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Design Thinking In ESL Programming: Creating A Program Model For Newcomer Students

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DESIGN THINKING IN ESL PROGRAMMING: CREATING A PROGRAM MODEL
FOR NEWCOMER STUDENTS

by

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A capstone submitted in partial fulfillment of requirements for the degree of Master of

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"We can't solve problems by using the same kind of thinking we used when we created them."
- Albert Einstein

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EL………English Learner

ELL………English Language Learner

ELD……...English Language Development

ELP………English Language Proficiency

EFL………English as a Foreign Language

ESL………English as a Second Language

DTE………Design Thinking for Educators

L1………...The first language of an English Learner

L2………...The second language of an English Learner

LEP……….Limited English Proficient

MMOA…...Multiple measures of assessment

NES………Non-English speaking

SIOP……...Sheltered Instruction Observation Protocol

MODEL…..Measure of Developing English Language (for initial assessment/placement)

ACCESS….Assessing Comprehension and Communication in English State-to-State (for English Learners)

WIDA…….World-Class Instructional Design and Assessment

CHAPTER ONE

Introduction

ESL programming is a topic that has long been complex, political and even controversial. Determining how to best instruct students from a variety of language and cultural backgrounds has never been easy. Indeed, stand-alone ESL programs do not fit nicely within the mold of classroom-based K-12 education.

Throughout my career as an ESL educator, I have observed and taught within a variety of program models. My experience working in schools around the world has shown me that program models vary from school to school. Just as language development is a complex process, so is the process of developing an ideal ESL program model for a given learning environment. ESL instruction requires well crafted and student-centered programming that suits the needs of diverse learner profiles. Such level of programming requires time, dedicated (and flexible) staff and administrative support—among other factors. This project does not set out to find the perfect program model for English Learners (ELs). Instead, it offers a framework that provides educators a guide for designing a project related to ESL programming. The process of designing in general is called design thinking. In an educational context, one popular framework is called Design Thinking for Educators (DTE). This project will use the DTE framework to develop an ESL newcomers program.

The central question that this project addresses is: *How can ESL educators design a program that best serves the needs of newcomer students*? In order to answer this question, I overview several program models and consider the needs of an ESL learning

environment. In this project, I will consider "learning environment" to be a broad, encompassing term that includes student demographics, school culture, staffing, funding, parent/community support and other relevant factors. This project stems from my own personal experience in evaluating how to redesign and/or improve upon programming-related matters.

Personal Experience

Imagine the following scenario: you have just accepted a two-year contract at an overseas school in Southeast Asia. The school has offered you the position of "English Teacher" but you know that the majority of the student body is English Learners. Although you do not carry the official title of *ESL Teacher*, you know that your training and experience will come of great use in the classroom. As you prepare to begin the new school year, the lack of ESL programming concerns you. You quickly realize that there are a significant number of students who lack the language skills needed to access the curriculum. These students are quickly falling behind, despite your in-classroom scaffolding and remedial lessons after school. It is quite clear that there is a serious need for ESL support, so you begin to envision the creation of an ESL program. You begin to wonder how you can create a program that best addresses the unique challenges and needs of the school. You want to create a program that can be presented to the stakeholders of the school as "viable" and "achievable". What you are about to design is an educational product that builds on both your experience and expertise. Therefore, this product needs to be carefully considered through a structured design process.

The above situation is not hypothetical—it was an actual challenge presented to me in a previous teaching post. For a burgeoning ESL teacher, a complete lack of

programming may seem insurmountable. Indeed, the level of thought needed to create an entirely nascent program may seem best left to an experienced educator or administrator. ESL departments are, however, sometimes granted a certain amount of autonomy within the school level, which may allow for more opportunities for program development. For the context of this project, it allows content-area teachers to undertake design projects from an ESL perspective. One goal of the project is for general education teachers to implement programming that is uniquely linked to student needs. In the context of this project, student needs revolve around the newcomer population.

My current teaching post at a suburban middle school in the East Metro of Minneapolis-Saint Paul has an ESL program in place, unlike my previous school of employment. The structured ESL program is most suitable for developing English Learners (ELs), many of whom were born in the United States. However, a growing number of non-English speaking (NES) students, who are also newly arrived immigrants, have created extra demands on the program. Only recently have I begun to evaluate how to redesign the program to better suit the needs of this growing newcomer population. As I venture into this project, which was originally intended for my previous overseas post, I now turn to my current position as I think about how design thinking relates to ESL programming. The design process that I am now faced with is not unfamiliar territory for many ESL educators. Having a structured framework to help guide educators in the design process is essential to creating programming that best suits a given learning environment.

Design Thinking for Educators

Design Thinking for Educators (DTE) is a structured model for solving educational problems developed by the international design and consulting firm IDEO. The DTE model is unique because even though it has its roots in the design industry, it has expanded design concepts to the education field. DTE involves five phases: Discovery, Interpretation, Ideation, Experimentation and Evolution. In this project, these phases will be analyzed through the lens of ESL teaching and learning. Each phase approaches the problem from a different perspective. This project will use DTE to specifically address the following question: *How can ESL educators design a program that best serves the needs of newcomer students?*

There are many factors that must be considered throughout the design process. Considerations such as student ability levels, staff resources, funding and community support are all factors in designing an ESL program. Design Thinking for Educators (DTE) offers a foundational model for addressing the specific needs of schools looking to design improved programming for English Language Learners (ELLs). This paper in particular will study how ESL research can address current programming challenges through the process of design thinking.

This project will also serve as a guide for content educators who are looking for resources related to design thinking in an ESL context. The DTE model can be expanded even further to address curriculum or other organizational challenges. The design process itself, the metacognitive framework laid out in this paper, creates the foundation for ESL educators looking to solve problems in various types of learning environments.

Research Motives

This project stems from the lack of an established ESL program at my former school of employment and the current programming challenges I now face in my current position. Both of these experiences combine to create a desire of wanting to address present needs while confronting the lack of the procedural knowledge and expertise to initiate a project. These teaching experiences have challenged my views on how I can lend my expertise and prior experience in a new teaching environment. I believe that I possess the abilities and qualifications to lead an ESL department through a design process that best serves this project's needs. Realizing my potential to help improve ESL programming for newcomers has created a motive for undertaking this project. This project is ultimately a means to help guide both my own design process and to support educators seeking design solutions for programming challenges.

My primary project goal is to create a professional development presentation that can guide educators in K-12 schools facing specific programming (or other related) challenges. The project is structured in research in the field of programming and Design Thinking. Design Thinking for Educators (DTE) is specifically used as a primary resource for initiating the design process. While there are other Design Thinking frameworks that could be applied to education, notably from the Stanford d.school [sic], the DTE framework was selected for its student-centered and well-designed toolkit. The addition of research in programming, adapts the already-available Design Thinking for Educators Toolkit from IDEO specifically for educators. The fruition of this project is the Design Thinking professional development (PD) sessions, which can be used as an

opportunity to educate staff on my own use of DTE in an ESL context while presenting opportunities to implement design thinking in mainstream classrooms.

Conclusion

Chapter One introduced the project, overviewed the personal experience of the author and explained the rationale. This chapter also presented the guiding research question for the project: *How can ESL educators design a program that best serves the needs of newcomer students*? Chapter Two provides a literature review on Design Thinking and ESL programming research in order to give a foundational basis for the project. Chapter Three outlines the project's details and also accounts for potential limitations and drawbacks of the project. Lastly, Chapter Four draws conclusions and reflects on the project's outlook.

CHAPTER TWO

Literature Review

My research question is: *How can ESL educators design a program that best serves the needs of newcomer students*? In order to understand Design Thinking for Educators (DTE)—the central framework for this project—I will review relevant literature in the field of educational design. In addition, I will use research on ESL program models to build a context for design thinking in ESL theory and practice.

This literature review seeks to explore the intersection of general design thinking theories and pedagogical applications for Design Thinking for Educators (DTE) in relation to ESL programming. Specific details related to ESL programming and program models will be a focus area, as it gives a foundational basis for an ESL educator's perspective in the design thinking process. Program models highlighted include: exclusive models, inclusive models, collaborative models, EFL models and newcomer models. Critical components of successful program models will also be explored including assessment and evaluation. The target audience for this literature review is K-12 ESL educators and content teachers have ELLs in their classrooms. Although secondary teachers will find the literature most relevant, elementary educators can also adapt the DTE framework into their programming. This chapter will conclude with a summary of the literature review and introduce the ESL design model to be discussed in Chapter 3.

Background to Design Thinking

Design thinking is a process that is rooted in the fields of engineering, architecture, marketing and advertising. Indeed, design thinking can be used to address a huge range of challenges in a variety of different disciplines. It is a multifaceted term that is used by individuals in a variety of fields who all have one thing in common: designing a solution for a complex problem. Neil Stevenson, an executive director at the design-firm IDEO suggests that, "Design thinking isn't one thing. It is a bundle of mindsets and philosophies in one term" (Lahey, 2017). Stevenson's message is that design thinking is a broad, encompassing term that collectively brings together a group of individuals or groups from a variety of fields.

Innovation is a key term at the center of design thinking. Researchers propose that designers should be forward-thinking individuals who are focused on creating practical and achievable solutions. Herbert A. Simon, a Nobel Prize laureate and founding figure in the design thinking movement, overviews the central goals of design:

> "Engineering, medicine, business, architecture, and painting are concerned not with the necessary but with the contingent—not how things are but how they might be—in short, with design…Everyone designs who devises courses of action aimed at changing existing situations into preferred ones." (1969, p. xii)

In the above quote, Simon (1969) recognizes that many disciplines were already using design thinking to create viable solutions to existing shortfalls. Simon (1969), however, did not envision education as a field that could adapt design thinking. Interestingly, although educators have long been innovators, design thinking in education is a relatively recent addition to pedagogical research and practice. Hence, much of the research on

design thinking has been outside the sphere of educational research. Quantitative studies involving schools that have implemented design thinking are a relative recent addition to academia (Retna, 2016). There is little evidence of quantitative studies on design thinking in education, which has created hesitation in implementing design frameworks among some pragmatic educators. Nonetheless, the growth of design thinking is evident in current educational trends.

One thing is for certain: design thinking is a "buzzword" among current educational trends that are currently circulating in educational journals like Phi Delta's *Kappan* and online in articles in *The Atlantic* and *Education Week* (Lahey, 2017; Henriksen and Richardson, 2017). A simple Google search for "design thinking in education" will reveal numerous current articles from mainstream and academic websites, and blogs. Design thinking has even made international headlines and is actively being used in schools overseas. One notable example is Singapore, which has implemented design thinking into its national curriculum. Current research out of Singapore provides a basis of what design thinking might look like in a classroom (Retna, 2016). A recent article out of Singapore's flagship newspaper *The Straits Times* describes how schools and other stakeholders in the country's educational industry are banking on design thinking as the next great idea to spur progress in a nation that is in search of innovative thinkers (Zachariah, 2017). Singaporean children as young as preschoolers are being immersed in design-related workshops with names like "Thinkroom" and "Happiness Makers" that charge upwards of $150 for full-day sessions (Zachariah, 2017). The parents conclude that the opportunity for their children to develop out-of-the-box thinking skills is well worth the hefty price tag.

For teachers looking to implement design thinking, IDEO and Stanford University's d.school [sic] are the leaders in user-friendly resources (Lahey, 2017; Henriksen and Richardson, 2017; IDEO, 2013; "A Virtual Crash Course," 2017). IDEO's Design Thinking for Educators (DTE) handbook and workbook, in particular, creates some practical resources for teachers curious to undertake design projects (IDEO, 2013). The d.school offers a K-12 Lab Wiki with resources from past workshops. Both of these organizations offer their own five-step frameworks, which are very similar in concept and wording. The main difference is that the IDEO framework offers an accompanying toolkit specifically targeted for educators.

Evolution of Design Thinking

Design thinking in relation to education has its historical roots in constructivist theory (Scheer, Noweski and Meinel, 2012). Constructivist thinking immerses the learner in the context of the teaching environment. This differs from a realist approach, which places the learner outside of the context as an independent observer (Scheer et al., 2012). John Dewey, one of the founders of educational constructivism, viewed learning as a complex series of interactions between the learner and its environment. Dewey (1931) supposes that learning involves continuously adapting to new situations. Modern-day teachers have adapted constructivism through holistic or project-based learning. This practice allows students to undergo the process of discovery—often termed as inquiry— in a structured learning environment (Scheer et al., 2012).

While constructivism played an influencing role in design thinking research, it was Simon (1969) who created the groundwork for modern research. Simon (1969) authored insightful design-centered theories that reverberated across the scientific fields

of organizational theory, decision-making, problem solving, information processing and artificial intelligence. Simon's design thinking cycle includes seven stages (define, research, ideate, prototype, choose, implement and learn), which are non-linear in order and can occur repeatedly (Figure 1). Current design thinking models, including those from IDEO and Stanford's d.school, are remarkably similar and have been largely guided by Simon's (1969) pioneer design cycle. Modern design firms have created end-user (customer) based models that have helped design thinking propagate into today's global economy (Von Kortzfleisch, Zerwas & Mokanis, 2013).

Design Thinking Theory

Design thinking theory has described the design process in a series of phases. Owen (1998) considers design thinking as a series of two phases: (1) an analytical stage of finding and discovering and (2) a synthetic stage of invention and making (Figure 2). Between these stages is a shared realm of knowledge between participants in the design process. Using knowledge as a central space allows individuals to theorize a series of proposals and work (in theory and practice) that ultimately create a solution to a given problem.

Brown (2008) approaches design thinking from the perspective of an executer's characteristics, which includes: empathizing with customers (end-users), exhibiting optimism, using integrative thinking, embracing collaboration and expressing experimentalism. Brown (2008) uses those characteristics to create a simple three-stage model consisting of (1) Inspiration (2) Ideation and (3) Implementation (Figure 3). Inspiration, guided by empathy, recognizes a problem or opportunity. Then, ideas are generated to create solutions to an identified problem. Finally, these ideas are

implemented in a series of tests. This model uses two-way arrows to recognize the possibility to move fluidly between stages (Brown, 2008, Figure 3). For example, a designer might generate an idea and then work back to the problem before proceeding to the implementation stage (Brown, 2008). Modern design thinking models recognize that the process is more similar to a feedback loop than a linear progression.

Other researchers have emphasized the importance of design thinker characteristics. Owen (2007) uses the term "finders" to describe individuals who harness their creativity through discovery. In contrast, "makers" take the knowledge that finders have discovered and create concepts, prototypes and experiments. In design thinking, both types of creative thinkers are needed to create a viable solution.

Razzouk & Shute (2012) build on past research to create a set of design-thinker characteristics. Among the characteristics includes a human-centered concern, the ability to visualize, the ability to consider multiple solutions, affinity for teamwork and systematic vision (Razzouk & Shute, p. 7). As a result, a design thinking competency model was created to express a set of characteristic, or variables, that design thinkers use throughout the design process (Figure 4). This roadmap of characteristics does not represent one individual; rather, it represents the combined efforts of both finders and makers coming together to create solutions.

The design thinking competency model creates a guideline of attributes that accounts for all phases of the design process. It recognizes three levels of hierarchy: the school level, the teacher level and the teacher-student level. Nigel (2004) supposes that expert design thinkers take a top-down, breadth-first approach. In other words, designs begin at the school level and work down to the joint teacher-student space. Expert

designers were found to exhibit problem-solving strategies that considered a broader perspective while novice designers focused on smaller solutions, performing a bottom-up approach (Nigel, 2004).

Another area of consideration in design thinking theory is the cognitive process of the executer. Kolodner and Wills (1996) identified three processes that design thinkers undergo: preparation, assimilation and strategic control. In the preparation stage, designers consider what is important as the problem is fully realized. Designers then test possible solutions and consider potential pitfalls in the assimilation stage. Finally, designers make adjustments and consider further solutions in the strategic control process, focusing on opportunities and potential outcomes (Razzouk & Shute, 2012).

ESL Program Models

There are numerous types of ESL program models, which vary according to language levels, student background, intensity and educational philosophy. Some programs are considered traditional and have been in use since the beginning of targeted ESL instruction more than forty years ago. Other programs are more recent, developing out of research in academic language, collaborative instruction and other trending second language acquisition research. Certainly, there are a myriad of program models. However, the modes of delivery discussed in this section will only enumerate a few, as they are most relevant and applicable to the Design Thinking for Educators project.

Exclusive Models. Pull-out instruction is one of the most traditional ESL program models. In this model, ESL teachers "pull" students out of mainstream classes and provided targeted instruction in small groups. McKeon (1987) classifies the pull-out model as a stand-alone type of program, meaning that it groups ELLs together outside of

core content classes. Other scholars use the term "exclusive programming" to help

explain that ELLs are excluded from their mainstream peers during pull-out instruction

("Howard Research," 2009). Duke & Mabbott (2001) suggest that pull-out classes are

best designed for beginner to low-intermediate ELLs, particularly in schools with a low

number of students receiving ESL service. The amount of instruction in a pull-out

program varies. Typically, students are pulled for at least 30-45 minutes a day, equating

to 2.5 hours per week (p. 4). Furthermore, the amount of instruction may vary according

to groups' language proficiency levels, among other factors. Scheduling pull-out groups

is one notable limitation in an exclusive model.

  Inclusive Models. Push-in instruction lies at the other end of the program model

continuum. In a push-in program, ESL teachers work with students in their mainstream

classroom setting. This type of programming can be classified as inclusive, as ELLs are

able to receive targeted instruction while participating in classroom activities with their

native-speaking (or exited) peers (Howard Research, 2009). Push-in instruction is

suitable in primary classrooms, particularly if the mainstream teacher provides the ESL

teacher with a space to conduct group lessons and allows for supports during whole group

instruction. This type of instruction can also work well in classrooms with a significant

number of ELLs. Haynes (2007) describes a school in which all of the ELLs in the grade

level were placed in the same classroom. In the study, an ESL teacher provided extensive

in-class content support for the classroom teacher, creating a collaborative and

professional relationship between the two teachers.

  Collaborative Models. Collaborative programs are a more recent development in

ESL programming. The co-teaching model, in particular, is frequently cited as a marriage

of language and content that is beneficial to all students. In the co-teaching model, the ESL and mainstream teachers work collaboratively in all stages of instruction, from lesson planning to delivery. Both teachers are expected to carry equal weight during instruction. Hence, in theory, co-teaching allows ESL teachers to be more actively involved in content subjects such as Math, Science or Social Studies. The expectation is for the ESL teacher to teach at least part of the lesson, focusing on a particular language aspect that benefits all students. Co-teaching may also use collaborative learning, which is a student-centered approach that pairs an ELL with a proficient learner. Young (1996) notes that collaborative groups provides ELLs with a safe and low-risk environment to practice new vocabulary and improve overall oral language production.

EFL Models. In schools with large numbers of English as Foreign Language (EFL) students, students are grouped according to ability level. Ability grouping refers to the placement of students into groups based on English language proficiency (ELP) levels. South Korea is an example of a country that has embraced ability grouping in its national English curriculum. Kim (2012) surveyed South Korean students and teachers regarding the implementation and effectiveness of ability grouping. The questionnaire found that the majority of schools had two (advanced) or three (beginner) groups for most or all of the English classes (p. 295). The study revealed both benefits and problems in ability grouping. A significant benefit is that this arrangement allowed for an appropriate level of instruction. Advanced students received more advanced language and content, as the teacher no longer had to accommodate for the beginner students.

One of the most revealing conclusions from the Kim (2012) study was that ability grouping could be especially problematic for low-level groups. 75% of the teachers in the

study expressed concerns in dealing with students' attitudes and behavior in the lower groups (p. 300). On the other hand, many beginner students expressed low self-confidence and unfair treatment from teachers as the root of their behavioral issues. Teachers, meanwhile, noted that the stress and difficulty in teaching beginner groups lead to frustration, burnout and high teacher turnover.

While EFL programs are not common in American K-12 schools, they do provide some insight in how to address an influx of immigrant students who arrive with limited English proficiency. Newcomer programs, in particular, may benefit from evaluating research in EFL models.

Ability grouping is a type of clustering, which has applications in the ESL classroom. WIDA assessments are classified into five levels of English language proficiency (ELP), which creates a possible framework for ability grouping. ESL programs may wish to structure instruction accordingly. A Level 1-2 classroom might include newcomer students who require intensive literacy support. A Level 3 classroom might include ELLs who have social language proficiency but do not have grade level literacy. A Level 4-5 class might include students who are approaching grade level academic language proficiency and are expected to exit services by the end of the year. Grouping options naturally vary according to ELL demographics in a particular program. Kim (2012) points to maintaining low student-to-teacher ratios in low proficiency groups and a greater number of students in high proficiency groups. Ability grouping strategies, while based on research in foreign schools, can be applied to American classrooms, particularly with large numbers of non-English speaking (NES) students.

Newcomer Models. The growth of newcomer immigrant students in the United States has created a need for programming that differs from traditional ELLs. In contrast, to traditional ELLs—a number of which are second or third-generation students—newcomer students have unique characteristics, which do not fit the mold of "panethnic categories" that are typically associated with ELLs (Oikonomidoy, 2015, p. 319). Many newcomers are also classified as Limited English Proficient (LEP)—a federal government term—73% of which are Spanish speakers (Walqui, 2000, p. 11). Students arriving under refugee status, in particular, have diversified the immigrant pool. However, the acculturation process for many refugee students is challenging, particularly if schools are unprepared for the arrival of newcomers (Short, 2002).

BRYCS (2008) has developed a useful guide for orientating and welcoming newcomer refugees. The organization's guide overviews several social integration aspects that refugees experience, which may seem unusual to fellow students and teachers unfamiliar with newcomers. Resources for teaching about refugees, geography, ethnic tensions and bullying create a comprehensive tool for administrators and teachers hoping to create a welcoming environment for newcomers.

The social integration of students is a focus point for newcomers, as these students can be quickly prone to social marginalization without a solid support system (Oikonomidoy, 2015; Short, 2002; Walqui, 2000). Therefore, an exclusive program model, such as pull-out instruction, may limit a newcomer's period of socialization and acculturation. Nonetheless, non-English speaking (NES) students may require targeted instruction that is best served with exclusive programming.

In addition, newcomer students may lack geographic and scientific knowledge, requiring specialized language-based content-area classes. Sheltered Instruction Observation Protocol (SIOP) is one example of a research-based model for addressing the academic needs of newcomers. Native language (L1) content instruction, especially for Spanish speakers, may also be an option for newcomers in urban settings (Short, 2002).

Short (2002) is a comprehensive study of 115 newcomer secondary programs in the United States. The study highlights three exemplar schools: Cesar Chavez Middle School in Chicago, IL; Liberty High School in New York City; and LEAP Academy in Saint Paul, MN. Cesar Chavez integrates its bilingual newcomer program, which consists primarily of Spanish speakers, within a traditional secondary school. Liberty High School, in contrast, exists as a separate site. The newcomers attend the newcomer program for half a day, with the other half of the day spent at the traditional high school. LEAP Academy, which exists as a whole school site, sets the standard for newcomer programs. As many L1s are represented, the program uses ESL instruction (L2) combined with native language support (L1) via paraprofessionals.

Short (2002) identifies two key questions for schools designing a secondary newcomer program: *Is there already a population of newcomers in the district*, and *Are they unsuccessful in the current language and content support system*? The project to be discussed in Chapter 3 of this paper fits the criteria for both of these questions.

Program Model Components

The successful creation and implementation of an ESL program is dependent on several core components or factors. This involves a planning stage, in which goals and objectives for the program are considered. Then, one must consider the language

curriculum and its alignment with the mainstream content. Staffing, especially the

involvement of well-trained staff, and adequate resources are two critical components

that can determine the success or failure of a program. Finally, assessment and evaluation

are two critical factors that, when well developed and managed, help guide the longevity

of a program.

Goals and Objectives. When in the initial planning stages of building an ESL

program, determining and setting goals or objectives is an essential first step in the design

process. A needs analysis is one strategy to help initiate the planning stage. Recent

research has considered needs from a student-centered approach. As outlined by Nation

& Macalister (2010), a student-centered needs analysis considers three major factors:

necessities, lacks and wants. Necessities refer to what learners need to accomplish in

terms of language use. For example, what is necessary in order for learners to be

promoted to the proficiency level? Lacks consider what learners are not being offered in

their current learning environment. Inversely, lacks can also be viewed in terms of what

an ESL program can provide based on what is currently not provided. The third need is

wants, which asks what students want to learn or accomplish. This need might be most

difficult to determine as it varies depending on student attitudes, motivation and

proficiency levels. It may be useful to help understand students' wants by providing a

student questionnaire or speaking to a present (or former) content teacher.

Staffing and Resources. Well-trained staff is another essential component to the

success and longevity of an ESL program. In addition to teaching targeted language

skills, ESL teachers also need to provide ELLs with a model of language fluency. In a

study by Davidson (2006), collaborating ESL and classroom teachers found that action-

based research involving reflection and discussion was highly beneficial to their teaching

practices. These types of collaborative opportunities provide legitimacy to the ESL

program while allowing for content teachers to better understand the needs of ELLs.

There are many other staffing considerations in building an ESL program. An

effective program needs a strong leader—an ESL coordinator. The ESL coordinator is

responsible for maintaining administrative duties of the program and collaborating

closely with school administrators. Indeed, Gallagher (2003) stresses that the success of

an ESL program is dependent on the school administrator's support and advocacy but

also notes that ESL teachers are often in powerless positions in the school hierarchy, and

maybe have little say in the financing of their own department.

ESL families may further complicate the legitimacy or necessity of an ESL

program by hiring private language tutors outside of school or using other means to

decrease the supposed "need" of ESL services (Gallagher, 2003). Parents might

incorrectly assume that extra lessons outside of school replaces the cost of an ESL

department, and is sufficient enough to help their children learn English. The focus on

family prestige among social groups further pressures students to learn a second language

at a rapid pace, which is unfortunate considering that the English-medium curriculum

requires more time for non-native speakers (Rogers, 2014). These issues underline the

importance of establishing a well-staffed and well-resourced ESL department in order to

gain the respect of other teaching staff, school administrators and ESL families.

Assessment and Evaluation. Assessment and evaluation go hand-in-hand in

establishing a viable ESL program. At the beginning of the school year, a placement

assessment can help determine the initial English language proficiency (ELP) of each

ELL. Nation & Macalister (2010) suggest that placement assessments be familiar, relatively brief and focused on language items relative to the ESL curriculum. They also note that first-time test takers may not perform at expected levels due to test anxiety or unfamiliarity with the test format.

Currently, one of the most advanced and relevant placement tests is the WIDA MODEL (Measure of Developing English Language). This test, designed for K-12 ELLs, evaluates language proficiency according to WIDA's English Language Development (ELD) standards. According to its website page, the MODEL is designed to identify students needing ESL services, and to determine ELP levels. While the MODEL is an appropriate tool to assess and place students, it should not be used as an annual assessment of ELLs receiving service.

The WIDA ACCESS for ELLs 2.0 is a summative assessment given annually in WIDA member states. This assessment measures ELP levels in the four language domains: Listening, Speaking, Reading and Writing. Each test item adheres to one of the five WIDA ELD standards: Social & Instructional Language, Language of Language Arts, Language of Mathematics, Language of Science and Language of Social Studies. The ACCESS is typically given in the spring, with results returned to school districts before the beginning of the following academic year. ESL programs use the results as one of multiple measures of assessment (MMOA) to determine students' progress in acquiring academic English. Students who receive passing scores, which are set by member states, are then qualified to exit from ESL service. ESL programs are required to report the number of students receiving service for accountability purposes. The ACCESS also serves as an evaluation tool to measure the effectiveness of ESL programs.

Teachers and administrators are able to track student progress and determine how to meaningfully support students who are not exhibiting growth, for example.

Newcomer students, in particular, may require additional initial assessments to measure language inventory, phonetics skills or reading skills. These students also experience a period of cultural and social adjustment. ESL programs may wish to have school psychologists and guidance counselors focusing on helping newcomers adjust to their new school environment. Refugee newcomers, in particular, need support from school staff to feel acclimated and familiarized with school routines and expectations. A study among newcomer refugees found that Somali adolescents with a greater sense of belonging experienced lower rates of depression and higher self-efficacy (BRYCS, 2008).

A language questionnaire is another useful assessment, particularly in identifying ELLs. Donaldson (1987) provides a sample questionnaire, which poses questions regarding country of origin, length of residence in country and home language (L1). A home language survey should primarily identify a student's language background while remaining respectful of family privacy. For more in-depth knowledge of a student's background, a structured interview involving parents or guardians may be necessary for newcomer families.

Conclusion

A combination of the advantages of various program models might best suit the needs of newcomer students. Indeed, programs labeled as *"newcomer"* are an amalgamation of various programming perspectives. Each of the highlighted models has advantages and disadvantages; the costs and benefits of each program is highly dependent

on student demographics, school staffing and various other resources. The planning

process outlined in Nation & Macalister (2010) highlights the importance of determining

needs and setting goals or objectives for an infant program. The establishment of

placement and proficiency assessments, in particular, are key elements in the creation of

a new program. Furthermore, the assessments and standards offered by the WIDA

Consortium provide benchmarks and accountability for a developing ESL program.

Design thinking, from its beginnings in advertising and marketing, has evolved

into a current trend in classrooms around the world. From a design standpoint, IDEO's

Design Thinking for Educators (DTE) offers a viable framework for the project, which is

described in the following chapter. The applications of DTE has endless possibilities—

from classroom projects to district-wide initiatives. The following chapter will outline

how DTE was applied to solve a programming challenge in a secondary school

challenged by a recent arrival of newcomer students.

CHAPTER THREE

Project Description

This project focused on the use of Design Thinking for Educators (DTE) and applications for ESL programming. It examined the question of how ESL educators can design a program that best serves the needs of newcomer students. In addition, this project also explored a current trend in the educational field through an ESL lens. There has been extensive recent research in the field of design thinking, including education manuals and toolkits from acclaimed design firms and design schools. In addition, design thinking is a trending topic in current educational research, and appears in recent academic and professional materials. The appeal of design thinking in the field of education lies in its use of process thinking. Educators have long understood pedagogy, curriculum, and teacher development as stepwise process that accumulates over time. However, this process has long been in the hands of stakeholders outside the classroom; including principals, district-level professional development staff, and state departments of education.

While educators, particular veteran teachers, have been given certain amounts of autonomy for the daily instruction inside the classroom, matters regarding educational design have been largely been directed by administrative leaders. Design thinking reverses this trend by allowing educators to become active stakeholders in classroom-based projects, which were previously created by administrators. Granting teachers the ability to become leaders in important projects has been hugely impactful in creating relevant solutions that ultimately improve a school's learning environment.

Design Thinking for Educators (DTE) is a framework jointly created by the design firm IDEO and Riverdale Country School in New York City (Figure 5). It offers a collaborative-based approach to design thinking that is, as its name implies, designed for educators seeking design solutions. The highlight of DTE is its toolkit and workbook, which offers a stepwise approach to achieving design solutions. An additional appeal to this resource is that it is entirely free to download on IDEO's website, serving as an open invitation for educators in need of a design framework.

Overall, DTE was determined to be an appropriate framework for the project because it offers educators a student-centered and collaborative approach to the design thinking process. The collaborative aspect is particular notable given the need for collaboration between ESL educators and content teachers.

Project Background

The literature review outlined various ESL program models that all could be considered for design-based projects. The emphasis was on programming components that together account for the learning environment of an ESL program. The literature highlighted several challenges facing ESL programs including staffing, resources, assessment and evaluation. These challenges were all relevant to the school featured in the project.

This project investigated the design challenges of a newcomer program in a public middle school during the 2017-2018 school year. The project's design and implementation was created using the Design Thinking for Educators (DTE) toolkit and workbook. This research paradigm was found to be particularly effective in ideating a collaborative programming model through a series of experimentation and evaluation.

The collaboration allowed for in the DTE resources was fitting for the EL department's educators, who worked alongside classroom teachers, principals and other stakeholders.

The intended audience was primarily the district's English Learners (EL) staff and administrators involved in programming decisions. Although the project directly impacts various stakeholders, including the students themselves, the project was kept confidentially among the stakeholders.

Project Setting

The project took place in a suburban middle school in a large Midwestern metropolitan region. The school was facing a growing number of newcomer students who had recently settled in the region. Although this group of students was small, the different languages, cultures and academic backgrounds represented required intensive support. With only a single EL teacher and no other support staff, it became evident that the situation was presenting challenges in need of a solution.

The unique situation of these students created unique challenges that were difficult for educators and administrators. The school's EL department was tasked with accommodating these newcomers by creating a viable program model. Faced with a growing number of concerns, the EL department decided to adapt a framework to assist in the program's design.

The project's design was ideated through classroom experience, meetings with administrators, collaboration with classroom teachers and discussions among the district's EL department. The entire ideation period developed over several months, and involved extensive discussions among the stakeholders.

Phases of Design Thinking

      Discovery. Discovery, or identifying a challenging, is the first step in the Design Thinking for Educators toolkit. For this project, the challenge was creating a viable program model for the newcomer ESL program. The recent arrival of newcomer students to this suburban district created programming challenges for the ESL department and the school administration.

      One important consideration was the evaluation of multiple measures of assessment (MMOA). The newcomer students were considered Level 1 (Entering) according to the WIDA MODEL placement assessment. According to the WIDA Can Do Descriptors for Grades 6-8, Entering students require pictorial or graphic supports for content area language (WIDA, 2012). In other words, these students relied heavily on graphic representation for most content learning targets, which contrasts with the text-based understanding of grade-level peers. Hence, the students were not expected to perform at grade-level expectations in content courses.

      Interpretation. The interpretation of the initial observations resulted in extensive discussions with the EL team. To further support the basis for a newcomers program, resources related to newcomer programming and best practice were examined. Research centered on design thinking theories and ESL programming combined to justify the need for a newcomers program.

      After a sufficient amount of support for programming changes was generated, there was an initial meeting with school administration. The meeting focused on sharing anecdotal observations and previous discussions with relevant team members (i.e.,

district EL staff and content teachers). The focus of the meeting was on empathy, which is reflective of research on design thinking.

Ideation. The ideation for the program design included a series of initial brainstorming sessions among the ESL teacher, administrators, and guidance counselors. Consultation from the district ESL team created further dialogue and affirmation of program ideas. These discussions helped verify the project's course of action before undertaking the experimentation phase.

The result of the brainstorming sessions created several possible courses of action that needed to be weighed before proceeding. It was determined that a newcomer program that focuses on collaboration between the EL department and content teachers would provide the best possible solution.

Experimentation. The experimentation phase of the newcomer program was centered on collaboration between the EL teacher, content-area teachers and administration. Both short-term and long-term options were presented. The short-term proposal was selected for the initial experimentation stage. This proposal relied heavily on collaboration.

Under the terms of this plan, newcomer students were expected to obtain proficiency in at least three learning targets per semester. The content-area learning targets were disseminated to the EL teacher, who then in turn aligned language targets to match the content targets. Assessments, both formative and summative, were created collaboratively. The content teacher identified key concepts to be tested, providing past assessments as exemplars of grade-level expectations. In turn, the EL teacher adapted materials according to WIDA ELD standards. If a student satisfactory completed these

targets according to the expectations outlined in the WIDA standards, then a passing grade would be given. Conversely, failure to complete the targets would result in a failing grade.

Evolution. The evolution of the program was ongoing at the time of the completion of this capstone project. A cornerstone of evolution is evaluation, which will continue throughout the 2017-2018 academic year. A mid-year and end-of-year evaluation was planned as a "check-point" of the program's initial results. An analysis of content-area grade marks, completion of learning targets and assessment results were all identified as measures of progress.

Conclusion

The results of the project demonstrated the efficacy of Design Thinking for Educators (DTE). The DTE toolkit and workbook provided EL staff with the resources needed to design a viable newcomer program in a secondary setting.

The following chapter concludes the project capstone, and provides a context for the reader. It will revisit the literature review, state possible implications, evaluate possible limitations, and consider future projects.

CHATPER FOUR

Conclusion

This paper examined the question of how design thinking can be used to create an ESL program for newcomers. The identified subject of the accompanying project involved a burgeoning ESL newcomers program at the middle-school level. This chapter will overview the introductory details of the project including the background, setting and selected framework. A brief revisit of the literature review will identify influential works that guided the project's research. The chapter will also consider project implications, including EL policy implications. Furthermore, project limitations will also be discussed. Finally, the evolution of the project, including future projects and analysis of results, will conclude the chapter.

Reflection on the Capstone Learning Process

Many key considerations were taken into account before selecting a design-thinking framework. The project's background and setting, in particular, were carefully considered before beginning the design process.

In regards to the background, one key question was, *Who was the intended audience?* The scope of this project was greater than most classroom-centered design projects. Key stakeholders included building-level administration and district-level EL coordinators. Hence, careful thought was a requisite before presenting a proposal to relevant stakeholders. Ultimately, the project was developed as a professional development (PD) presentation intended for content teachers.

The setting of the program was also an important factor in the creation of the project. The growth in the newcomer population, albeit a fraction of the overall student

population, required an immense amount of academic support, intensive language instruction and sociocultural understanding. The level of service needed to effectively educate these students was a nascent challenge for content-area teachers in particular. These challenges were further exasperated due to the lack of EL staff in the building. The need for targeted services for the newcomer students was evident; however, the development of such a program required clear and concise programming.

Design Thinking for Educators (DTE), a design framework created by the international design firm IDEO, was selected for the design framework. DTE was selected due to its well-developed toolkit and workbook, which provided a step-by-step guide to the design process. Although there were other choices for design thinking models, DTE was considered an attractive, teacher-friendly resource that would appropriately suit the project's programming challenges. It is worth noting, however, that DTE is indented for general education teachers, not EL educators. Hence, certain adaptations were needed when taking into account ESL-specific considerations. Notably, the addition of WIDA standards and assessments served as a complimentary tool throughout the design process.

Literature Review Revisited

The literature review provided a basis for research on design thinking in and ESL programming. The analysis of IDEO's Design Thinking for Educators (DTE) model provided an educational lens for design thinking theory and practice. The study of ESL program models (inclusive, exclusive, collaborative, EFL and newcomer) provided a basis for the project's goals. The works of several researchers are worth revisiting in this concluding chapter.

Simon (1969) was influential because it created one of the first design thinking models. His seminal work laid the groundwork for modern design thinking process models, including DTE. Brown (2008) recognized the importance of empathy in the beginning stages (termed "inspiration") in the design process. He further realized the fluidity between design thinking stages, a process that is widely understand in modern models. Owen (2007) recognized the collaborative nature of "finders" and "makers" in the design thinking process. This team-effort approach is emphasized in all phases of the DTE model. Finally, Razzouk & Shute (2012) created a road map of design-thinker characteristics. This insightful study builds on the work of Owen (2007) to delineate design thinker characteristics at the school, teacher, and student-teacher levels.

Research in the field of ESL program models also contributed to this capstone's development. The focus on newcomers in the project description (Chapter 3) was based on the work of several scholars. Oikonomidoy (2015) and Walqui (2000) provided an understanding of newcomer students, including socio-cultural challenges that must be considered in designing a newcomers program. Short (2002) highlighted several successful secondary newcomer program models, which were considered in the project's ideation phase.

Project Implications

The implications of this project positively impacted the newcomer students. Although this project is not without its limitations and the results have yet to be fully evaluated, the newly-implemented program serves as a vast improvement over the program deficiencies that existed previously.

The policy implications of the new program model are particularly note-worthy. State departments of education designate that public schools provide supplemental language instruction to ELLs. The Lau v. Nichols (1974) Supreme Court case declared that schools not administrating EL services were in violation of the Civil Rights Act of 1964, and declared that:

> Basic English skills are at the very core of what these public schools teach. Imposition of a requirement that, before a child can effectively participate in the educational program, he must already have acquired those basic skills is to make a mockery of public education. We know that those who do not understand English are certain to find their classroom experiences wholly incomprehensible and in no way meaningful. ("Lau v. Nichols," 1974).

The emphasis on students needing to acquire Basic English skills before participating in classroom instruction is especially relevant to newcomers. Hence, an intensive level of EL programming is required to adequately prepare these students for mainstream classes. To consider these students on the same plane as developing ELLs is an injustice and violation of their educational rights.

Project Limitations

This project was extensive, well researched and accountable to stakeholders; however, it was not without its limitations. There are two notables worth highlighting: staffing and assessment/evaluation. Staffing was a noticeable limitation throughout the design process. The lack of EL educators in the building limited the scope of the project and created pressing design questions. For instance, how could one EL teacher account for the level of support needed for the growing Newcomer population? The only

available response was an emphasis on collaboration between the EL department and content teachers.

Limited evaluation tools and questions regarding program assessment also created limitations. Currently, there is no newcomer-specific identification test. The WIDA MODEL was used in the project but it is designed primarily for "traditional" ELLs. There was also the question of how to assess newcomer students in content-area classes. Was a pass/fail grade an acceptable option? Should a modified grading scale be implemented? These questions have not yet been fully answered, and will be studied in the project's evaluation process.

Future Projects

The evolution phase of the Design Thinking for Educators (DTE) model is critical for the future of the program. A period of evaluation will guide the continued evolution of the prototype model. Communication with stakeholders through constructive dialogue—either face-to-face or via e-mail—is essential to the program's sustainability and longevity. The first round of evaluation will occur at mid-year, in which the EL teacher will meet with other stakeholders and discuss overall progress, successes, challenges and future prospects. Programming adjustments are expected, and perhaps necessary, at this stage. As the program continues to evolve into the second semester of the 2017-2017 academic year, the EL department will continue to refine and restructure programming as deemed necessary. At the end of the academic year, the program will undergo a thorough evaluation with all relevant stakeholders.

Long-term programming plans are only in the beginning stages. One intriguing possibility is the use of SIOP. Under this model, content-area teachers would receive EL

training, and have the tools and resources to teach language-based content instruction to newcomer students. The addition of paraprofessional staff and community-based partnerships would further develop the program. Both of these developments are dependent on funding, which is currently not available. However, continual engagement with shareholders, with a focus on empathy, might lead to funding opportunities that would establish the school's newcomer program as a regional leader.

Final Conclusions

Overall, the application of design thinking to ESL programming proved challenging but rewarding. This capstone represents a gradual process of realizing the need to develop sustainable programming opportunities for under-represented students. The emphasis on newcomer students created plenty of challenges, as outlined in the project description. However, the benefits of such a program to the overall school culture far outweighs any challenges. While there are currently limitations to the program's evolution, successful partnerships with stakeholders are essential to the program's development.

My expertise in the Design Thinking for Educators model also creates possible professional development opportunities that will help establish my teacher development. Furthermore, the possibility to educate staff on EL-related issues may help legitimize my position as a valuable staff member and advocator for the school's growing newcomer population.

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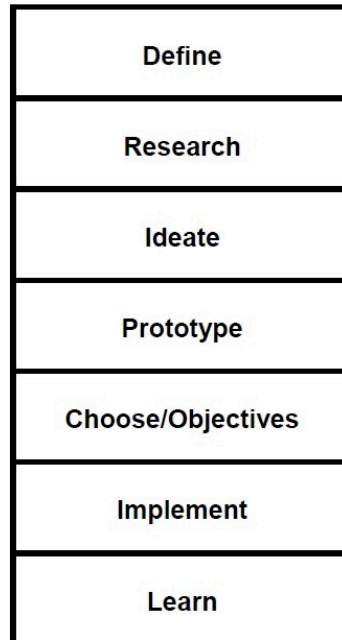
    Consortium.

FIGURES

Figure 1. Simon's (1969) groundbreaking Design Thinking Cycle provided the

framework for future research in the field of design thinking. Notably, the

model's terminology is present in current design process models.
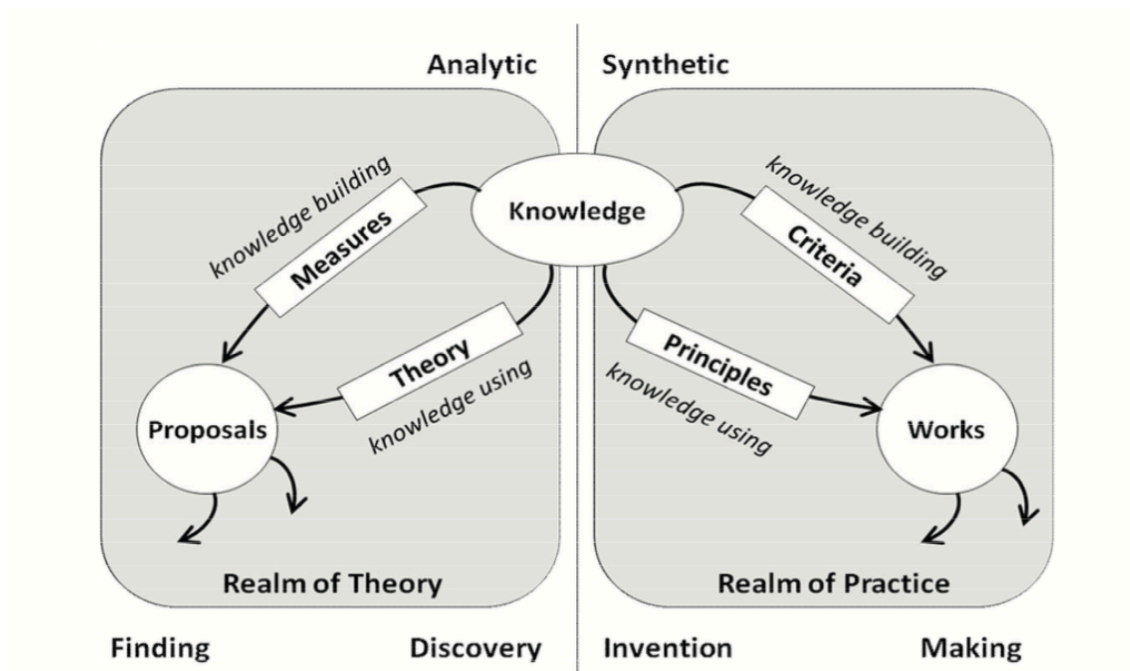
Figure 2. Owen's (1998) Model of Knowledge Generation in Design Theory created the
bifurcation of the analytic and synthetic design realms. Importantly, it
introduced the use of "finders" and "makers" as complementary designers in a
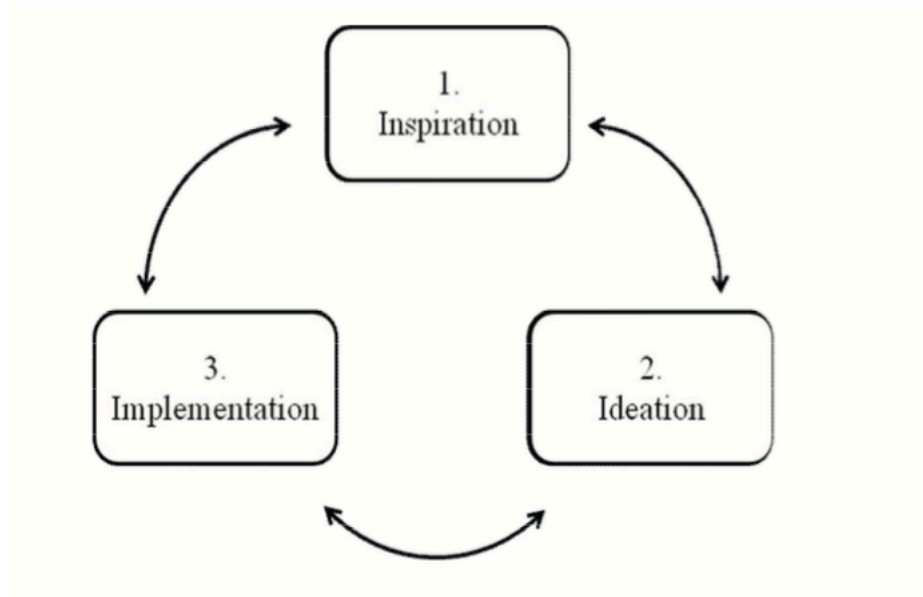collaborative process of theory and practice.

Figure 3. Brown's (2008) Design Thinking Spaces model is a simple, yet impactful

design process that formed the basis of current models popularized in modern

design schools and design firms. The three-phase design process recognizes

fluidity, notably the designer's ability to move back-and-forth between stages.
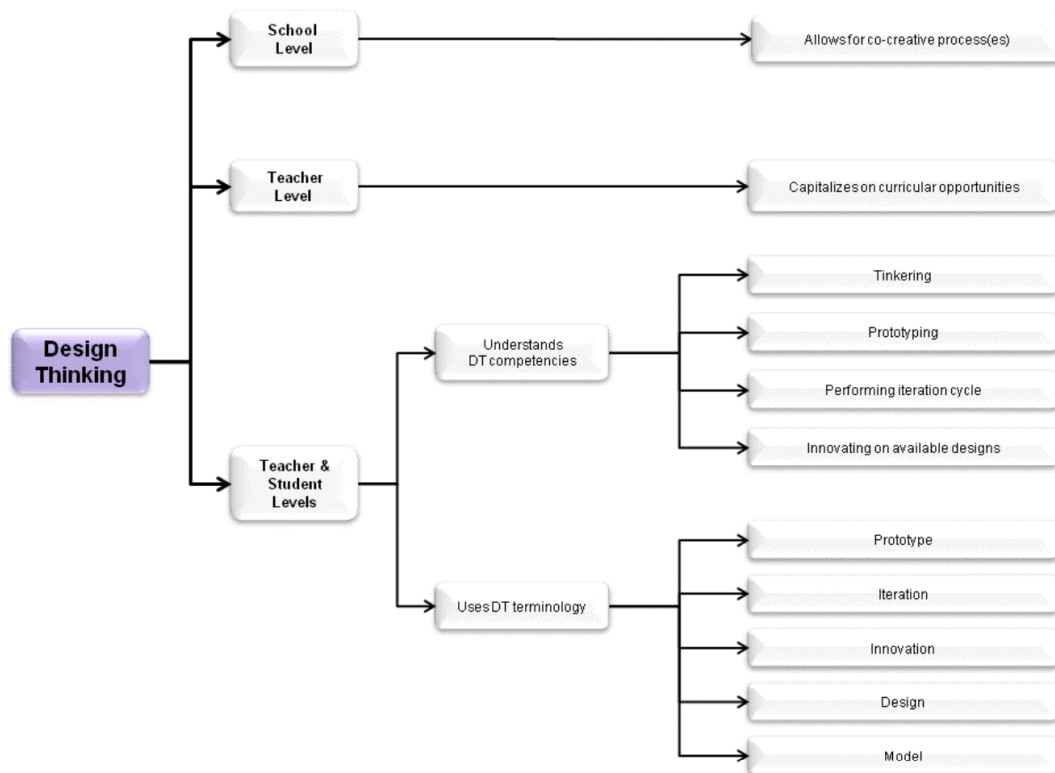
Figure 4. Razzouk & Shute's (2012) Design Thinking Competency Model visualizes

design thinking as a three-tiered process. It further outlines design thinker

characteristics, which allows for "co-creative" processes. Today, collaborative

effort is a cornerstone of modern design thinking models.

The five phases of the design process:

1	2	3	4	5
DISCOVERY	INTERPRETATION	IDEATION	EXPERIMENTATION	EVOLUTION
I have a challenge. *How do I approach it?*	**I learned something.** *How do I interpret it?*	**I see an opportunity.** *What do I create?*	**I have an idea.** *How do I build it?*	**I tried something.** *How do I evolve it?*

Figure 5. IDEO's (2013) Design Thinking for Educators model is one of the most widely-used frameworks for teachers undertaking design-based projects. This model was used for this capstone's project primarily due to its accompanying toolkit and workbook.