroom (FC) Effectiveness Research

The previous section of this chapter provided a historical and conceptual backdrop for research into the computer-assisted interactions occurring in *Integrated Digital English Acceleration* classrooms. In this section, attention is directed toward what makes the *I-DEA* instructional delivery method "tick": its mechanism of change. The benefits believed to derive from "flipping" *Integrated Digital English Acceleration* classrooms include increased student interaction and peer engagement (Ruback et al. in Lotto-Casner & Wisell, 2019). To help answer why designers of *I-DEA* believe Flipped Classrooms (FCs) increase student engagement and interaction, a closer look at studies measuring the effectiveness of "flipping" is provided next. The FC studies referenced are multidisciplinary, because fewer than ten (of the hundreds that have already been conducted) investigated contexts similar to *I-DEA*.

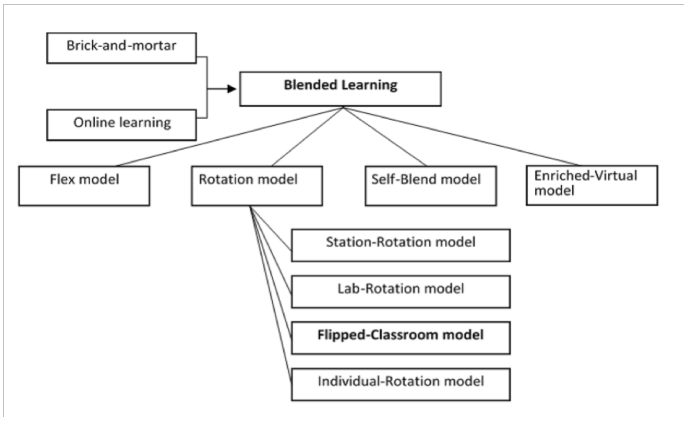
Online or "blended" instructional delivery methods have become widely popular in the past two decades (2000-2021), as the cost of educational technology applications have plummeted. The recent boom in research on "flipped" classes has not included

evaluations of flipped adult basic education (ABE) classes. Because *Integrated Digital English Acceleration* uses a Flipped Classroom (FC) design, its impact on teaching and learning and suitability for adult learners is worth evaluating.

FC design requires students to complete self-paced instructional modules *before* each face-to-face class session. FC methods like *I-DEA* are said to spur and sustain learner motivation by balancing independent (at-home) study with in-class active learning opportunities (McLaughlin et al., 2014, among others). Adults learning English are more motivated, it is believed, when they have ample opportunities for meaningful and authentic language practice. As Parrish (2019) writes, effective adult ESL lessons feature "a variety of practice activities that use language for real-life, meaningful purposes." (p. 66). FC methods aim to maximize the authentic language practice Parrish describes.

Figure 2. ***Blended Learning Sub-Types***

(Cheng et al., 2018, p. 795, citing Staker & Horn, 2012)



FCs can be understood as a sub-type of hybrid, or *blended*, instruction (Figure 2). The term *blended learning* (BL) appears more often in searches of scholarly databases than its *flipped* sub-type. Some investigations of flipped English language instruction exist (Webb & Doman, 2016; Lee & Wallace, 2017; Voss & Kostka, 2019), but most

studies have been conducted in university, not adult education, settings. FC studies conducted around the world reveal mostly positive impacts on teaching and learning.

Strong support for flipping English language classrooms comes from Hung (2014), who found that FC students outperformed peers in comparable *non*-flipped classes in an undergraduate English for Academic Purposes (EAP) program in Taiwan. Hung gave take-home video lectures to one group of students while performing traditional lectures for a control group, throughout one eight-week term. Hung's study recorded nearly a full standard deviation of outperformance from those in the flipped (treatment) group. Hung concluded that "the structured flipped classroom better facilitated student learning in coursework compared with the traditional classroom" (2014, p. 89).

Hung's study of a Flipped Classroom in a university context is highlighted in this review of *I-DEA*-related literature due to its rigor, but not due to similarities of context. *I-DEA*'s ABE setting is quite different than Hung's EAP context. Even so, Hung's study illustrates how quantitative analysis can be used to evaluate the impact of FC methods like *I-DEA*, and two recent meta-analyses of FC research reviewed next provide further evidence of FC method impact in the extant literature.

Both Låg & Sæle (2019) and van Alten et al. (2019) synthesized the findings of hundreds of FC effectiveness studies, presenting an overall estimated *effect size* that corrected for variability in reporting by individual researchers. Both concluded that FC methods have a quantifiable impact on learning outcomes, and their findings corroborate the findings of action research case studies like Hung's.

Small Impact	**Medium Impact**	**Large Impact**
.17-.24 *g* (Låg & Sæle, 2019)	**.36 *g*** (van Alten et al, 2019)	**.89 SMD** (Hung, 2014)

These meta-analyses, together with the action research conducted by Hung, appear to support *I-DEA* designers' claims that their FC method is a "better idea for adult English language learners" (WSBCTC, 2020: 1). Unfortunately, the impact of FC methods on adult learners just beginning to acquire English has not been thoroughly investigated. Apart from program data published by the Washington State Board of Community and Technical Colleges (WSBCTC), no published research has quantified the *I-DEA* method's impact on teaching and learning in classrooms for adult ELL beginners. Given the wide gap in knowledge about *I-DEA*, an opportunity exists to occupy this niche by collecting and analyzing primary data from instructors practicing this "flipped" method of Computer-Assisted Language Learning (CALL).

Historical Inequities in Computer-Assisted Instruction (CAI)

Documents retrieved from ERIC and other education research databases indicate that computer-assisted instruction (CAI, which predates CALL) began in the mid 20th Century as a privilege granted to small groups of undergraduate students enrolled at well-funded research universities. In the 1960s, during the height of the Cold War between the United States and Russia, one of the earliest experiments with CAI was a college course in Russian. Stanford University researchers found that students who practiced grammar at a computer terminal five hours each week performed at a "statistically significantly higher level" (Atkinson & Suppes, 1968, p. 7) than their peers in traditional (didactic) courses. The CAI students were also less likely to drop out of class than those in the control group. Encouraging findings like these prompted a surge of CAI research.

In the 1970s and 1980s, partnerships between private foundations, universities, and the U.S. government connected networks of language learners with grammar drills and listening tasks. MIT's ATHENA (Morgenstern, 1986) as well as the University of

Illinois' PLATO systems (Baker, 1984) delivered faculty-designed "courseware" to students in dormitories, public libraries, and community colleges. By the 1990s, author Seymour Papert was imagining that "Knowledge Machines" might one day replace books as the "principal access route to knowledge for students" (1993, p. 9). In the 2000s, with the advent of the internet and educational websites, entire dictionaries, encyclopedias, and language courses became available to anyone with a personal computer.

Despite the rapid expansion of educational technology access over the past half-century, some technologists – including Microsoft co-founder Bill Gates – remain concerned that too few students have adequate opportunities for "Next Generation Learning" (Gates Foundation, 2010). Recent surveys conducted by Pew Research (Anderson, 2019) provide evidence that the data-processing tools needed to thrive in today's Information Age remain out of reach for those who need them most, including adult English language learners (ELLs) enrolled at Community and Technical Colleges.

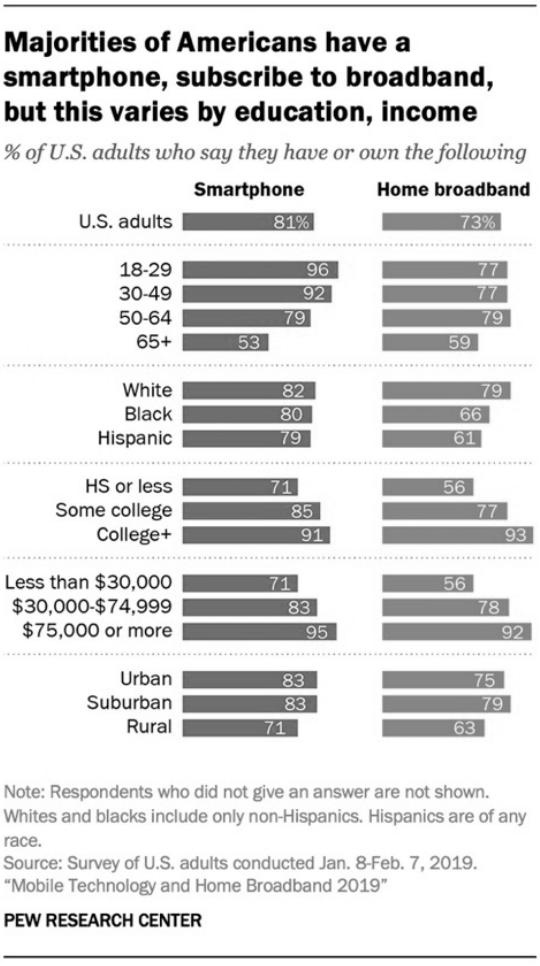
According to 2018 U.S. Census survey data, 28 percent of CTC students living in the U.S. come from immigrant backgrounds (Batalova & Feldblum, 2020). Adult immigrants pursuing higher education are more likely to seek out English language courses offered by two-year colleges, and less likely to commute long distances to pursue higher education. Reliance on public or shared transportation, the high cost of childcare, and inflexible work schedules all present significant obstacles to academic success for otherwise resourceful and persistent foreign-born adult learners. Many adult ELLs simply lack the time and the resources to pursue college and career advancement.

Adult immigrants with linguistic barriers and social disadvantages may benefit most from the provision of school-loaned laptops and 24/7 "hotspot" internet access. Adults with incomplete secondary education are those least likely to have a home internet

connection, according to nationwide survey data collected by Pew Research (Anderson, 2019, see Figure 3). While most U.S. adults have broadband at home (73%), only 56 percent of adults with less than a high school education had a high-speed connection capable of sustaining at-home study. The technology access disparities documented by Pew Research, among others, have resulted in the popularization of terms like "digital divide". *I-DEA* designers had digital divides in mind when they designed an instructional method for adult ELL beginners with loaned laptops and an open-source curriculum at its center (Ruback et al. in Lotto-Casner & Wisell, 2019, p. 102).

Figure 3. ***Education and Income of Americans with Access to Technology***

(Anderson, 2019, p. 31)



I-DEA's potential to make community college job training programs more accessible to foreign-born adults working in the United States makes the method attractive to equity-focused teachers and administrators. Adult education policymakers in the state of Illinois appear committed to addressing the digital divides Pew Research has documented in their analyses of nationwide survey data:

> "Digital literacy and a skilled workforce are key to the state's sustainable economic development and stability... This is a goal not for technology's sake but *to ensure our adult learners have access to current technologies*, training, and embedded skills development… to compete in the labor market." (ICCB Statewide Task Force on the Future Direction of Adult Education and Literacy, 2018, p. 38, italics added for emphasis).

The evolution of CALL – from a privilege granted only to university-enrolled language learners, to free online classes available online around the clock – has clearly created more opportunities for disadvantaged groups, including the adult ELL beginners, the students for whom the *I-DEA* method was developed. Concerns about the equitable allocation of public education resources helped prompt *I-DEA* method's development in Washington state, with its rapidly growing foreign-born population (Ruback et al. in Lotto-Casner & Wisell, 2019: 95). The *I-DEA* method, which promises to put educational technology into the hands of disadvantaged adults like recently arrived immigrants, may be a partial solution to the technology access problems which persist in 2021.

Policymakers and business leaders have for decades clamored for more high-tech "upskilling" of workers in the United States (Grubb et al., 1996; Liebowitz & Taylor, 2004; Strawn, 2007; Bergson-Shilcock, 2016), and Community and Technical Colleges have been instrumental in finding ways to deliver equitable instruction that serves the

diverse needs of adults in the workforce and their employers. The question of *how* CTCs (and Community-Based Organizations) have addressed the overall problem of technology access is beyond the scope of this thesis. There is not an obvious niche to occupy in this area of *I-DEA*-related literature, and the topic of educational technology access is not directly investigated by the research questions formulated for this thesis. Nevertheless, it is important to acknowledge the problem of technology access equity in this literature review, as it helps explain the sociopolitical context out of which *I-DEA* emerged. To some degree, the *I-DEA* method is a policy response addressing "digital divides". If the adults for whom *I-DEA* was designed are least likely to possess the technology to participate (see Figure 3), schools need to consider providing the 1:1 student-computer ratio and technical supports that will sustain innovative teaching methods like *I-DEA.*

Integrated Education and Training (IET) and the Pathways Paradigm

Integrated Basic Education and Skills Training (I-BEST) is an *infused occupational* instructional method in which two teachers deliver vocation-specific skills training to "mid-range" ESL or ABE adults while providing linguistic accommodations (Kerr, in Delott Baker et al., 2009). *I-BEST* programs were developed as an education policy response to the growing number of adult English language learners (ELLs) in the state of Washington, "whose numbers doubled in the decade between 1990 and 2000." (p. 58). Some of the first *I-BEST* students were nurses in their home countries, seeking to learn English and obtain certifications to practice nursing in the United States.

The goal of *I-BEST* was to "increase the rate at which ESL and ABE students advance to college-level occupational programs and complete postsecondary credentials in fields offering good wages and career advancement" (Wachen et al., 2010, p. 2). Intermediate and advanced adult ELLs were successful in the *I-BEST* program, according

to data from Washington state. In 2015, students in the program earned more than twice the academic achievement points their peers did in "traditional" adult education classes. Unfortunately, adult ELLs who tried *I-BEST* weren't all *mid-range* English learners (Kerr, in Delott Baker et al., 2009). *Integrated Digital English Acceleration* was designed to solve the problem adult ELL beginners were facing. *I-DEA* removes the vocation-specificity of *I-BEST* and replaces it with a *pre*-vocational curriculum, covering general workforce development topics and using more basic English grammar and vocabulary.

Pathways Paradigm Shift

Both *I-DEA* and its "parent" method, *I-BEST*, are part of a large-scale, decades-long effort to redesign instructional delivery methods used by adult educators at public colleges and CBOs. Policy papers and reform-related studies carried out by the Community College Research Center (CCRC) at Columbia University in New York (e.g., Bailey et al., 2015; Jenkins et al., 2018) provide a historical record of what is referred to in this thesis as the *Pathways* paradigm shift.

The shift in United States adult education policy is characterized as a *paradigmatic* because the very *purpose* of adult education in the United States was redefined by federal lawmakers to extend the objective of adult education beyond high school completion and toward *post*secondary credential attainment. By setting the 1998 definition of adult education's purpose next to its 2014 *re-definition*, the paradigm-shifting amendments to federal law are plain to see (bolded for emphasis). Note the explicit reference to *career pathways* in the third paragraph of WIOA (2014), which was absent in the 1998 law.

Adult Education and Literacy Act

(WIA, Title II, 1998)

It is the purpose of this title to create a partnership among the Federal Government, States, and localities to provide, on a voluntary basis, adult education and literacy services, in order to—

(1) assist adults to become literate and obtain the knowledge and skills necessary for employment and self-sufficiency;

(2) assist adults who are parents to obtain the educational skills necessary to become full partners in the educational development of their children; and

(3) assist adults in the completion of a secondary school education.

Adult Education and Family Literacy Act

(WIOA, Title II, 2014)

It is the purpose of this title to create a partnership among the Federal Government, States, and localities to provide, on a voluntary basis, adult education and literacy activities, in order to—

1.) assist adults to become literate and obtain the knowledge and skills necessary for employment and **economic** self-sufficiency;

2.) assist adults who are parents **or family members** to obtain the education and skills that are necessary to becoming full partners in the educational development of their children; **and lead to sustainable improvements in the economic opportunities for their family;**

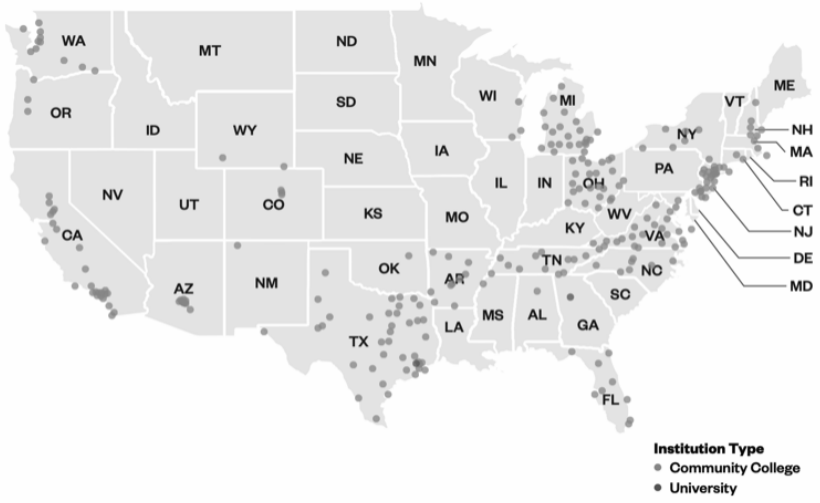
(3) assist adults in attaining a secondary school diploma **and in the transition to postsecondary education and training, including through career pathways;** and

(4) assist immigrants and other individuals who are English language learners in—
Improving their reading, writing, speaking, and comprehension skills in English...

Since the passage of the *Workforce Innovation and Opportunity Act of 2014* (WIOA), Adult Basic Education (ABE) programs have become a key part of *Pathways* redesigns, and *I-BEST* and *I-DEA* are points of entry into these pathways. The primary goal of *Pathways* reforms, as they relate to *I-DEA* and *I-BEST,* is to place *all* learners enrolled in adult education on a path toward postsecondary credential attainment. States with robust adult education infrastructures, particularly those around major metropolitan areas, have CTCs already implementing *Pathways* redesigns.

Figure 4. ***Community and Technical Colleges with Guided Pathways***

(Jenkins et al., 2018, p. 2)



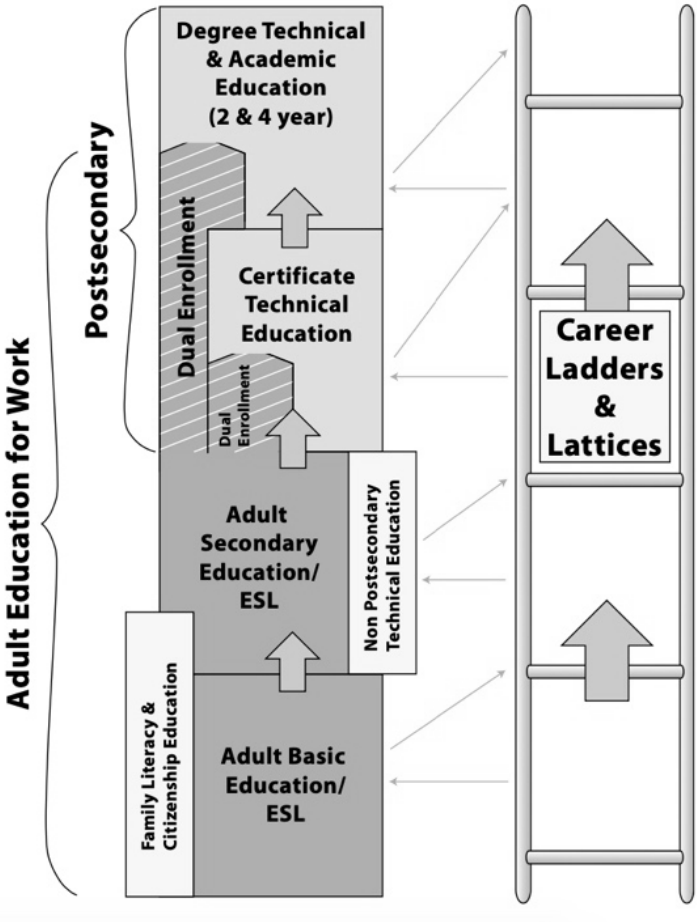
As depicted in Figure 4, the redesign of adult education programs in response to the *Workforce Innovation and Opportunity Act* has occurred more quickly in some regions and states than others. The state of Illinois, where this thesis research is situated, has dealt with decades of inconsistent state funding for public education, which makes it difficult to sustain even the most desirable reforms. Despite its well-documented budget challenges, Illinois appears dedicated to the *Pathways* paradigm shift. According to Jennifer Foster of the Illinois Community College Board (ICCB), "Adult Education can

no longer be viewed as an end point or a final stage in the transition to work. Instead, Adult Education is the foundation of Illinois' career pathways system" (2018, p. 4).

Pathways systems, illustrated in Figure 5 (from Theis, 2009), far predate their codification in federal law (WIOA, 2014). The *career pathway* construct, in fact, was introduced in a paper twelve years prior to passage of the WIOA (Alssid et al., 2002). The *Pathways* model envisions worker-learners "stacking" postsecondary credentials as they follow a predetermined career path, exiting and reentering as needed.

Figure 5. ***Career Pathways System***

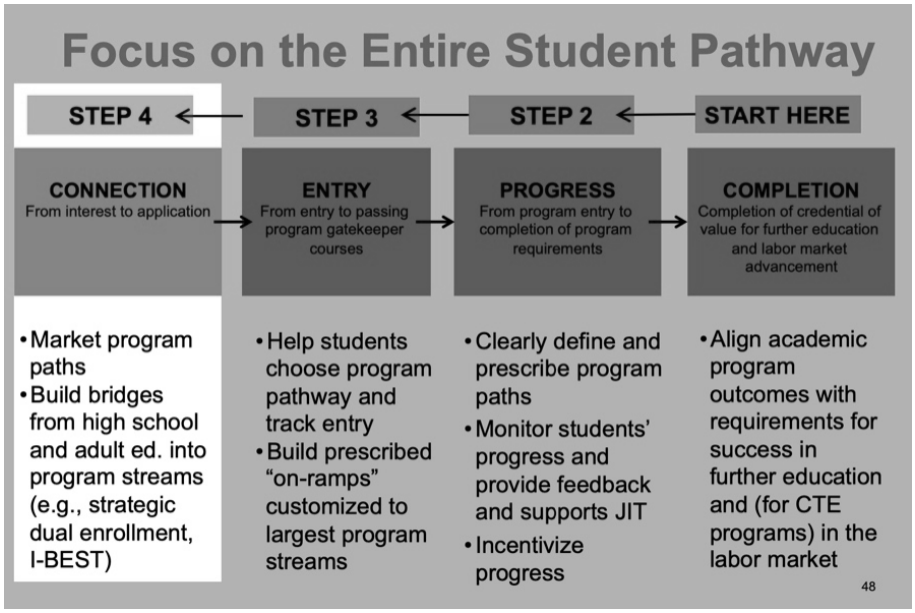
(Theis, 2009)



Pathways initiatives at community and technical colleges – including *I-DEA* and *I-BEST* – are designed to help students persist in the career paths they've chosen and to provide more learners with access to high-skill, high-pay employment opportunities. Unfortunately, a close look at *Pathways* implementation plans (Bailey et al., 2015) reveals that adult basic education (ABE) was to be *last* in the order of programs included in redesign planning (see Figure 6). It would appear that college reform advocates began, figuratively speaking, building a house from the roof down, without considering the basic skills "foundation" (Foster, in ICCB, 2018) upon which it rests.

Figure 6. ***Implementing Student Pathways***

(Bailey et al., 2015)



Fortunately, advocates in the Coalition on Adult Basic Education (COABE) have begun to address the apparent exclusion of ABE stakeholders in *Pathways* reforms. In 2018, *COABE Journal* dedicated an entire special edition to "Guided Pathways". In this volume, William Durden advocates for integration of adult education with *Pathways*,

offering Washington state's *I-BEST* as a method adult educators might use to begin aligning themselves with WIOA-related college redesigns. Durden stresses that adult educators should have seats at the table during redesign planning at CTCs in the U.S.:

> If colleges are going to fulfill their mission areas to serve their regions and connect students with real educational and economic opportunities as well as meet employer needs, they will have to include adult education in their planning and redesign efforts. (Durden, in *COABE Journal*, 2018, p. 122)

It is important to understand the efforts to connect more adult education students with college and career pathways because these reforms impact the English language instructors who will be asked to participate in the research conducted for this thesis. Gathering and analyzing data from *I-DEA* teachers in states where *Pathways* reforms have taken place would add important new data to the ongoing discussion about how to best provide adult education in the emerging *Pathways* paradigm. Thus far, too few longitudinal studies on *Pathways* initiatives have been completed to determine their long-term impacts (Strawn & Schwartz, 2018; Bragg, 2019), particularly the impacts on teaching and learning in Adult Basic Education (ABE) classrooms.

A recent meta-analysis of *Pathways* project impact studies (Gan et al., 2014) funded by the U.S. Department of Labor's Education and Training Administration (DOL ETA) found that the vast majority of initiatives (83 percent) reported improved learning outcomes. But of the 123 *Pathways* projects evaluated in the DOL-commissioned study, just *three* focused on adult education classrooms. The gap in literature on *Pathways* initiative impacts presents an opportunity for adult educators. This study may help English instructors decide what instructional delivery method they should use in the future, as the *Pathways* paradigm shift continues on community college campuses.

Conclusion

The first section of this chapter positioned the research as an exercise in mixed methods CALL evaluation and credited Ellsworth (2015) for providing a model for application of Chapelle's (2001) CALL evaluation criteria in a Community and Technical College (CTC) setting. The first section also engaged with two Second Language Acquisition (SLA) theories – constructivism and interactionism – and found both supportive of CALL methods like *Integrated Digital English Acceleration*.

In the second section of this chapter, the findings of one rigorous Flipped Classroom (FC) research study in an English language classroom were synthesized (Hung, 2014), along with two "studies of studies" (meta-analyses), to illustrate how the effectiveness (impact) of Flipped Classrooms (FCs) has been quantified by instructors. This literature review did not find any FC effectiveness studies conducted in Adult Basic Education (ABE) contexts like *I-DEA*, revealing a gap this thesis research might fill.

The third section of this review introduced the ongoing *Pathways* paradigm shift following the passage of the 2014 *Workforce Innovation and Opportunity Act*, which added career pathways to the legal definition of adult education's purpose in the United States. The *I-DEA* method emerged as a response to *WIOA* and is designed to prepare adult ELL beginners for *I-BEST,* an Education and Training (IET) method that prepares adults with limited or interrupted schooling for success in career pathways. Reforms ushered in by the passage of *WIOA* have not been adequately studied, and this MA TESOL thesis evaluation of the *I-DEA* method makes a modest contribution to *Pathways* literature by evaluating the impact and learner fit of this "on-ramp" to career pathways.

CHAPTER THREE

Methods

Overview

Evaluation of the impact and learner fit of *Integrated Digital English Acceleration* may be of interest to a wide audience of readers, as an example of research in educational linguistics (Spolsky & Hult, 2008), a linguistics sub-field that examines the intersection of policy, theory, and language teaching. A full-scale evaluation of the effectiveness or appropriateness of *I-DEA* would require the participation of numerous stakeholder groups: Students, teachers, staff, administrators, and other interested parties. The *pre-* evaluative research described in the pages which follow targets just one of these important groups – teachers. The methods outlined in this chapter are inspired by the *explanatory sequential* mixed methods model described in Creswell & Creswell (2017), in which qualitative data is collected after quantitative measures are first used, "to probe the quantitative findings, to explain them in more detail" (p. 241). In this study, open-ended qualitative prompts provide 18 opportunities to explain Likert ratings measuring levels of agreement with statements focused on two CALL evaluation criteria: (I)mpact on teaching and learning of English, and (F)it with adult learners of English (ELLs).

In this chapter, study participants and their teaching contexts are introduced, as are the steps taken to encourage their participation. The materials and procedures used to collect data from current and former *I-DEA* instructors are also described. The questionnaire designed for this thesis research (Appendix A) is grounded in principles of CALL project evaluation (Chapelle, 2001). Two of Chapelle's CALL evaluation criteria – Learner (F)it and (I)mpact – are the variables measured and analyzed in this study.

Chapelle applies her evaluative criteria to specific CALL tasks and activities to evaluate how appropriate each one is for a particular teaching context. For this study, Chapelle's framework is broadened slightly to evaluate the *I-DEA* method as a whole, rather than its individual tasks and activities. Instructors are asked to rate their agreement with hypothetical causes and indicators of *I-DEA* impact or fit as a "flipped" CALL method for adult ELL beginners. The research questions focusing this pre-evaluative research are deliberately broad, allowing teachers to provide a wide range of firsthand observations about *I-DEA*'s impact and learner fit:

RQ1: What do teachers' experiences with *I-DEA* reveal about the method's *(I)mpact* on teaching and learning in adult education programs?

RQ2: What do teachers' experiences with *I-DEA* reveal about the method's *(F)it* for the adult English Language Learners (ELLs) they serve?

Participants

Computer-Assisted Language Learning methods like *I-DEA* involve multiple stakeholder groups, including students, teachers, administrators, and employers. While the views and opinions of all these groups are valuable (and necessary for a comprehensive evaluation of *I-DEA*) this study invited the participation of just one stakeholder group: Instructors with experience using the *I-DEA* method. Teachers invited to participate in this study were those practicing *I-DEA* in grant-funded adult basic education programs at Community and Technical Colleges (CTCs) or Community-Based Organizations (CBOs) in the United States. CTCs and CBOs receive funding through the Workforce Innovation and Opportunity Act (WIOA), and they document student progress (Measurable Skill Gains, or MSGs) using standardized assessments approved by the federal government's National Reporting System, or NRS. Teachers using NRS -

approved assessments are the intended sample group of this study because their work is held to the same standard, regardless of the state or community in which they practice. If teachers sampled did not need to meet similar program goals, data obtained from them might not be comparable and easy to analyze. The setting of this study is thus limited to WIOA-funded programs. There is a larger population of educators who may be using the *I-DEA* curriculum (it is freely available online), but only respondents teaching in WIOA-funded programs key to the *Pathways* Paradigm were recruited for this study.

Participant Screening & Incentive

This research is a *within-group* study, and it was necessary to verify that participants were, in fact, *I-DEA* instructors. Participants were invited to submit documents verifying their participation in *I-DEA* projects (e.g., a faculty photo ID badge and copy of *I-DEA* syllabus with the instructor's name). This prevented the researcher from needing to contact program administrators, which would have jeopardized participant confidentiality.

This study asked participants to volunteer 30 minutes of their time to evaluate the *I-DEA* method's impact and learner fit in their classrooms. To encourage more in-depth responses to the open-ended (qualitative) questionnaire items, a participation incentive was devised. No participants were compensated for their time, but one U.S. dollar ($1.00) was donated to a charitable organization for every minute respondents invested in the questionnaire. The researcher paid this sum, and the rationale for selection of the donation recipient organization is provided next.

Because Questionnaire Item Number 17 (Q17) touches on the problem of equitable access to educational technology – what has been referred to as a "digital divide" (see Chapter Two) – the participation incentive helped fund the efforts of one

adult literacy organization to address this educational technology access problem. The recipient of this donation was an organization located in Elgin, Illinois. The Literacy Connection has provided free English language instruction to adults for several decades, and in December 2020, the organization began raising funds to provide more internet-enabled devices (laptops and tablets) for their clients. This organization's fundraising goal aligns with the objectives of *I-DEA*, and the Literacy Connection's message to donors clarifies this link:

> "While the coronavirus pandemic did not create the digital divide, it exposed and intensified the harsh realities of what it means to be unconnected in our hyper-connected world, particularly for our most vulnerable residents. It's hard to ignore the stories of adults unemployed searching for jobs and applying for government benefits or receiving access to health online or children receiving distance learning instruction while stationed in the parking lots of closed buildings with open Wi-Fi networks — at all hours of the day. This issue is directly affecting 66% of our learners that are living at or below poverty. For our learners it has become extremely difficult to continue with their tutoring instruction. The exorbitant cost of staying connected with dependable broadband and access to a device is a significant factor that increases inequality. The 'digital divide' we face globally is not only about access to the internet, but also the opportunities to make use of it... Digital equity is integral to race, economic, educational, and social equity. High-speed internet is as essential to 21st-century life as clean water and electricity." (Literacy Connection of Elgin, 2020).

Because the recipient organization cited above does not provide *I-DEA* classes, they have no stake in this research, presenting no conflicts of interest. The incentive used during study recruitment "pays forward" rather than "paying out" to study participants. If participants did not wish to donate, they were given the option to exclude the time they spent on the questionnaire from the donation total. This participation incentive was approved by Hamline University's Institutional Research Board (IRB).

Settings

The settings for this study included *I-DEA* classrooms at WIOA-funded community and technical colleges (CTCs) and Community-Based Organizations (CBOs) in the United States. Data collected originated from two different regions of the United States, in three zip codes. The research did not rely on classroom observation, so there are no physical settings to report here. The Learning Management System (LMS) used to deliver and receive instruction is not a physical setting, but rather a venue in virtual space, which is worth mentioning here. Because *I-DEA*'s design challenges students to complete much of their coursework while independently navigating an LMS, its role as a setting (platform) should not be ignored.

I-DEA runs on an open-source (free to teachers) LMS called *Canvas*, which is a product provided by Instructure, a for-profit company that specializes in corporate training. Instructure's *Canvas Commons* is the place where *I-DEA*'s modular curriculum may be accessed at any time and at no cost. This open-source philosophy makes *I-DEA* rather unique, given that educational software is intellectual property that has historically been licensed only to paying customers. The Creative Commons license (CC BY 4.0) attached to *I-DEA* allows for sharing, adaptation, and distribution of the entire yearlong curriculum, as long as credit is given to developers by teachers adapting lesson modules.

While the *I-DEA* platform on *Canvas* is not the focus of this thesis, it is reasonable to predict that participants in this study will have thoughts about the LMS, as it is the setting in which Flipped Classroom (FC) "pre-work" takes place. The online questionnaire described in this chapter (and provided verbatim in Appendix A) includes prompts about teacher and student experiences with technology, which includes the LMS.

Materials

I-DEA instructors were invited to submit their views and opinions about the method's impact and learner fit using a basic *Google Form.* This questionnaire format was selected due to its simplicity, familiarity, and high standard of data security. Google's *Workspace* (formerly *G Suite*) productivity applications, including *Sheets, Docs*, and *Forms*, run on network servers that are compliant with U.S. privacy laws (including HIPAA and FERPA) when accounts are administered by companies or institutions governed by these regulations. This online questionnaire was administered while adhering to the following data management principles:

Encryption: Secure participant data as though it were private health data

Objectivity: Analyze the data, not the respondent (let the numbers lead)

Confidentiality: Keep participants' right to privacy top-of-mind

The *Google Form* shared with *I-DEA* instructors prompted them to reflect on learner fit and impact in their classrooms. Questionnaire respondents rated their level of agreement or disagreement with 18 hypothetical statements suggesting possible causes or indicators of learner fit and impact. These statements were adapted from Carol Chapelle's framework for evaluation of Computer-Assisted Language Learning tasks (2001). Using Chapelle's evaluative criteria bolstered the questionnaire's content validity, which is the

extent to which a questionnaire's items are "adequate to capture or represent" a construct (Privitera & Ahlgrim-Delzell, 2019, p. 197). The constructs captured were impact and fit.

In the context of this study, questionnaire respondents needed a shared understanding of what *impact* and *fit* mean, or interrater reliability (the degree to which responses given can be considered comparable) might have been compromised. To prevent confusion about the constructs studied, the operational definitions of both impact and fit were provided in the questionnaire itself, above each prompt. *Impact*, as adapted from Chapelle (2001), referred to the "effects of the CALL activity on those who participate in it". *Fit,* meanwhile, referred to "the amount of opportunity for engagement with language under appropriate conditions given learner characteristics" (2001, p. 55). (I)mpact, in other words, is the *I-DEA* method's *effectiveness* for adult ELLs, while (F)it is the *appropriateness* or *suitability* of *I-DEA* for adult ELLs.

In this mixed methods study, the treatment (independent variable) was the *I-DEA* method's Flipped Classroom (FC) design, and the constructs affected by this treatment (the dependent variables) were (I)mpact and (F)it, two of Chapelle's six CALL evaluation criteria. Chapelle recommended that CALL be evaluated using both quantitative *and* qualitative methods, to construct a *context-specific* (i.e., non-categorical) argument about its effectiveness (2001, p.53). Following this guidance, the questionnaire's two-part design was based on Chapelle's *empirical* (quantitative) and *judgmental* (qualitative) CALL evaluation methodology (2001, pp. 59; 68). The first half of each prompt collected empirical (Likert scale) ratings data, while the second half elicited instructors' explanations (judgements) about the quantitative rating provided. As mentioned at the beginning of this chapter, this approach to data collection and analysis

might best be understood as *explanatory sequential* (Creswell & Creswell, 2017), because the quantitative data collected was followed up with explanatory qualitative data.

Quantitative Measures

A closed-choice rating scale beginning each of the questionnaire's 18 prompts provided standardization of measurement, as illustrated by the following example:

Q9: "I-DEA's flipped (blended) design helps students acquire English at a faster pace than they would in non-I-DEA classes."

- ❑ Strongly disagree **(1)**
- ❑ Disagree **(2)**
- ❑ No opinion **(3)**
- ❑ Agree **(4)**
- ❑ Strongly Agree **(5)**

The bolded numbers in parentheses above (for illustrative purposes only, not printed in the published questionnaire) are numerical (Likert scale) ratings gathered in the first of each two-part questionnaire item. Likert ratings are an example of an *interval scale* (Privitera & Ahlgrim-Delzell, 2019, p. 187). The precision and organization of this numerical ratings system was beneficial to the study, but it also had some limitations. Ratings like these, if not supplemented with other data, will not likely provide a clear measurement of the fit and impact constructs. These ratings were a valid place to start, however. They were just as efficient, controlled, and necessary as health surveys completed by patients in preparation for a doctor's appointment. Ratings of pain levels a patient is feeling while completing a diagnostic health survey are no different than the agreement ratings that were submitted by *I-DEA* instructors.

Empirical measures like the interval ratings used in this questionnaire have the benefit of consistent structure. The five-point scale does not change, so once a participant has viewed a sample prompt and has grasped what is expected, little attention needs to be devoted to the mechanics of questionnaire completion. This consistency (hopefully) enabled participants to remain focused on the substance of the prompts.

Qualitative Measures

The second part of the questionnaire supplemented the Likert (agreement ratings) data about (I)mpact and Learner (F)it with necessary context or "color". One statement, repeated after each of the 18 closed-choice ratings prompts, invited participants to expand on their selected rating. Participants were invited to share *why* they agreed or disagreed with the statement given, reflecting on their experience in *I-DEA* classrooms. Because quantitative measures lack nuance and context, this qualitative prompt gave the questionnaire necessary balance. Participants primarily used the second part of each prompt to add conditions to their responses. The following example from the data collected (see Chapter Four) helps illustrate how qualitative data allows for qualified agreement or disagreement:

> **Q9: "*I-DEA*'s flipped (blended) design helps students acquire English at a faster pace than they would in non-I-DEA classes."**
>
> *[I agree] "The pace is entirely dependent on whether students will actually complete the work. But yes, those who do the online component improve dramatically. I appreciate the additional opportunities for practice and that I can add, delete or supplement at will and as needed."*

Once the data collection period concluded (July 2021), responses to the questionnaire were anonymized and analyzed using an eight-step procedure. The first

phase of analysis – steps one through five – addressed the quantitative data (Part One of each questionnaire item), while steps six through eight followed up with thematic (qualitative) analysis (Part Two of each prompt, or Q).

Data Analysis Procedures Outline

1.) Close the online *Google Form* to future submissions and redact (black out) all cells except e-mail, timestamp, and zip code, to ensure participant confidentiality

2.) Invite respondents to self-verify as *I-DEA* instructors by submitting resources specific to their work (e.g., syllabi, faculty ID badge)

3.) *Phase One (Quant):* Extract *Google Sheet* column data containing only quantitative agreement ratings (integers 1-5) and assemble de-identified data array. Calculate Likert frequency for each prompt and the average frequency of each Likert category in each data subset (Impact and Fit).

4.) For each of the 18 prompts (Qs), calculate the salience (prominence) of Likert categories, by examining the difference between each category's frequency per prompt and the subset average (local mean).

5.) Perform separate quantitative analyses for Qs 1-9 and 10-18, to allow for comparisons and contrasts between the two data subsets.

6.) *Phase Two (Qual):* Return to redacted raw data sheet and extract only those cells containing *qualitative* data (organize, but don't analyze – yet).

7.) Generate word lists for each of the 18 prompts, grouping frequent terms according to themes which emerge during the analysis

8.) Perform analysis of merged data, making inferences about correlations found between salient qualitative and quantitative data points.

Conclusion

This chapter provided depictions of the participants, settings, materials, and procedures followed while collecting data from *Integrated Digital English Acceleration* instructors. One of the goals of this mixed-methods analysis was to ascertain whether or not *I-DEA* has accelerated English Language Acquisition, according to instructors who have been able to observe this phenomenon firsthand. An online questionnaire – the data collection tool selected – prompted *I-DEA* instructors to reflect on the impact of *I-DEA* on teaching and learning as well as the method's suitability for adult ELL they serve. As discussed in the next chapter, the questionnaire yielded results worth sharing with adult educators considering implementation of *I-DEA* and the findings of this small-scale pre-evaluative research study may help fill gaps in Flipped Classroom (FC) and CALL evaluation literatures.

CHAPTER FOUR

Results

Overview

In summer 2021 (May-June), an 18-item online questionnaire was shared with adult educators in the United States, to gauge their levels of agreement with statements proposing hypothetical causes or indicators of (I)mpact and Learner (F)it in *Integrated Digital English Acceleration* classrooms. In this chapter, the results of questionnaire data analysis is detailed in three separate sections. The first focuses on quantitative data results, the second on qualitative findings, and the third on correlations between the two data types. The mixed-methods questionnaire with an *explanatory sequential* design (see Chapter Three) produced results which help answer these research questions (RQs):

RQ1: What do teachers' experiences with I-DEA reveal about the method's *(I)mpact* on teaching and learning in adult education programs?

RQ2: What do teachers' experiences with *I-DEA* reveal about the method's *(F)it* for the adult English Language Learners (ELLs) they serve?

Study Recruitment

Digital communication tools were used to recruit *I-DEA* instructors for this study, including e-mails, discussion board invitations, and social media posts. Twenty recruitment e-mails were sent directly to potential study participants, and these direct appeals had the highest success rate of all recruitment techniques. A post on the U.S. Education Department's LINCS message board drew additional participants to the study. This LINCS post was shared on LinkedIn.com, where the website's analytics software

tracked 115 views of the recruitment post. Views from LinkedIn users near Chicago, New York City, Seattle, Atlanta, Boston, and Orlando metropolitan areas were recorded.

While website traffic analytics hinted at an abundance of recruitment post views by a geographically diverse audience, *I-DEA* practitioners from just two states (three U.S. zip codes) volunteered to participate in the study. Of the hundreds who viewed the participant invitations, only 81 clicked on the questionnaire link, and roughly ten percent of those visits led to questionnaire completion (n=8). The questionnaire's estimated participation rate (ten percent) is not entirely surprising, but sample size is the key limitation of this study, as explained in Chapter Five (Discussion). The recruitment phase of this study may have generated more interest from potential consumers of the research than it did from interested and eligible participants themselves.

Table 1 provides an overview of the self-reported characteristics of respondents, and the design characteristics of the specific *I-DEA* program with which they have participated. Respondents' teaching context is important to highlight because all who responded used "tailored" versions of the method at their school(s). As a result, the data collected from the sample group is more cohesive than it would have been if teachers using the high-intensity ("Full") *I-DEA* method subtype had also participated.

Most respondents (62.5%) used a "Flipped" Classroom (FC) design, while the rest of teachers participating in the study reported using a "Web-Enhanced" design. The only difference between these two *I-DEA* program varieties is the setting where "pre-work" (independent study) takes place. In an FC design, the student accesses content at home using a college-loaned laptop computer, whereas students in a "Web-Enhanced" *I-DEA* classroom complete "pre-work" activities in an on-campus computer lab. These differences did not detract from the internal consistency of the data collected, but they are

worth mentioning here. Table 1 data (below) suggest that overall, that study participants were experienced English instructors teaching in "tailored" *I-DEA* programs. Some provided each student a computer, while others did not have a 1:1 student-computer ratio.

Table 1. ***Participant Background and Context***

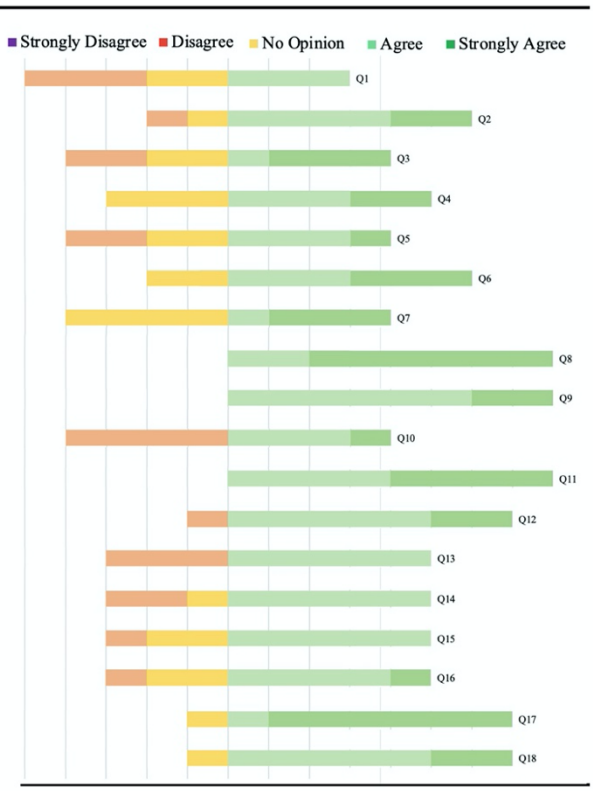
Descriptor (Self-Reported)	**% of sample**
Overall (cumulative) teaching experience	
Veteran (10+ yrs.)	75
Specialist (6-10 yrs.)	25
Established (2-5 yrs.)	0
Early Career (<2 yrs.)	0
Experience teaching English to adults in U.S.	
Veteran (10+ yrs.)	62.5
Specialist (6-10 yrs.)	12.5
Established (2-5 yrs.)	25
Early Career (<2 yrs.)	0
I-DEA *method teaching experience*	
Expert (5+ yrs.)	0
Proficient (3-5 yrs.)	25
Piloter (1-3 yrs.)	37.5
Adopter (< 1 yr.)	37.5
I-DEA *Design Characteristics (Sub-Types)*	
Tailored / Flipped *(lower intensity; 5 hrs. weekly pre-work w/ home computer)*	62.5
Tailored / Web-Enhanced *(lower intensity; 5 hrs. weekly pre-work in school PC lab)*	37.5
Full / Flipped *(high intensity; 9 hrs. weekly pre-work w/ home computer)*	0
Full / Web-Enhanced *(high intensity; 9 hrs. weekly pre-work in school PC lab)*	0
Descriptor (Self-Reported)	**% (or median)**
Demographics	
Female	87%
Male	13%
Ethnicity (White)	100%
Age (Median)	55
Yrs. Education (Median)	18 (MA)

Quantitative Results

For each of the 18 questionnaire prompts, the relative frequency of Likert ratings was calculated. This yielded 18 rows of percentage data, which are shown in decimal form in Table 2. Likert category frequency is also depicted in the form of a diverging stacked bar chart, which provides an approximated visual overview of the Likert frequency data pattern. The bar chart below shows the relative frequency (%) of ratings on either side of a "neutral" (No Opinion / Agree) midpoint.

Table 2. ***(I)mpact and Learner (F)it Agreement Frequency, by Likert Category***

(I)mpact Likert Frequency	SD	D	N	A	SA
Q1	0	**0.38**	0.25	**0.38**	0
Q2	0	0.13	0.13	**0.50**	0.25
Q3	0	0.25	0.25	0.13	**0.38**
Q4	0	0	**0.38**	**0.38**	0.25
Q5	0	0.25	0.25	**0.38**	0.13
Q6	0	0	0.25	**0.38**	**0.38**
Q7	0	0	**0.50**	0.13	0.38
Q8	0	0	0	0.25	**0.75**
Q9	0	0	0	**0.75**	0.25
Learner (F)it Likert Frequency	**SD**	**D**	**N**	**A**	**SA**
Q10	0	**0.50**	0	**0.38**	0.13
Q11	0	0.00	0	**0.50**	0.50
Q12	0	0.13	0	0.63	**0.25**
Q13	0	**0.38**	0	**0.63**	0.00
Q14	0	0.25	0.13	**0.63**	0.00
Q15	0	0	0.25	**0.63**	**0.00**
Q16	0	0	**0.25**	0.50	0.13
Q17	0	0	0.13	0.13	**0.75**
Q18	0	0	0.13	**0.63**	0.25



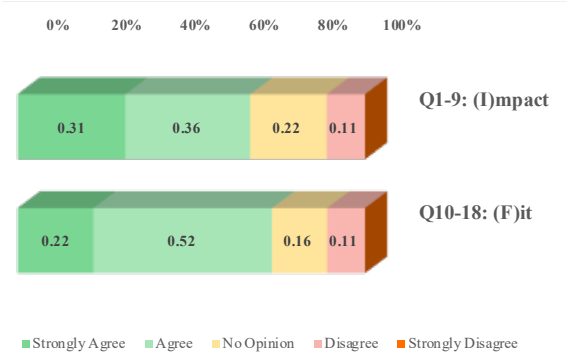
Because not all prompts (Qs) share the same midpoint, the chart above does not allow for precise comparisons between bars of frequency data. It can, however, help identify patterns or anomalies in the data set as a whole. Judging by the "lean to the right" of the bars in the chart above (shown full-scale in Appendix B), there is a general pattern

of agreeability observed in the data – a tendency to agree (A) or strongly agree (SA). Some questionnaire items elicited more strong agreement than others (Q8, Q17), while other items (Q1, Q10) received relatively high disagreement.

For comparisons to be made between the color-coded bars in the Table 2 chart, a local mean (subset average) was calculated for the first nine prompts (Qs 1-9) and last nine prompts (Q10-18). These subset averages are listed in Table 3 and are also represented visually in a 3D stacked bar chart. A side-by-side comparison of average Likert rating frequency between the (I)mpact and Learner (F)it data subsets reveals some nuances in the overall pattern of agreement: In the nine (I)mpact Qs, respondents agreed *more strongly* (on average) than they did with the nine (F)it prompts. The (I)mpact subset average frequency for "Strongly Agree" was 31% (.31), whereas the (F)it subset average was just 22% (.22). The two dark green bars in the bar chart below illustrate this difference in average frequency of SA between the data subsets. Agreement with (F)it-related prompts, was not as *strong* as it could have been, though it was more *frequent*.

Table 3. ***Subset Averages, by Likert Category (& Bar Graph Visualization)***

Average Likert Frequency (%) / Q Subset	Q1-9: (I)mpact	Q10-18: (F)it
Strongly Agree (SA)	**0.31**	0.22
Agree (A)	0.36	**0.52**
No Opinion (N)	**0.22**	0.16
Disagree (D)	0.11	0.11
Strongly Disagree (SD)	0.00	0.00

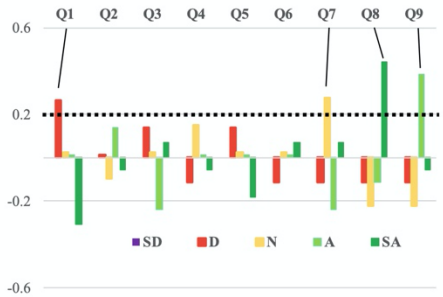


With average frequency of Likert categories established for both the (I)mpact and (F)it data subsets (Table 3, above), it was possible to identify prompts which elicted salient responses – those which *diverged most* from the average rating frequency for their respective subset, (I)mpact or (F)it. For the purposes of selecting which Likert frequency

variations might be considered salient, a threshold of 20 percent above average agreement or disagreement was established. Qs crossing that threshold met this standard, as depicted in the bar charts to the right of Table 4 (dotted line).

Table 4. ***(I)mpact and (F)it Salience***

(I)mpact Q Salience	SD	*diff*	D	*diff*	N	*diff*	A	*diff*	SA	*diff*
Q1	0.0	0.0	0.375	0.26	0.250	*0.03*	0.375	*0.01*	0.000	*-0.31*
Q2	0.0	0.0	0.125	*0.01*	0.125	*-0.10*	0.500	0.14	0.250	-0.06
Q3	0.0	0.0	0.250	*0.14*	0.250	*0.03*	0.125	*-0.24*	0.375	0.07
Q4	0.0	0.0	0.000	*-0.11*	0.375	*0.15*	0.375	*0.01*	0.250	-0.06
Q5	0.0	0.0	0.250	*0.14*	0.250	*0.03*	0.375	*0.01*	0.125	*-0.18*
Q6	0.0	0.0	0.000	*-0.11*	0.250	*0.03*	0.375	*0.01*	0.375	0.07
Q7	0.0	0.0	0.000	*-0.11*	0.500	*0.28*	0.125	*-0.24*	0.375	0.07
Q8	0.0	0.0	0.000	*-0.11*	0.000	-0.22	0.250	*-0.11*	0.750	0.44
Q9	0.0	0.0	0.000	*-0.11*	0.000	-0.22	0.750	0.39	0.250	-0.06
Subset Average (by Likert Category)	**0.0**		**0.111**		**0.222**		**0.361**		**0.306**	



Learner (F)it Q Salience	SD	*diff*	D	*diff*	N	*diff*	A	*diff*	SA	*diff*
Q10	0.0	0.0	0.500	0.39	0.000	*-0.16*	0.380	*-0.14*	0.130	*-0.09*
Q11	0.0	0.0	0.000	*-0.11*	0.000	*-0.16*	0.500	-0.02	0.500	0.28
Q12	0.0	0.0	0.000	*-0.11*	0.130	*-0.03*	0.630	0.11	0.250	0.03
Q13	0.0	0.0	0.380	0.27	0.000	*-0.16*	0.630	0.11	0.000	-0.22
Q14	0.0	0.0	0.250	*0.14*	0.130	*-0.03*	0.630	0.11	0.000	*-0.22*
Q15	0.0	0.0	0.130	*0.02*	0.250	*0.09*	0.630	0.11	0.000	-0.22
Q16	0.0	0.0	0.130	*0.02*	0.250	*0.09*	0.500	*-0.02*	0.130	-0.09
Q17	0.0	0.0	0.000	*-0.11*	0.130	-0.03	0.130	*-0.39*	0.750	0.53
Q18	0.0	0.0	0.000	*-0.11*	0.130	-0.03	0.630	*0.11*	0.250	0.03
Subset Average (by Likert Category)	**0.0**		**0.110**		**0.160**		**0.520**		**0.220**	

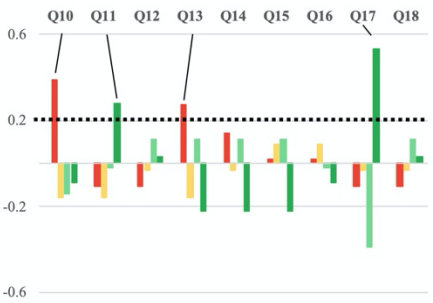


Table 4 illustrates how salience was calculated for (I)mpact and Learner (F)it prompts. In Q8, the frequency of "Strongly Agree" (SA) ratings was *.75*, but the (I)mpact subset average for SA ratings was only *.31*. The difference between those values (*.44*) can be seen in both the table and the chart, in dark green. Above-average agreement appears in light green, while above-average disagreement is shown in red.

Calculation of average agreement rating frequency for each subset and identification of salient Qs deviating from subset averages produced the eight salient data points identified in Table 4. Each of these eight salient Qs warranted additional investigation during the qualitative phase of analysis, which is described in the next

section of this chapter. These eight are considered salient (prominent, noteworthy) because they do not closely fit the patterns of agreement represented by the Likert frequency averages for their data subset. In the list presented below, salient Qs are presented in order of highest agreement to lowest agreement, in the context of the prompt text which elicited above average (+) Likert frequency within their subset.

Q17: "*I-DEA* fits my classroom because it increases students' access to educational technology and addresses 'digital divides' in my city, state, or region."

[+.53 Strong Agreement, Learner (F)it]

Q8: "*I-DEA*'s flipped (blended) design helps students develop more computer skills than they would in non-I-DEA classes."

[+.44 Strong Agreement, (I)mpact]

Q9: " *I-DEA*'s flipped (blended) design helps students acquire English at a faster pace than they would in non-I-DEA classes."

[+.39 Agreement, (I)mpact]

Q11: "*I-DEA* fits my teaching style. It gives me new tools but allows me to continue using sound teaching strategies for English Language Acquisition."

[+.28 Strong Agreement, Learner (F)it]

Q7: "*I-DEA* students achieve more gains on standardized tests than their peers in non-*I-DEA* classrooms."

[+.28 No Opinion, (I)mpact]

Q1: "*I-DEA* maximizes my opportunities to raise awareness of English grammar forms and functions."

[+.26 Disagreement, (I)mpact]

Q13: "I-DEA is suitable for all English language learners regardless of their age, gender, ethnicity, or other non-linguistic individual differences."

[+.27 Disagreement, Learner (F)it]

Q10: "*I-DEA* fits my classroom because the linguistic complexity of content is appropriate for my students' levels of English language proficiency."

[+.39 Disagreement, Learner (F)it]

The eight questionnaire items to which *I-DEA* instructors responded most strongly are those just listed, and their salience (above-average agreement or disagreement) is interpreted and discussed in the next chapter. What follows next is a description of the procedures followed to parse the open-ended (written) responses that were submitted alongside each of the 18 agreement ratings. The aim of the next phase of analysis was to identify possible explanations for above-average agreement or disagreement to the eight salient Qs listed above.

Qualitative Results

Open-ended written reflections explaining the agreement ratings discussed in the previous section were analyzed using procedures suggested for *explanatory sequential* mixed methods research. An explanatory sequential design aims to "probe" quantitative findings, and to "explain them more through the qualitative data" (Creswell & Creswell,

2017, p. 241). Because the quantitative data reported in the previous section of this chapter left much to the imagination, qualitative analysis provided necessary context. The thematic data presented on the next several pages helped reveal *how* instructors think the method *I-DEA* impacts teaching and learning, and *how* suitable it is for English language learners. The identification of frequent thematic terms in the corpus of qualitative data was correlated with the eight salient quantitative data points, enabling logical inferences based on those correlations.

The 18 open-ended (written) prompts which invited *I-DEA* instructors to explain their (Likert) agreement ratings and reflect on their experiences in *I-DEA* classrooms yielded more than 3,000 words for analysis. A total of 1,431 words were submitted for (I)mpact-related responses, while 1,855 words were submitted for prompts on Learner (F)it. On average, respondents used 20 words for (I)mpact-related reflections, and they wrote slightly more (an average of 26 words) in prompts related to Learner (F)it. All the qualitative open-ended prompts were optional, but most opportunities given to explain agreement ratings were taken – only 12.5% of written response fields were left blank.

Analyzing the corpus of qualitative data was more complex than analysis of Likert data, and required three separate steps:

1. Deconstruction of verbatim responses to tally word frequency
2. Screening, grouping of frequent word lists (by data subset) into themes
3. Merging of salient thematic terms with salient agreement ratings data

The first step of the qualitative data analysis procedure required the deconstruction of sentences and paragraphs (verbatim prompt responses) into tables of individual words, with each word occupying a single cell. This allowed Microsoft Excel's Pivot Tables to tally frequent terms. Frequent word lists generated were verified for accuracy, as spelling

or punctuation occasionally added to confusion within the data. For instance, the salient thematic term “pre-work” was submitted by one respondent as “prework” and was excluded from the automatic tally due its absent hyphen. Once all verified word lists were generated, coding and grouping of data by themes began.

The second step of qualitative analysis involved screening out words that did not have a clear meaning when decontextualized. Words that primarily served a grammatical function (articles, prepositions, and other linking words), were removed from the word frequency lists for both (I)mpact and Learner (F)it data subsets. Content words (nouns, verbs, and adjectives) occurring three or more times in each subset were included and coded as “frequent”. Some content words helped identify rhetorical strategies used by respondents but were coded as thematic. Non-thematic terms, and their rhetorical functions, are listed in Appendix C, as they were too expansive to be presented here. As a disclaimer, this thematic analysis might have benefited from the participation of an outside (independent) rater. Interrater reliability was not established, which means that the interpretation of thematic data is that of the Researcher’s alone.

Salient thematic terms in the qualitative data were those which occurred four or more times in either the (I)mpact or the Learner (F)it data set. Terms related to Flipped Classroom (FC) design features (“lessons”, “pre-work”) were grouped together under thematic headings, as were those related to English language proficiency (“levels”, “beginner”). The two themes to emerge are shown in Table 5 with their salient terms. The appearance of the term “pre-work” in impact-related prompts but not in fit-related prompts was the first revelatory finding to emerge from the qualitative data. “Pre-work” is an essential building block of Flipped Classroom (FC) design, and its occurrence is noteworthy. “Pre-work” occurrences are discussed further in Chapter Five.

Table 5. ***Salient Thematic Terms in Questionnaire Qualitative Data***

Thematic Terms in (I)mpact Data Subset **(Qs 1-9)**		***Thematic Terms in Learner (F)it Data Subset*** **(Qs 10-18)**	
Terms Used	Frequency (#)	Terms Used	Frequency (#)
Theme 1: Flipped Classroom (FC) Design		**Theme 1: Flipped Classroom (FC) Design**	
Class(es)	8	Class(es)	19
Modules	7	Skills	17
Skills	6	Lessons	7
Methods	6	Activities	4
Curriculum	5	Instruction	4
Pre-work	5	Modules	4
Lessons	5		
Activities	4	**Theme 2: Adult ELL English Proficiency**	
Instruction	4	Level(s)	14
		Beginner(s)/Beginning	11
Theme 2: Adult ELL English Proficiency		Intermediate	6
level	6	NRS	6
NRS	5	High	5

An additional finding from the thematic terms listed in Table 5 is the relatively high frequency of thematic term “level” (or “levels”). The term appears more than twice as often in the Learner (F)it data subset. This was somewhat expected, because Qs 10 and 14 specifically asked about the method’s fit for adult ELLs with different levels of English proficiency. Occurrences of the term “level(s)” may be skewed due to the phrasing of the questionnaire, but the wider variety of level-related adjectives in Table 5 suggests that instructors had more to say about levels and Learner (F)it than they did about levels and (I)mpact.

Merged Data Results

In the third and final step of this explanatory sequential mixed methods analysis, the salient qualitative data points listed in Table 5 were merged with the most prominent results from the quantitative (Likert) data. The eight salient Likert data points (Qs with

above-average ratings of agreement or disagreement) are listed on the next several pages, and below each prompt are verbatim responses (italicized) in which thematic terms were found. Thematic terms are bolded and underlined. Q7 featured no thematic terms, but commentary is provided to explain why Q7's non-thematic responses are listed. These examples from the raw data are ordered from "Strongly Agree" to "Disagree".

Raw Data Excerpts (with correlated Likert frequencies, in brackets)

Q17: "I-DEA fits my classroom because it increases students' access to educational technology and addresses 'digital divides' in my city, state, or region." [+*.53* Strong Agreement, Learner (F)it]

[I strongly agree...] *Yes. I think this is a big benefit of the IDEA model. There are many students who come to the* ***class*** *with very little or no technical* ***skills*** *- at least with a computer and office suite software. The IDEA* ***class*** *helps them use technology, and the student realizes the benefit of this. As I think I mentioned earlier, even students who are struggling with the technology do not want to transfer to a more 'traditional'* ***class*** *because they want to learn to use the technology.*

[I strongly agree...] *We got a grant to fund Chrome books for all students which made a significant difference. Students know that they need to learn technological* ***skills*** *and it was perfect to align English and Tech* ***skills****. Students felt more motivated when they had their own computer to use for* ***class****.*

[I strongly agree...] *Yes, it combines Canvas **skills** (educational technology) with digital **skills** of learning computer **skills** in word processing and presentation applications (google docs, google slides, Microsoft Word, Microsoft PowerPoint)*

Q8: "*I-DEA*'s flipped (blended) design helps students develop more computer skills than they would in non-I-DEA classes."

[+*.44* Strong Agreement, (I)mpact]

[I strongly agree...] *Yes, students feel the obligation to work on the Canvas **lessons** between our synchronous online **class**es.*

[I strongly agree...] *While we find that students who already possess some comfort with using a computer tend to like and complete **pre-work** at higher rates than those who do not, we still see marked improvement, especially in navigation (scrolling), mouse movement, and typing. Also, simply logging in and remembering/typing passwords takes effort for many.*

[I strongly agree...] *By virtue of the activities presented in the Canvas **lessons**.*

Q9: " *I-DEA*'s flipped (blended) design helps students acquire English at a faster pace than they would in non-I-DEA classes."

[+*.39* Agreement, (I)mpact]

[I agree...] *The pace is entirely dependent on whether students will actually complete the **[pre-] work**. But yes, those who do the online component improve dramatically. I appreciate the additional opportunities for practice and that I can add, delete or supplement at will and as needed.*

[I agree...] *Overall, yes. Initially it is a foreign concept to the students that they have to do **[pre-] work** on a topic themselves first, but once they realize that they need to in order to keep up with the material, and become comfortable doing the flipped part, I think it helps them to acquire English faster.*

*[I strongly agree...] *Students participation in discussion boards (for **pre-work** activities) and instructor led discussion that reinforces what was already accomplished in the **pre-work** helps the student to acquire the lesson specific English more quickly.*

* Q9's "Strongly Agree" response did not contribute to the calculation of "Agree" salience, but it is provided here as additional context, since the thematic term "pre-work" appears, and the point made is similar to the first response listed above.

Q11: "*I-DEA* fits my teaching style. It gives me new tools but allows me to continue using sound teaching strategies for English Language Acquisition."

[+*.28* Strong Agreement, Learner (F)it]

[I strongly agree...] *I appreciate the structure and the ability to enhance **lessons** according to my students, and yet I thought the **lessons** are soundly rooted in good ELA fundamentals. There are lots of group **activities**/cooperative learning/Discussions/voice recording opportunities...*

[I strongly agree...] *I was able to convert all Microsoft **lessons** to Google **lessons**.*

***Q7: "*I-DEA* students achieve more gains on standardized tests than their peers in non-*I-DEA* classrooms."** [+*.28* No Opinion, (I)mpact]

[I have no opinion...] *we have no access to this data.*

[I have no opinion...] *I can't compare yet...*

[I have no opinion...] *I don't have students outside of this one class.*

[I have no opinion...] *I do not have data on this.*

* The Q7 response above is an outlier within the group of salient Qs, because it contains no thematic terms. As is clear from the responses above, *I-DEA* instructors did not have access to the information required to make the comparison suggested in the prompt, and consequently most questionnaire respondents submitted a neutral (No Opinion) rating.

Q1: "*I-DEA* maximizes my opportunities to raise awareness of English grammar forms and functions." [+*.26* Disagreement, (I)mpact]

[I disagree...] *I do not think that the default/standard content necessarily maximizes the opportunity; however, it is very easy to add* ***modules*** *in areas that I think would benefit from additional material/exposure.*

[I disagree...] *The grammar is not designed to consistently increase in rigor throughout the* ***modules****.*

13.) "I-DEA is suitable for all English language learners regardless of their age, gender, ethnicity, or other non-linguistic individual differences." [+*.27* Disagreement, Learner (F)it]

[I disagree...] *At least from the short experience I have with IDEA, I would have to say it is not necessarily the best format for all students. Those in particular that I saw have the most trouble were much older students. I think you see a similar scenario in older native English speakers who try to learn technology. I think also those that have very little education in their background also find it a challenge, at least in the beginning, to use the IDEA model, particularly the flipped part of it where they need to be proactive to learn the material on their own. In spite of some of the struggles some of these students have with IDEA, almost none of them want to transfer out of the IDEA class into a* ***class*** *with a more 'traditional' teaching model.*

Q10: "*I-DEA* fits my classroom because the linguistic complexity of content is appropriate for my students' levels of English language proficiency."

[+*.39* Disagreement, Learner (F)it]

[I disagree...] *Not really - I-DEA **modules** have to be carefully tailored to the **level** of students' English language proficiency. We were too ambitious in summer 2019, and it didn't work well - we lost a lot of students and the remaining ones didn't make a lot of gains.*

[I disagree...] *For two out of three **levels** I used IDEA for I think it was appropriate, but for the higher **level** (high intermediate), the content was not really challenging enough. For high beginner and low intermediate it was.*

[I disagree...] *Our small, multi-level **classes** consist of learners in ESL **NRS levels** 1-6. I-DEA as designed is intended for **Levels** 1-3. Consequently, I created adaptations for **Levels** 4-6 in order to improve differentiation.* **[redacted for respondent confidentiality]** *Additionally, I frequently supplement the face-to-face materials with additional grammar, readings (especially charts & graphs), and more emphasis on pronunciation (we use Color Vowel) and connected speech.*

*[I agree...] *However, our program's I-DEA instruction begins at **NRS** High Beginner **level**. Our program does not advocate teaching I-DEA below this **level**.*

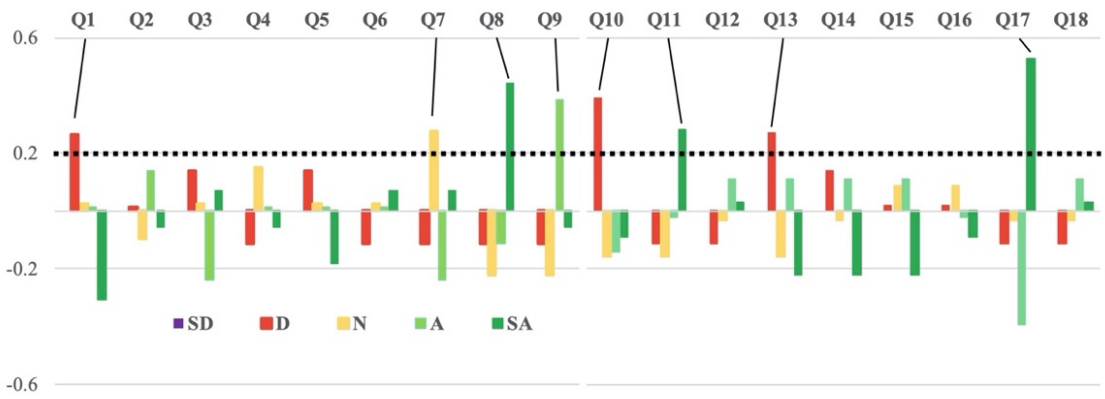
*Implicit *disagreement* was identified in this "Agree" response

Mixed-Methods Data Commentary (Mapping Correlations)

Some, but not all, frequent thematic terms in Table 5 co-occurred with above-average agreement or disagreement ratings. The occurrence of thematic terms "levels" and "pre-work" (bolded below) in Qs which prompted strong disagreement and agreement are two key findings of this study. Both correlations help reveal how teachers view the (I)mpact and (F)it of *I-DEA* in their classrooms.

Thematic Term	**Occurrence in Salient Qs**	
Class	Q10, Q13	[Fit]
Curriculum	Q1, Q11	[Impact & Fit]
Lessons	Q11	[Fit]
Levels	**Q10**	**[Fit]**
Modules	Q1, Q10	[Impact & Fit]
NRS	Q7, Q10	[Impact & Fit]
Pre-work	**Q8, Q9**	**[Impact]**
Skills	Q17	[Fit]

Figure 7. ***Questionnaire Prompts (Qs) with 20% Salience Threshold***



Conclusion

This chapter shared the results of a mixed-methods analysis of questionnaire data employing a three-step, explanatory sequential procedure. First, the quantitative data were charted visually for identification of trends and tendencies. Next, salient data points (above-average agreement or disagreement) were compared to average agreement frequencies for (I)mpact and (Fit) data subsets (subset averages). In Step Three, the eight prompts diverging from subset averages were merged with qualitative analysis data and thematic terms were presented in correlation with Likert (quantitative) agreement ratings. The key findings to emerge from this analysis are introduced here and discussed next.

1.) Respondents unanimously agreed that the *I-DEA* method has accelerated English language acquisition (Q9), but 50 percent of respondents viewed the linguistic complexity of the *I-DEA* lessons as problematic for some ELLs (Q10). Instructors reported adapting lessons to ensure Learner (F)it.
2.) Questionnaire prompts which elicited above-average agreement about (I)mpact correlate with occurrences of the salient thematic term “pre-work”. Merged data suggest that instructors surveyed think Flipped Classroom (FC) “pre-work” has an impact on teaching and learning in their classrooms.
3.) Respondents agreed strongly with a prompt about *I-DEA*’s potential to address “digital divides” (educational technology inequities). One instructor observed that adult ELLs “felt more motivated when they had their own [grant-funded] computer to use for class” (Q17).

CHAPTER FIVE

Discussion

Overview

The first chapter of this MA TESOL thesis provided the rationale for investigating the *Integrated Digital English Acceleration* method's impact and fit in adult education classrooms. The second chapter shared relevant examples of research into Flipped Classroom (FC) effectiveness and identified a gap in FC literature related to teaching context: No evaluations of FCs targeting adult English language learners (ELLs) were identified. The research methods and procedures in Chapter Three were selected to begin addressing this research gap, asking *I-DEA* instructors to help quantify and qualify the (I)mpact and Learner (F)it of *I-DEA* in their classrooms. In Chapter Four, the results of this mixed-methods study were presented, and correlations between salient quantitative and qualitative data were identified. In this final chapter, a general discussion about these correlations is provided, with a focus on how the data respond to the research questions that focused and directed this investigation. The last section of this chapter shares observations about the limitations of the study conducted and makes preliminary suggestions for full-scale *I-DEA* evaluations.

Interpretation of Results

Based on the correlated salient data presented in the previous chapter, logical inferences can be made about the results which respond to the research question related to impact and learner fit. Before proceeding to discuss how the study's results respond to the research questions, an important reminder about context-specificity in CALL evaluation is first provided. In Chapter Two, the primacy of context in research

evaluating CALL activities or methods was presented. Chapelle (2001) advised teacher-researchers looking for evidence of the six "ideal qualities" of CALL not to make *categorical* judgments about CALL effectiveness (impact) or appropriateness (fit). Instead, she argued that teachers should evaluate the ways a particular CALL task is appropriate for particular learners at a given time. The research questions posed for this thesis followed Chapelle's lead by focusing on teachers' *experiences:*

RQ1: What do teachers' experiences with *I-DEA* reveal about the method's *(I)mpact* on teaching and learning in adult education programs?

RQ2: What do teachers' experiences with *I-DEA* reveal about the method's *(F)it* for the adult English Language Learners (ELLs) they serve?

The online questionnaire used to collect data from *I-DEA* teachers reinforced the value of context. The questionnaire phrasing elicited context-*rich* data, and in most cases it succeeded. Some categorical claims about the impact and learner fit of *I-DEA* were found in the raw data, despite precautions taken to signal the importance of context-specificity. In a response to Q14, for instance, one instructor stated categorically that they "do not see *I-DEA* meeting the needs of NRS Literacy level students". Unfortunately, this was the entire response given by the instructor. No explanation or context to assist with interpretation was provided. This response, devoid of context, was not included in the data presented in Chapter Four, but not due to its lack of context. It was screened out because the quantitative (Likert rating) data associated with Q14 did not meet the criteria for prompt *salience* (>20% above- or below-average agreement).

Context-Specificity and "Tailored" I-DEA

Precautions taken in the design of this study to collect context-*rich* data included the design of the respondent background and program characteristics section (Table 1).

Demographic and program-related data indicate that *all* respondents surveyed were instructors using a "tailored" (lower-intensity) version of the *I-DEA* method. The "Full" *I-DEA* method, as developed and practiced in Washington state, requires students and teachers to engage with the material up to 18 hours each week. "Tailored" *I-DEA* programs deliver the same curriculum at a slower pace. While it would have been beneficial to collect the observations of instructors in "Full" *I-DEA* programs, the fact that those who did participate were all using a lower intensity version of *I-DEA* gave the data set greater internal consistency. The interpretation of questionnaire results accounts for this – no claims are made about the impact or fit of high-intensity *I-DEA* programs.

Correlation One: Thematic Term "Level" and Above Average Disagreement

The thematic term "level" was used frequently by questionnaire respondents and was most prominent (salient) in responses to Q10, which had 39 percent more frequent *disagreement* than the average for nine Qs in the Learner (F)it data subset. This high level of disagreement frequency came in response to the prompt: "*I-DEA* fits my classroom because the linguistic complexity of content is appropriate for my students' levels of English language proficiency". Respondents explained their ratings in the following prompt excerpts (not shown verbatim):

> "...*I-DEA* modules have to be carefully tailored to the **level** of students' English language proficiency..."

> "For two out of three **level**s I used *IDEA* for I think it was appropriate, but for the higher **level** (high intermediate), the content was not really challenging enough..."

> "Our small, multi-**level** classes consist of learners in ESL NRS **level**s 1-6. *I-DEA* as designed is intended for **Level**s 1-3. Consequently, I created adaptations for **Level**s 4-6 in order to improve differentiation..."

> "...our program's *I-DEA* instruction begins at NRS High Beginner **level**. Our program does not advocate teaching I-DEA below this **level**."

In the third Q10 response excerpt above, one instructor explained that *I-DEA*'s target audience includes beginners ("Levels 1-3"). In the fourth excerpt, another respondent indicated that their school does not recommend using the *I-DEA* method with adult learners below NRS High Beginner (Level 3). Both were referring to the U.S. Education Department's (NRS) system for classifying stages of English development.

Federally funded adult education programs organize classrooms by Educational Functioning Levels (EFLs) so teachers can deliver instruction for students at similar stages of English language development. The results of this study appear to indicate that *I-DEA* lessons are better suited for High Beginners (NRS 3) than Beginning Literacy (NRS 1) or Low Beginner (NRS 2) adult students. While one respondent found that lessons were too complex for NRS 1 and 2, another stated that the content was "not really challenging enough" for NRS 4. By simple process of elimination, one can logically infer that *I-DEA* lessons are perhaps *best suited* (i.e., a good learner fit) for adult ELL High Beginners (NRS 3).

This inference – that Learner (F)it is level-*contingent* – is made with some caution, understanding that the data upon which this claim is based were collected from instructors in "tailored" (lower intensity) programs. Instructors in "Full" *I-DEA*

programs may have different views about the linguistic complexity of *I-DEA* lessons. They might feel differently because they have more instructional hours available each week during which to explain challenging grammar or vocabulary to Beginning Literacy (NRS 1) or Low Beginner (NRS 2) adult ELLs. But judging by the data from the sample group (all of whom were using a lower-intensity version of *I-DEA*), it can be argued that the levels of adult learners in Tailored *I-DEA* programs should be considered when assigning online ("pre-work") tasks, as they rely heavily on reading comprehension.

Correlation Two: Thematic Term "Pre-Work" and Above Average Agreement

The thematic term "pre-work" was used by *I-DEA* instructors in response to Q9, the prompt which immediately preceded the "level" prompt (Q10) just discussed. Q9 received the second-highest agreement rating of the (I)mpact data subset (+*.39*) and reads: "*I-DEA*'s flipped (blended) design helps students acquire English at a faster pace than they would in non-*I-DEA* classes". Responses in which thematic term "pre-work" occurred include the following excerpts (not shown verbatim):

> "The pace is entirely dependent on whether students will actually complete the **[pre-] work**. But yes, those who do the online component improve dramatically..."

> " ...Initially it is a foreign concept to the students that they have to do **[pre-] work** on a topic themselves first, but once they realize that they need to in order to keep up with the material, and become comfortable doing the flipped part, I think it helps them to acquire English faster."

> "Students participation in discussion boards (for **pre-work** activities) and instructor led discussion that reinforces what was already accomplished in the **pre-work** helps the student to acquire the lesson specific English more quickly."

The Q9 response excerpts above help reveal how the *I-DEA* method impacts the acceleration of English acquisition, the primary objective of this Flipped Classroom (FC) instructional delivery method. The direct correlation between "pre-work" occurrences and above-average agreement (with Q9) leads to a logical inference: "Pre-work" is considered by *I-DEA* instructors surveyed to be a factor contributing to (I)mpact. This is not to say that "pre-work" is a *cause* of accelerated English language acquisition, but rather to suggest that "pre-work" may be among the FC design features which most directly contribute to the method's overall (I)mpact.

This inference is the second of three key findings of this study (outlined on p. 74), and Q9 responses help answer the first research question by revealing – at least partially – *how* the *I-DEA* method impacts teaching and learning in adult education classrooms. Students who engage fully with Flipped Classroom (FC) "pre-work" content, our data suggest, are more likely to accelerate their acquisition of target language structures found in each lesson module. The inference that *I-DEA* pre-work has an impact on teaching and learning is made with some confidence, because "pre-work" was attributed to (I)mpact by respondents themselves – it was entirely volunteered information. The term "pre-work" does not appear in the questionnaire text itself, and this link between impact and pre-work made by multiple respondents lends additional support to the inference that *I-DEA* instructors view "pre-work" as a factor contributing to accelerated English language

acquisition. The effectiveness of "pre-work" at accelerating learning may hinge on the comprehensibility of English used in online lesson modules, as will be discussed next.

Implications for Adult Education and TESOL

Instructors in "tailored" *I-DEA* programs who participated in this study stressed the importance of modifying pre-work (online) lesson content to make it a better fit for the adult ELLs they serve. The results of this study seem to imply that the acceleration of English language acquisition is dependent upon students being able to comprehend and complete "pre-work" (online activities). The importance that instructors surveyed place on "pre-work" gives the comprehensibility of written and visual online materials (their linguistic complexity, in Q10) even more relevance. Online lesson activities that are too complex, it follows logically, have the potential to be a barrier rather than a benefit.

If students cannot engage fully with the "pre-work" content because the written language displayed on their computer screens is too complex for their current stage of English development, the most celebrated characteristic of the *I-DEA* method's design – its "flip" – could become an obstacle to student progress. The two logical inferences made from the data presented in the previous chapter together suggest that "pre-work" tasks completed at home (or in a school computer lab) are contributors to *I-DEA*'s impact on teaching and learning, but "pre-work" also has the potential to detract from learner fit, if attention is not given to the linguistic complexity of the online content delivered. Fortunately for adult educators who may be considering the *I-DEA* method, the curriculum's Creative Commons (CC BY 4.0) license makes it freely adaptable. *I-DEA* instructors reported adapting lessons to better fit their students, and one teacher agreed to waive her right to study participant confidentiality so her own MA TESOL research into learner fit (adaptation of *I-DEA* lessons) could be mentioned here.

Surprise Finding: Recent Action Research in *I-DEA* Classrooms

One of the most gratifying outcomes of this study was the discovery that a questionnaire respondent, Katharina Bohr-Buresh, recently carried out an MA TESOL action research project to help ensure the learner fit of *I-DEA* lessons in her multi-level adult ELA classroom. In the online summary of her research (Spring 2020), Bohr-Buresh notes that in rural areas of the United States, adult education programs are more likely to have ELLs at all stages of language development, due to lower population density. Bohr-Buresh's project adapted *I-DEA*'s multimodal "pre-work" tasks to *add* complexity and rigor, as one of her fellow questionnaire respondents suggested in Q10:

> *For two out of three levels I used IDEA for I think it was appropriate, but for the higher level (high intermediate), the content was not really challenging enough...* (Chapter Three, p. 69)

Bohr-Buresh's study was conducted to respond to the sentiment expressed by the questionnaire respondent cited above. She reported that adult learners who already had a strong grasp of English were given new opportunities, with her adapted lessons, to practice more academic vocabulary and more complex grammar. Her successful adaptation of the "pre-work" tasks provides clear evidence that *I-DEA* content modification may be a necessity in certain contexts. Bohr-Buresh's action research produced the following results:

- Audio recordings elicited more complex utterances and sentence-level prosody from *I-DEA* students when adapted, in contrast with single word utterances typically recorded by lower-level students in the same class.

- Written prompts with paragraph frames removed allowed advanced *I-DEA* course participants to elaborate more fully, and data samples indicated increased adverb use and unprompted use of academic vocabulary (Bohr-Buresh, 2020, Findings).

This recent MA TESOL thesis is important to note here as a case study of *I-DEA* adaptation ensuring learner fit in multi-level (NRS 1-6) adult ELA classrooms. It illustrates the practical need of *I-DEA* instructors to modify the linguistic complexity of lesson modules – not only to simplify for Beginning Literacy (NRS 1) students, but also to add rigor for Intermediate or Advanced level students (NRS 4-6).

Bohr-Buresh's action research conducted in the state of Wyoming in 2020 provides clear evidence that learner fit is an important variable to consider during *I-DEA* implementation, and it exemplifies how instructors can actively address learner fit in their own contexts. Her MA TESOL capstone project added to the *I-DEA* knowledge base by making available to future *I-DEA* instructors the adapted curriculum modules she developed and tested in her classroom. Bohr-Buresh uploaded her lessons to the *Canvas Commons*, the online repository free course materials in which *I-DEA* lessons are found.

Study Limitations

Unlike Bohr-Buresh (2020), who had 18 students she could observe as she tested her hypotheses related to differentiated instruction (learner fit), this study did not collect primary data from students. The focus on *I-DEA* teachers and their views about (I)mpact and Learner (F)it is a key limitation of this thesis. The greatest limitation, however, relates to sample size. Only eight respondents (n=8) completed the questionnaire, and thus the generalization of data is limited. An additional limitation, as mentioned previously, relates to the fact that respondents were all using "tailored" versions of the

method. While invitations to participate were sent to instructors who helped design the method (from whom observations about "full", or high intensity, *I-DEA* might have been gathered), no responses were received. The data generated by the questionnaire might have been more robust (and the findings relevant to a wider audience of adult educators) had it included data from instructors in many types of *I-DEA* programs.

A final consideration about study limitations concerns the early decision made by the Researcher to position himself as a distant observer of *I-DEA* project and programs. This was a decision that, with the benefit of hindsight, prioritized objectivity at the expense of access to students and other important *I-DEA* program stakeholders. Had I taken the opportunity to network with *I-DEA* instructors in my area (Chicago, Illinois), more data would have been available to analyze and interpret.

Without direct access to *I-DEA* classrooms or students, this research relied on the self-reported views of instructors and did not benefit from other sources of data that might have been used to triangulate a richer understanding of the *I-DEA* method's (I)mpact and Learner (F)it. Given an opportunity to revise and replicate this study, interviews with students and classroom observations would be prioritized, to measure fit and impact more thoroughly.

Suggestions for Future *I-DEA* Evaluation

The fields of adult education, TESOL, and educational linguistics could greatly benefit from full-scale evaluations of *Integrated Digital English Acceleration*. Action research projects in *I-DEA* classrooms, like the one carried out by Bohr-Buresh (2020), would provide further empirical evidence of the effectiveness and suitability of this "flipped" CALL method for adult ELLs. More comprehensive evaluations of *I-DEA* undertaken in the future should seek to measure all six "ideal qualities" of CALL

(Chapelle, 2001, p.94), including the four listed here, which this thesis did not investigate:

Language Learning Potential: the degree of opportunity present for beneficial focus on form

Meaning Focus: the extent to which learners' attention is directed toward the meaning of the language

Authenticity: the degree of correspondence between the CALL activity and target language activities of interest to learners out of the classroom

Practicality: the adequacy of resources to support the use of CALL

Future *I-DEA* evaluations might benefit from analyzing the learning outcomes (standardized test scores) to which program administrators may have more access than instructors. It is difficult to quantify the impact of a teaching method without access to the testing data used to report progress to funding agencies. Testing data collected by programs using *I-DEA*, if reported consistently in states where the method is being used, would clarify the extent to which *I-DEA* has met its objective of accelerating adult learners' acquisition of English language and digital literacy skills.

Conclusion

This chapter provided a general discussion about the key findings of this small-scale MA TESOL research study, focusing on two inferences made about the impact and learner fit of *Integrated Digital English Acceleration* in adult education classrooms. It can be inferred from our results that *I-DEA* lessons may be *best suited* (i.e., a good learner fit) for adult ELL High Beginners (NRS Level 3). Questionnaire data also support the inference that *I-DEA* may be most impactful for (i.e., most likely to accelerate the

English language acquisition of) self-motivated ELLs who engage fully with “pre-work”, a key feature of the *I-DEA* method’s Flipped Classroom (FC) design.

Although this pre-evaluative study is limited in scope, scale, and generalizability, it does add new information to the growing *I-DEA* knowledge base. It is hoped and expected that the findings summarized here will inform conversations about the use of FC methods in adult education contexts. The results of this MA TESOL thesis study may help adult educators decide for themselves whether or not *I-DEA* is the right fit for the English language learners they serve and may help them assess its impact on teaching and learning at Community and Technical Colleges or Community-Based Organizations in the United States.

References

Alssid, J. L., Gruber, D., Jenkins, D., Mazzeo, C., Roberts, B., & Stanback-Stroud, R. (2002). *Building a career pathways system: Promising practices in community college-centered workforce development*. Workforce Strategy Center. https://files.eric.ed.gov/fulltext/ED470457.pdf

American Association of Community Colleges. *Mission statement*. (n.d.). Retrieved January 6, 2021. American Association of Community Colleges. https://www.aacc.nche.edu/about-us/mission-statement/

Anderson, M. (2019, June 13). *Mobile technology and home broadband 2019*. Pew Research Center. https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/

Atkinson, R., & Suppes, P. (1968). *Brief history of computer-assisted instruction at the Institute for Mathematical Studies in the Social Sciences*. Stanford University, California Institute for Mathematical Studies in Social Science. https://files.eric.ed.gov/fulltext/ED034420.pdf

Baker, R. L. (1984). Computer-assisted instruction: An overview of the state of the art with particular reference to Russian. *The Slavic and East European Journal*, *28*(4), 515. https://doi.org/10.2307/307638

Bailey, T., Smith Jaggars, S., & Jenkins, D. (2015). *Redesigning America's colleges: A clearer path to student success*. NISOD International Conference on Teaching and Leadership Excellence, Austin, TX.

Batalova, J., & Feldblum, M. (2020). *Immigrant-origin students in U.S. higher education: A data profile*. Migration Policy Institute. https://www.migrationpolicy.org/sites/default/files/publications/immigrant-origin-students-postsecondary-ed-final.pdf

Batalova, J., & Fix, M. (2019). *Credentials for the future: Mapping the potential for immigrant-origin adults in the United States*. Migration Policy Institute. https://www.migrationpolicy.org/sites/default/files/publications/MPI-ImmigrantOriginAdultsPSC_FINAL_WEB.pdf

Bergson-Shilcock, A. (2016). *Upskilling the new American workforce: Demand-Driven programs that foster immigrant worker success and policies that can take them to scale. National Skills Coalition*. http://nyachnyc.org/wp-content/uploads/2016/06/National-Skills-Coalition-Upskilling-the-New-American-Workforce.pdf

Bill & Melinda Gates Foundation. (2010). *Next generation learning: The intelligent use of technology to develop innovative learning models and personalized educational pathways*. https://docs.gatesfoundation.org/documents/nextgenlearning.pdf

Bohr-Buresh, K. (2020). *Adaptation of flipped curriculum materials to improve differentiation in adult English language teaching.* [unpublished thesis, University of Wyoming.] https://sites.google.com/view/curriculum-adaptation/home

Bragg, D. D. (2019). *What works for adult learners: Lessons from career pathways evaluations*. Jobs for the Future. https://files.eric.ed.gov/fulltext/ED598339.pdf

Bragg, D. D., & Durham, B. (2012). Perspectives on access and equity in the era of (community) college completion. *Community College Review*, *40*(2), 106–125. https://doi.org/10.1177/0091552112444724

Celce-Murcia, M., Brinton, D., & Snow, M.A. (2014). *Teaching English as a second or foreign language*. (4th ed.). Heinle ELT.

Chapelle, C. A. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing and research*. Cambridge University Press.

Chen, K.-S., Monrouxe, L., Lu, Y.-H., Jenq, C.-C., Chang, Y.-J., Chang, Y.-C., & Chai, P. Y.-C. (2018). Academic outcomes of flipped classroom learning: A meta-analysis. *Medical Education, 52*(9), 910–924. https://doi.org/10.1111/medu.13616

Cheng, L., Ritzhaupt, A. D., & Antonenko, P. (2018). Effects of the flipped classroom instructional strategy on students' learning outcomes: A meta-analysis. *Educational Technology Research and Development*, *67*(4), 793–824. https://doi.org/10.1007/s11423-018-9633-7

Clark, R. E. (1994). Media will never influence learning. *Educational Technology Research and Development*, *42*(2), 21–29. https://doi.org/10.1007/BF02299088

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sixth edition. Sage.

DeLott Baker, E., Hope, L., & Karandjeff, K. (2009). *Contextualized teaching & learning: A faculty primer. A review of literature and faculty practices with implications for California community college practitioners.* Academic Senate for California Community Colleges. https://files.eric.ed.gov/fulltext/ED519284.pdf

Durden, W. S. (2018). Guided pathways, WIOA, and Washington state's I-BEST: Blueprints for the future of Adult Basic Education. *COABE Journal: The*

Resource for Adult Education, 7(1), 116–123. https://coabe.org/coabe-journal/journal-archives/

Egbert, J., & Hanson-Smith, E. (Eds.). (1999). *CALL environments: Research, practice, and critical issues*. TESOL Press.

Ellsworth, G. (2015). *Teacher and student perceptions of DynEd multimedia courseware: An evaluation of CALL in an American technical college.* [Master's Thesis, Hamline University.] https://digitalcommons.hamline.edu/hse_all/270

Gan, K. N., Schneider, G., Epstein, Z., & Silverman, A. (2014). *Technology-Based learning (TBL) in workforce development and education: A review of the research literature*. Abt Associates. https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/ETA_TBLinWDandEDLiteratureReview_Report_Aug2020.pdf

Grubb, W. N., Badway, N., Bell, D., & Kraskouskas, E. (1996). *Community college innovations in workforce preparation: Curriculum integration and tech-prep.* National Center for Research in Vocational Education. https://files.eric.ed.gov/fulltext/ED405021.pdf

Healey, D., Hanson-Smith, E., Hubbard, P., Ioannou-Georgiou, S., Kessler, G., & Ware, P. (2011). *TESOL technology standards: Description, implementation, integration*. TESOL Press.

Hult, F. M. (2008). The history and development of educational linguistics. In Spolsky, B., & Hult, F. M. (Eds)., *The handbook of educational linguistics* (pp. 10-24). Wiley-Blackwell.

Hung, H.-T. (2014). Flipping the classroom for English language learners to foster active learning. *Computer Assisted Language Learning*, *28*(1), 81–96. https://doi.org/10.1080/09588221.2014.967701

ICCB Statewide Task Force on the Future Direction of Adult Education and Literacy. (2018). *Expanding career pathway opportunities in adult education: Strategic directions for Illinois.* Illinois Community College Board.

Jenkins, P. D., Lahr, H. E., Fink, J., & Ganga, E. C. (2018, April). *What we are learning about guided pathways*. Columbia University, Teacher's College, Community College Research Center. https://ccrc.tc.columbia.edu/publications/what-we-are-learning-guided-pathways.html

Låg, T., & Sæle, R. G. (2019). Does the flipped classroom improve student learning and satisfaction? A systematic review and meta-analysis. *AERA Open, 5*(3), 1-17. https://doi.org/10.1177/2332858419870489

Leakey, J. (2011). *Evaluating computer-assisted language learning: An integrated approach to effectiveness research in CALL.* Peter Lang.

Lee, G., & Wallace, A. (2017). Flipped learning in the English as a foreign language classroom: Outcomes and perceptions. *TESOL Quarterly, 52*(1), 62–84. https://doi.org/10.1002/tesq.372

Liebowitz, M., & Taylor, J. C. (2004, November). *Breaking through: Helping low-skilled adults enter and succeed in college and careers*. Jobs for the Future. https://files.eric.ed.gov/fulltext/ED486157.pdf

Lightbown, P., & Spada, N. (2013). *How languages are learned* (4th ed). Oxford University Press. http://www.saint-david.net/uploads/1/0/4/3/10434103/how_languages_are_learned.pdf

Literacy Connection of Elgin. (2020, December 1). *Fundraiser by "Jane Literacy": Giving Tuesday - December 1, 2020*. Crowdfunding Page Archive. https://web.archive.org/web/20210110182757/https://www.gofundme.com/f/y66dc-giving-tuesday

Lotto-Casner, J., & Wisell, T. B. (2019). *Working together: How community colleges and their partners help immigrants succeed*. Rowman & Littlefield.

McLaughlin, J. E., Roth, M. T., Glatt, D. M., Gharkholonarehe, N., Davidson, C. A., Griffin, L. M., & Mumper, R. J. (2014). The flipped classroom: a course redesign to foster learning and engagement in a health professions school. *Academic medicine*, *89*(2), 236-243.

Morgenstern, D. (1986). The Athena Language Learning Project. *Hispania, 69*(3), 740-745.

Papert, S. (1993). *The children's machine: rethinking school in the age of the computer*. Basicbooks.

Parrish, B. (2019). Teaching adult English language learners: a practical introduction (2nd ed.). Cambridge University Press.

Privitera, G. J., & Ahlgrim-Delzell, L. (2019). *Research methods for education*. Sage.

Ruback, J., Durden, W., & Kerr, J. (2019). Washington's I-DEA: increasing equity for English-language learners. In Lotto-Casner, J., & Wisell, T. B. (2019). *Working together: How community colleges and their partners help immigrants succeed.* (pp. 96-172). Rowman & Littlefield.

Strawn, J. (2007). *Policies to promote adult education and postsecondary alignment*. Council for Advancement of Adult Literacy. https://files.eric.ed.gov/fulltext/ED506594.pdf

Strawn, J., & Schwartz, D. (2018, April). *Career pathways design study: Findings in brief*. Abt Associates. https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/1-Career-Pathways-Design-Study-Findings-in-Brief.pdf

Swales, J. M., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks and skills*. The University of Michigan Press. https://doi.org/10.3998/mpub.2173936

Theis, A. (2009). *Guide to adult education for work: Transforming adult education to grow a skilled workforce*. National Center on Education and the Economy. http://www.ncee.org/wp-content/uploads/2010/09/adult_ed_work_guide.pdf

van Alten, D. C. D., Phielix, C., Janssen, J., & Kester, L. (2019). Effects of flipping the classroom on learning outcomes and satisfaction: A meta-analysis. *Educational Research Review, 28*. https://doi.org/10.1016/j.edurev.2019.05.003

Voss, E., & Kostka, I. (2019). *Flipping academic English language learning: Experiences from an American university*. Springer Singapore. https://doi.org/10.1007/978-981-13-8657-2

Wachen, J., Jenkins, D., & Van Noy, M. (2010, September). *How the I-BEST works: Findings from a field study of Washington state's Integrated Basic Education and Skills Training program*. Columbia University, Teacher's College, Community College Research Center. http://ccrc.tc.columbia.edu/media/k2/attachments/how-i-best-works-findings.pdf

Washington State Board of Community and Technical Colleges. (2020, February). *Integrated Digital English Acceleration (I-DEA).* Washington State Board of

Community and Technical Colleges. https://www.sbctc.edu/resources/documents/about/facts-pubs/idea.pdf

Webb, M., & Doman, E. (2016). Does the flipped classroom lead to increased gains on learning outcomes in ESL/EFL contexts? *CATESOL Journal, 28*(1), 39–67. https://files.eric.ed.gov/fulltext/EJ1111606.pdf

Workforce Innovation and Opportunity Act (2014). Title II – Adult Education and Family Literacy Act. 29 USC 3271, Section 202 et seq. (2014).

Workforce Investment Act. (1998). Title II – Adult Education and Literacy. 20 USC 9201, Section 202 et seq. (1998).

Appendix A – I-DEA Instructor Questionnaire

(Condensed, full version here: http://tiny.cc/I-DEA)

This form should take 25-30 minutes to complete. By providing your e-mail address below, you consent to receive (and respond to) three or four e-mail messages from the Researcher. Every I-DEA instructor who completes this questionnaire will receive a thank you gift. $1 will be donated to www.elginliteracy.org for every minute spent here. Your time is valuable, in more ways than one. Thank you.

Email address* (red asterisks indicate required fields)

_____

Participant Informed Consent

I agree to participate in this research. My participation is voluntary, and I may opt out before completing this questionnaire by closing my internet browser, or by not clicking "Submit". *

- ❑ Yes, I agree.
- ❑ No, I do not agree.

I give the Researcher permission to contact me by e-mail to verify that I am an I-DEA instructor. I will prepare proof of I-DEA program affiliation (syllabi, CV, faculty ID badge, etc.), and I can expect strict confidentiality and data encryption. *

- ❑ Yes, I agree.
- ❑ No, I do not agree.

I will provide responses to this questionnaire that match my lived experience as an I-DEA instructor. I agree to share observations that are accurate, to the best of my knowledge. *

- ❑ Yes, I agree.
- ❑ No, I do not agree.

[Design Note: If "No" is selected above, respondents will be directed to this page:]

Consent Not Given

Please contact me if you would like to discuss how to participate in this research in a way that is more comfortable for you. All responses to this questionnaire are confidential, and no participant will be identified. If you would like to change your mind and return to the questionnaire, please click the "Back" button below. You may close this window at any time to exit this form. Thank you for your time. Researcher E-mail: pgray02@hamline.edu

Participant Background Information (4 Required Prompts)

What is your level of experience as a teacher? *

- ❑ Early Career (less than 2 years)
- ❑ Established (2-5 years)
- ❑ Specialist (6-10 years)
- ❑ Veteran (10+ years)

What is your level of experience teaching English to adults in the U.S.? *

- ❑ Early Career (less than 2 years)
- ❑ Established (2-5 years)
- ❑ Specialist (6-10 years)
- ❑ Veteran (10+ years)

What is your level of experience teaching I-DEA classes? *

- ❑ Adopter (less than 1 year)
- ❑ Piloter (1-3 years)
- ❑ Proficient (3-5 years)
- ❑ Expert (5+ years)

Which I-DEA program structure most closely matches the classes you provide? *

- ❑ Full I-DEA (Flipped): 9 hrs. of pre-work, 9 hrs. of in-class work each week
- ❑ Tailored I-DEA (Flipped): 5 hrs. of pre-work, 5 hrs. of in-class work each week
- ❑ Full I-DEA (Web-Enhanced): 18 hrs. of weekly in-class work and computer lab time
- ❑ Tailored I-DEA (Web-Enhanced): 10 hrs. of weekly in-class work and computer lab time
- ❑ "Remixed" I-DEA: Informal or trial use of two or more I-DEA course modules
- ❑ Other _____

Participant Personal Information (Six Optional Demographic Prompts*)*

Age _____

Gender

- ❑ Female (She/Her)
- ❑ Male (He/Him)
- ❑ Non-Binary (They/Them)

Primary Racial or Ethnic Group

- ❑ Asian
- ❑ Black or African American
- ❑ Latino/a or Hispanic

- ❑ Native American
- ❑ Pacific Islander
- ❑ White
- ❑ Other _____

Total Years of Study (and Last Degree Completed)

Example: 18 years (MA TESOL)

_____

5-Digit Zip Code where you teach I-DEA

Example: 60123

_____

Questionnaire Instructions

For each of the prompts on the next 18 screens, begin by selecting your level of agreement or disagreement with the hypothetical statement displayed. Each statement offers a possible cause (or indicator) of Learner Fit or Impact in I-DEA classrooms.

- ❑ One: Provide Agreement Rating (9 for Impact, 9 for Fit)

Step two of each prompt is an invitation to write freely about the hypothetical statement provided, in the context of your own classroom(s). Does the statement resonate with your experience, or does it miss the mark? Take one or two minutes to explain or expand on the rating you provided in Step One.

- ❑ Two: Provide written reflection, including firsthand observations from I-DEA class(es)

What time is it right now, where you are? * [start timer]

___:____ AM/PM

Example (Practice) Prompt

This is a sample of the questionnaire format.

You may practice or skip ahead by clicking "Next".

"Integrated Digital English Acceleration is a Computer-Assisted Language Learning (CALL) method for opening career pathways to adult English language beginners at community colleges in the U.S. "

- ❑ Strongly disagree
- ❑ Disagree
- ❑ No opinion
- ❑ Agree
- ❑ Strongly Agree

Please share why you agree or disagree and reflect on your experience in I-DEA classrooms.

Reflecting on I-DEA's Impact (the effect of a Computer-Assisted Language Learning activity on those who participate in it)

1.) "I-DEA impacts teaching because it gives me more opportunities to raise students' awareness of English grammar forms and functions."

2.) "Overall, I have more positive experiences with technology while using I-DEA than I do while using other computer-assisted teaching methods."

3.) "Overall, students have more positive experiences using technology in I-DEA classes than they have in other computer-assisted courses."

4.) "I-DEA students acquire more strategies for learning English than they would using other CALL methods."

5.) "I-DEA students receive more community and workplace orientation than they would using other CALL methods."

6.) "I-DEA improves students' performance on standardized (NRS) assessments."

7.) "I-DEA students achieve more gains on standardized (NRS) tests than their peers in non-I-DEA classrooms."

8.) "I-DEA's flipped (blended) design causes students to develop more computer skills than they would in non-I-DEA classes."

9.) "I-DEA's flipped (blended) design causes students to acquire English at a faster pace than they would in non-I-DEA classes."

Reflecting on I-DEA's Fit (the opportunities for engagement with language under appropriate conditions given learner characteristics)

10.) "I-DEA fits my classroom because the linguistic complexity of content is appropriate for my students' levels of English language proficiency."

11.) "I-DEA fits my teaching style. It gives me new tools but allows me to continue using sound teaching strategies for English Language Acquisition."

12.) "I-DEA fits my students' learning styles. It gives them new tools but allows them to continue using communication strategies that work for them."

13.) "I-DEA is suitable for all English language learners regardless of their age, gender, or other non-linguistic individual differences."

14.) "I-DEA fits the learners I serve because it accounts for individual differences in their linguistic ability (educational functioning levels, or EFLs)."

15.) "I-DEA fits my students because it accounts for individual differences in technical ability (their experience using computers and internet applications)."

16.) "I-DEA fits my classroom because it increases learners' willingness to communicate in English. Students are more motivated by I-DEA than other teaching methods."

17.) "I-DEA fits my classroom because it increases students' access to educational technology and addresses 'digital divides' in my city, state, or region."

18.) "I-DEA meets my students' needs by making them more competitive in the local job market."

Questionnaire Timer & Donation Preference

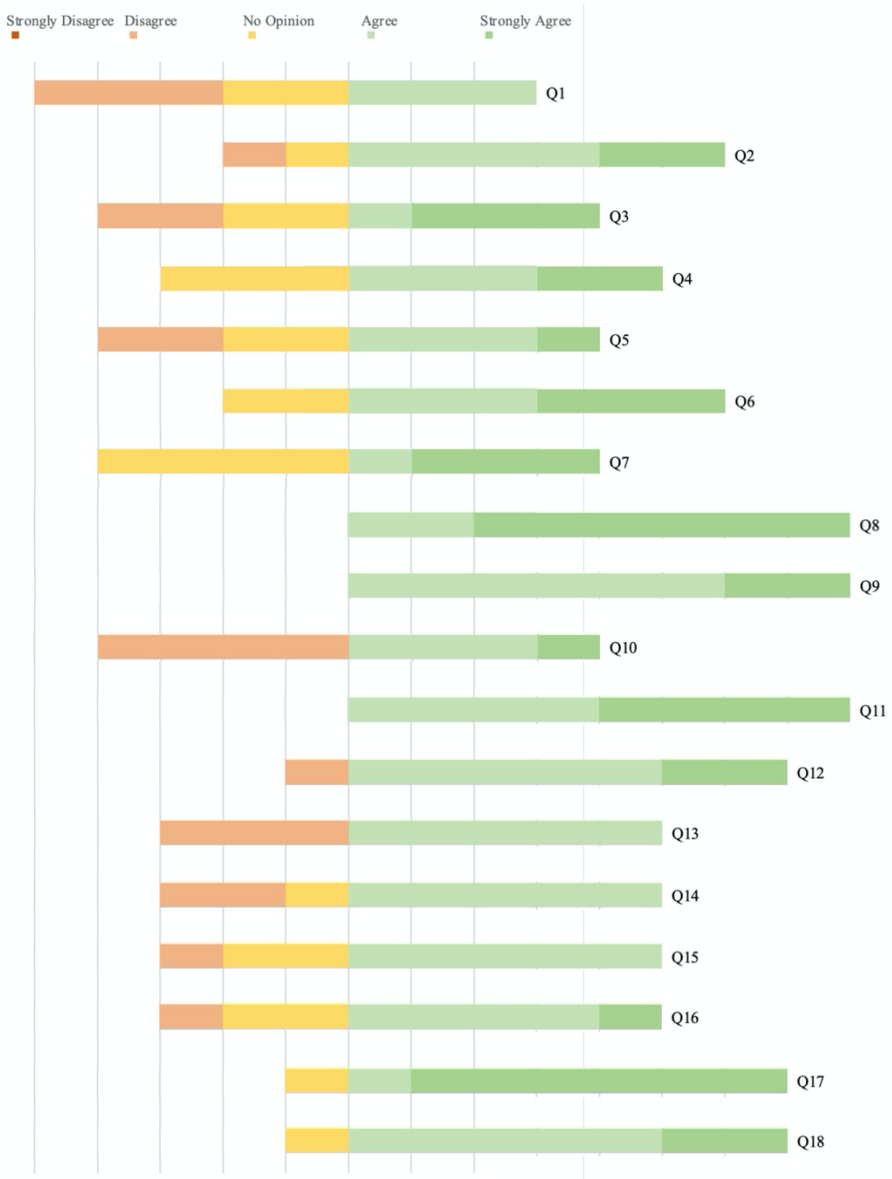
What time is it right now? * [stop timer]

__ : ____ AM / PM

The Researcher plans to contribute $1 to the Literacy Connection of Elgin (IL) for every minute you invested in this questionnaire. This donation will support the organization's recent efforts to increase access to educational technology for basic English literacy instruction. The donation will be made anonymously, once the study is complete. More information about this fundraiser may be found at: https://gf.me/u/y9yasq. Select one option below. *

- ❑ Yes, include my time in the donation. I understand that I will not be named as a donor.
- ❑ No, please do not include my time in the donation you make.

Appendix B – Questionnaire Item Agreement Overview



Q1. "*I-DEA* maximizes my opportunities to raise awareness of English grammar forms and functions."

Q2. "I have more positive experiences with technology while using *I-DEA* than I do using other computer-assisted teaching methods."

Q3. "Students have more positive experiences using technology in *I-DEA* classes than they have in other computer-assisted language learning (CALL) courses."

Q4. "*I-DEA* students acquire more strategies for learning English than they would using other CALL methods."

Q5. "*I-DEA* students receive more community and workplace orientation than they would using other CALL methods."

Q6. "*I-DEA* improves students· performance on standardized (NRS) assessments."

Q7. "*I-DEA* students achieve more gains on standardized tests than their peers in non-I-DEA classrooms."

Q8. "*I-DEA* 's flipped (blended) design helps students develop more computer skills than they would in non-I-DEA classes."

Q9. " *I-DEA* 's flipped (blended) design helps students acquire English at a faster pace than they would in non-I-DEA classes."

Q10. " *I-DEA* fits my classroom because the linguistic complexity of content is appropriate for my students· levels of English language proficiency."

Q11. " *I-DEA* fits my teaching style. It gives me new tools, but allows me to continue using sound teaching strategies for English Language Acquisition."

Q12. " *I-DEA* fits my students· learning styles. It gives them new tools but allows them to keep using communication strategies that work for them."

Q13. " *I-DEA* is suitable for all English language learners regardless of their age, gender, ethnicity, or other non-linguistic individual differences."

Q14. " *I-DEA* fits the learners I serve because it accounts for individual differences in their linguistic ability (educational functioning levels, or EFLs)."

Q15. " *I-DEA* fits my students because it accounts for individual differences in technical ability (their experience using computers and internet applications)."

Q16. " *I-DEA* fits my classroom because it increases learners· willingness to communicate in English. Students are more motivated by I-DEA than other teaching methods."

Q17. " *I-DEA* fits my classroom because it increases students' access to educational technology and addresses 'digital divides' in my city, state, or region."

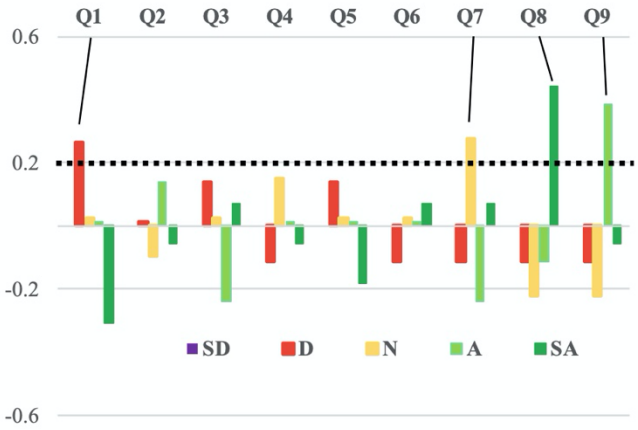
Q18. " *I-DEA* meets my students' needs by making them more competitive in the local job market."

Appendix C – Non-Thematic Frequent Words Lists

Frequent Words in (I)mpact Data		*% of total*	*Frequent Words in Learner (F)it Data*	
Terms Used (Qs 1-9)	Frequency (#)		Terms Used (Qs 10-18)	Frequency (#)
Nouns & Pronouns		**0.47**	**Nouns & Pronouns**	
I/we/my/me/our	57		I/my/we/me/our	63
I-DEA	34		student(s), ELLs, learners	52
Student(s)	32		I-DEA	30
they/their/them	26		they/them/their	33
Affirmation or Causation		**0.04**	**Affirmation or Causation**	
Because	6		Yes	5
Yes	4		Because	5
Positive	4		True	4
Negation or Hedging (Caution)		**0.13**	Agree	3
Not	17		**Negation or Hedging (Caution)**	**0.09**
But	8		Not	15
No	5		But	7
If	4		If	4
May	4		However	3
Depends	3		No	3
Active Verb Use		**0.23**	**Active Verb Use**	**0.22**
Using, Used, Use	18		Think	9
Learn(ing)	12		Do	8
Do	10		Use	8
Think	7		Learn(ing)	8
Need(ed)	6		Taught, Teaching	6
Practice	6		Believe	5
Get	3		Need	5
Appreciate	3		Get	4
Add	3		Want	4
Compare	3		Take	4
Maximizes	3		Increases	3
Adjectives		**0.13**	Allows	3
More	12		Communicate	3
Very	5		Felt	3
Many	5		Provided	3
Like	4		Transfer	3
Some	3		Looking	3
Same	3		**Adjectives**	**0.17**
Better	3		More	17
Few	3		Very	7
Additional	3		Additional	7
	319		Really	6
			Most	4
			Little	4
			Older	4
			Always	3
			Difficult	3
			Less	3
			Limited	3
			Well	3
		1.00		**1.00**
				373

Appendix D – Salience Data Tables & Bar Charts

(I)mpact Q Salience	SD	*diff*	D	*diff*	N	*diff*	A	*diff*	SA	*diff*
Q1	0.0	0.0	0.375	0.26	0.250	*0.03*	0.375	*0.01*	0.000	*-0.31*
Q2	0.0	0.0	0.125	*0.01*	0.125	*-0.10*	0.500	0.14	0.250	-0.06
Q3	0.0	0.0	0.250	*0.14*	0.250	*0.03*	0.125	*-0.24*	0.375	0.07
Q4	0.0	0.0	0.000	*-0.11*	0.375	*0.15*	0.375	*0.01*	0.250	-0.06
Q5	0.0	0.0	0.250	*0.14*	0.250	*0.03*	0.375	*0.01*	0.125	*-0.18*
Q6	0.0	0.0	0.000	*-0.11*	0.250	*0.03*	0.375	*0.01*	0.375	0.07
Q7	0.0	0.0	0.000	*-0.11*	0.500	*0.28*	0.125	*-0.24*	0.375	0.07
Q8	0.0	0.0	0.000	*-0.11*	0.000	-0.22	0.250	*-0.11*	0.750	0.44
Q9	0.0	0.0	0.000	*-0.11*	0.000	-0.22	0.750	0.39	0.250	-0.06
Subset Average (by Likert Category)	**0.0**		**0.111**		**0.222**		**0.361**		**0.306**	



Learner (F)it Q Salience	SD	*diff*	D	*diff*	N	*diff*	A	*diff*	SA	*diff*
Q10	0.0	0.0	0.500	0.39	0.000	*-0.16*	0.380	*-0.14*	0.130	*-0.09*
Q11	0.0	0.0	0.000	*-0.11*	0.000	*-0.16*	0.500	-0.02	0.500	0.28
Q12	0.0	0.0	0.000	*-0.11*	0.130	*-0.03*	0.630	*0.11*	0.250	0.03
Q13	0.0	0.0	0.380	0.27	0.000	*-0.16*	0.630	*0.11*	0.000	-0.22
Q14	0.0	0.0	0.250	*0.14*	0.130	*-0.03*	0.630	*0.11*	0.000	*-0.22*
Q15	0.0	0.0	0.130	*0.02*	0.250	*0.09*	0.630	*0.11*	0.000	-0.22
Q16	0.0	0.0	0.130	*0.02*	0.250	*0.09*	0.500	*-0.02*	0.130	-0.09
Q17	0.0	0.0	0.000	*-0.11*	0.130	-0.03	0.130	*-0.39*	0.750	0.53
Q18	0.0	0.0	0.000	*-0.11*	0.130	-0.03	0.630	*0.11*	0.250	0.03
Subset Average (by Likert Category)	**0.0**		**0.110**		**0.160**		**0.520**		**0.220**