A FOUNDATIONAL RESEARCH STUDY CONNECTING CAROL A. TOMLINSON’S MODEL OF DIFFERENTIATED INSTRUCTION TO THE STUDY ISLAND PROGRAM

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The author,

Jennifer Watts, Ph.D.
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INTRODUCTION

The necessity to differentiate instruction within classrooms based on students’ demonstrated need, although ever-present, has reached a new fervor because of the strong emphasis placed on educational institutions to leave no child behind. Instructional models such as Response to Intervention; balanced literacy approaches including a combination of whole group, small group, and individualized instruction; as well as instruction based on multiple intelligences or learning styles support the use of a differentiated approach to instruction. The prevalence of these approaches as well as the general state of educational practice and the growing accountability for student achievement create a need to document how educational products such as Study Island can operate flexibly to meet the variety of instructional needs present in the classroom.

Study Island is a Web-based standards mastery program combining highly specific and dynamic content with real-time reporting to create a customized assessment, diagnostic, and instructional program built to each state’s standards. By creating an interactive and flexible instructional platform, Study Island provides engaging, ongoing practice and remediation to help students individually meet their state-required standards in the major content areas. The Study Island program combines data-driven progress monitoring tools and individualized instructional practice to fit effectively within a classroom employing differentiated instructional techniques.

Dr. Carol A. Tomlinson is a leading researcher, theorist, and educator known for her work in promoting student-centered learning and differentiated instruction techniques. Her theories and framework of differentiated instruction are well accepted and highly visible in the educational community. Because of this, Study Island has chosen to align their program to Tomlinson’s framework. Study Island has contracted with Magnolia Consulting, LLC, an external, independent consulting firm specializing in educational evaluation, to conduct a review of the academic theory associated with Tomlinson’s framework of differentiated instruction. Additionally, this work will provide documentation connecting the key features of the Study Island program to Tomlinson’s framework of differentiated instruction and establish how Study Island functions within and supports this framework.

THEORY OF DIFFERENTIATED INSTRUCTION

The concept of differentiating instruction is not new. Effective teachers have always modified their instruction to one degree or the other to meet the varying instructional needs of the students within their classrooms. What has changed is the increased emphasis on accountability and the expectation of success for all students within the educational system. In response to this need, publishers and theorists have supplied teachers with new products, ideas, and tools to facilitate differentiation within a classroom, leading to more efficient, effective, yet structured implementation of differentiated instruction techniques.
**What is Differentiated Instruction?**

Differentiated instruction is an instructional design model focusing on who, where, and how one teaches, as opposed to what one teaches. The goal of differentiating instruction is to ensure that educators focus on the processes and procedures that can lead to effective learning for all students through approaches that can be adapted to the diverse needs of students within a classroom (Tomlinson & McTighe, 2006). The intent, then, is to maximize student growth by responding to the students at their individual levels and supporting the students through the learning process. Put simply, “whenever a teacher reaches out to an individual or small group to vary his or her teaching in order to create the best learning experience possible, that teacher is differentiating instruction” (Tomlinson, August 2000).

Differentiation does not necessitate fully-individualized instruction, but instead promotes the idea of implementing patterns of instruction such as routine small-group teaching, informal assessments, and multiple teaching modes likely to serve a variety of needs simultaneously (Tomlinson & Allan, 2000). These techniques promote both purposeful instruction and student interaction, not chaos. Thus, a hallmark of differentiated instruction is the use of flexible grouping strategies allowing for fluid group configurations that can change over time to accommodate individual student differences in ability, interest, and learning style preference. This strategy allows teachers to be proactive and respond effectively to changing student needs while concurrently being mindful of each student’s learning process (Tomlinson, 2001).

**CAROL A. TOMLINSON’S FRAMEWORK OF DIFFERENTIATED INSTRUCTION**

The perceived and known difficulties associated with differentiating instruction within a classroom of students with competing instructional priorities necessitates a model of differentiation that can assist teachers in understanding how to think about and organize their own implementation of differentiated instructional techniques. Tomlinson’s exhaustive work in this field has resulted in the conception of such a framework. Figure 1 displays Tomlinson’s framework for differentiating instruction (Tomlinson, 1999). As Tomlinson explains when following the process of differentiated instruction as indicated in this framework:

“…a teacher makes consistent efforts to respond to students’ learning needs. She is guided by general principles of facilitating a classroom in which attention to individuals is effective. Then she systematically modifies content, process, or product based on students’ readiness for the particular topic, materials, or skills; personal interests; and learning profiles. To do so, she calls upon a range of instructional and management strategies.” (Tomlinson, 1999, p.14)
Differentiation of Instruction

Is a teacher’s response to learners’ needs

Guided by general principles of differentiation such as

- Respectful Tasks
- Flexible Grouping
- Ongoing Assessment & Adjustment

Teachers can differentiate

- Content
- Process
- Product

According to students’

- Readiness
- Interests
- Learning Profile

Through a range of instructional and management strategies such as

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Figure 1. Illustration of Carol A. Tomlinson’s model of differentiated instruction.
Tomlinson’s framework demonstrates the key principles that teachers can use to guide instruction efficiently in a differentiated classroom. Understanding each element of the framework is essential to effective implementation.

**General Principles of Differentiation**

As shown in Figure 2, the first tier of the framework encourages an educator to use general principles of differentiation to guide his or her instruction.

Teachers are guided by general principles of differentiation such as

- **Respectful Tasks**
- **Flexible Grouping**
- **Ongoing Assessment & Adjustment**

![Figure 2. General principles of differentiated instruction.](image)

**Respectful Tasks**

To differentiate instruction, teachers must be respectful of each student’s learning needs during the instructional process. Tomlinson and Allan (2000) stress that it is important that teachers present all students with activities that are equally interesting and engaging and that provide students with equal access to essential knowledge and skills, regardless of the student’s level. A teacher does not have to provide different tasks to each student but just engage in enough instructional flexibility to vary the task complexity, student grouping, and learning modes to meet each student’s needs during the activity.

**Flexible Grouping**

Like providing respectful tasks, a teacher can respond to each learner’s needs efficiently through flexible grouping strategies. Attending to this principle can afford students a variety of learning opportunities in multiple different settings (Tomlinson & Allan, 2000). To use this strategy effectively, teachers must plan a variety of grouping arrangements for each student. Differentiated classrooms following this technique will include whole-class, small-group, and individualized instruction arrangements. Teachers will move students in and out of these different arrangements, allowing students to work with other students with similar needs, interests, or learning profiles, as well as students varying in their needs and abilities, to allow students to draw on the strengths of others in the group. Grouping might be random at times, self-chosen, or students might work individually. When used purposefully, flexible grouping affords the teacher targeted teaching opportunities and the students the chance to work with a variety of different students in diverse contexts.
Ongoing Assessment and Adjustment

An essential element of effective differentiation is knowing when to differentiate. Frequent assessment of students’ understanding and learning acquisition is necessary to this process. In a differentiated classroom, the teacher expects there will be individual differences and that these differences will change over time. Teachers check for these differences through ongoing assessment practices and then use these results to modify their instructional tactics (Tomlinson & Allan, 2000). In a differentiated classroom, assessment does not need to be formal; a teacher can use anything students say or produce as evidence of their knowledge of a taught skill and then respond to those students with instruction that addresses their specific needs.

Curriculum Elements that Teachers Can Differentiate

As shown in Figure 3, the second tier of Tomlinson’s framework for differentiating instruction illustrates that when guided by the general principles of differentiation, educators can differentiate three main parts of a curriculum: the content, the process, and the product.

![Figure 3. Curriculum elements that teachers can differentiate.](image)

Content

Content is what a teacher wants students to learn, or how students gain access to what they need to learn. It is the essential knowledge, skills, facts, concepts, principles, and generalizations that the teacher conveys to students through instruction. In many cases, this might remain constant for all students, even in a differentiated classroom. What differs is the process by which students in a differentiated classroom gain access to this content. Teachers can differentiate access to content in a variety of ways (Tomlinson, 1999). Tomlinson & Allan (2000) suggest some of the following for how a teacher might vary access to content:

- Through using manipulatives with some, but not all, learners;
- Through using texts written at different reading levels, covering the same material;
- By presenting information in both a “whole-to-part” approach with an emphasis on larger concepts and a “part-to-whole” approach with an emphasis on basic skills;
- By using a variety of grouping arrangements;
- Through reteaching some students while exempting others from the reteaching;
- By using a variety of modalities (text, computer programs, tape recorders, and videos) to present the same information to students with different needs.
Process

The curriculum process includes the activities the learner engages in to understand the essential ideas and information from the curriculum (Tomlinson, 1999). An effective activity has a clear learning goal and prompts students to use certain skills to arrive at an understanding of an essential concept. As Tomlinson and Allan (2000) suggest, teachers can differentiate the process or activity the learner engages in through a variety of ways, including:

- Providing varied versions of the activity at differing degrees of difficulty;
- Providing varied versions of the activity corresponding to differing student interest;
- Providing different amounts/kinds of teacher support for the task to each student;
- Allowing students to use different modalities of expression of what they have learned, such as an essay, cartoon, letter, diagram, or model, while the learning goals remain constant across versions.

Product

Products are the ways in which a student can express what he or she has learned from the curriculum or an extended course of study (Tomlinson, 1999). A product could be a portfolio of work, an exhibition that draws on a variety of skills and knowledge at once to demonstrate comprehensive knowledge of a topic, or a written test. The best products will allow students to demonstrate everything they have learned, apply what they have learned, require critical and creative thinking, and still extend their understanding and learning. Teachers can differentiate products through a variety of methods, including (Tomlinson & Allan, 2000):

- Allowing students to design their own products to demonstrate essential goals;
- Allowing students to express what they have learned in multiple formats;
- Allowing students to work in a variety of grouping arrangements to produce the product;
- Encouraging the use of a variety of different resources to produce the product;
- Providing different degrees of difficulty to the product assignment;
- The use of a variety of different kinds of assessments;
- The use of different rubrics to demonstrate individual growth as well as whole-class growth.

Student Characteristics for Which Teachers Can Differentiate

As shown in Figure 4, students themselves can vary on three key dimensions: readiness, interest, and learning profile. Theoretical research supports differentiating instruction with respect to each of these elements. The research that supports and calls for responding to these elements follows, as does an explanation of how teachers can differentiate their instruction and elements of the curriculum based on these dimensions:

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1 For a more in-depth review of the supporting theoretical research, see Tomlinson et al. (1994).
Figure 4. Key dimensions on which students vary.

Readiness

Responding to a learner’s readiness level is rooted in the social constructivist learning theories of Lev Vygotsky. Vygotsky (1978) proposed the theory that individuals learn best based on their readiness to do so. Vygotsky called this a learner’s Zone of Proximal Development (ZPD), describing it as the point in the learning process at which an individual can no longer function successfully without scaffolding and support. It is at this point in which new learning will take place, and it is the teacher’s goal to lead a student to this point while extending the student’s level of independent work. If the work is above or below a student’s ZPD there will be no growth in learning. Differentiating instruction allows teachers to teach to each student’s ZPD. In classrooms where teachers do not differentiate instruction or only include minor modifications to vary the instruction at different readiness levels, it is likely that the instruction will fall short for many of the students because it is outside of their ZPD (Tomlinson, et al., 1994). Teachers can differentiate instruction based on student readiness in a variety of ways (Tomlinson & Allan, 2000):

- By adjusting the difficulty of a task to provide adequate challenge;
- By adding scaffolding, manipulatives, or models to a task to support students where they need extra support;
- By increasing or decreasing the student’s familiarity with a task based on the student’s proficiency level of the skills required for the task; and
- By varying direct instruction by small-group need.

Interest

Students come to the classroom with varying interests as well, which might affect how and what students learn. Research has shown that motivation connects to students’ interest level and, when tapped, can help to advance the learning process (Tobias, 1994). Research further demonstrates that teachers can modify instruction to enhance student motivation effectively (Torrance, 1995) and thereby indirectly impact students’ underlying interest levels. Tomlinson and McTighe (2006) further note that when teachers address and differentiate instruction based on student interest level within the classroom, students are more likely to become independent learners. As Tomlinson and Allan (2000) suggest, there are numerous methods by which a teacher can differentiate instruction based on students’ interest:
• Using individuals with prior knowledge to act as mentors for students in an area of shared interest;
• Providing students with a variety of ways to explore a topic or demonstrate learning
• Providing access to a range of materials and technologies;
• Allowing students to choose tasks and products including student-designed options;
• Encouraging students to apply concepts to topics in their interest areas.

Learning Profile

A student’s learning profile is the manner in which that student learns best or most efficiently (Tomlinson & McTighe, 2006). Factors such as learning style, intelligence, gender, and culture could contribute to the student’s overall profile and create individual differences among students (Tomlinson, 2003). Research documents that attending to these differences by differentiating instruction with a student’s learning profile in mind leads to improved achievement (Sullivan, 1993 as cited in Tomlinson et al., 1994). Teachers effectively modifying their instruction based on the variety of student learning profiles within their classroom provide students with a tool to take advantage of their strengths and minimize their weaknesses. Tomlinson and Allen (2000) suggest the following ideas to assist teachers in differentiating instruction based on student’s learning profile:

• Providing flexible learning environments and options;
• Presenting information through multiple modalities, including auditory, visual, and kinesthetic;
• Encouraging students to explore information through multiple modalities, including auditory, visual, and kinesthetic;
• Allowing students to work alone or with peers;
• Providing students with a variety of learning experiences, including competitive, cooperative, and independent;
• Balancing multiple perspectives on a topic;
• Giving students authentic learning environments in different intelligence and interest areas.

Instructional and Management Strategies Teachers Can Use to Differentiate Instruction

Instructional strategies are the methods by which teachers can deliver content, process, and products. Figure 5 delineates examples of the types of instructional strategies or tools that teachers can use to manipulate curriculum elements in a differentiated classroom. It is up to the individual teacher to determine the appropriateness and timing of different strategies depending on the needs of the students in the classroom. Similarly, the strength of the teacher determines the success of a strategy and the ability to use multiple strategies simultaneously (Tomlinson, 1999). In a classroom of students with diverse abilities, the teacher who can reach out to multiple students through applying a variety of strategies concurrently is likely to be more effective than the teacher who applies one strategy with all learners, regardless of their abilities. The strategies listed in Figure 5 are some examples that can also help a teacher to differentiate instruction with respect to the student variables of readiness, interests, and learning profile.
Tomlinson’s framework of differentiated instruction provides educators with a method for conceptualizing the process of differentiated instruction. Moreover, such a framework can assist school leaders in guiding others through the process, and it helps publishers such as Study Island to construct instructional materials and tools that can aid the educator in successfully and efficiently differentiating instruction within their classrooms.

ALIGNMENT OF STUDY ISLAND TO CAROL A. TOMLINSON’S FRAMEWORK OF DIFFERENTIATED INSTRUCTION

The Study Island program is a versatile Web-based standards mastery program built to each state’s standards. It functions as a diagnostic and progress monitoring tool as well as an instructional practice delivery platform. Study Island combines rigorous academic and dynamic content with skill-based questions to create a unique program that fosters learning instead of memorization. Going beyond traditional workbook-style skill practice, Study Island offers a customized, self-paced, and student-friendly format, engaging and motivating students to succeed. Because Study Island uses a single, online delivery platform across core subject areas and grade levels, teachers can implement the program in any instructional environment or assign students to use the program while at home. This adaptability of the program can promote high rates of usage both in and out of the classroom and provide teachers with the necessary tools to differentiate instruction to meet the various instructional needs of all students.

Additionally, Study Island combines multiple study modes that accommodate different learning styles. The program offers state-specific question formats to ensure that students practice necessary skills in their preferred style while reducing potential test-taking mistakes. Study Island uses real-time reporting to provide teachers with instant feedback regarding student progress and to inform differentiated instruction within the classroom based on demonstrated student need. Together, these key features, based on solid scientific research (Watts, 2008), contribute to the strength of the Study Island program.

During program implementation, educators can use Study Island with individual students at their prescribed instructional level, as supplemental practice with small groups of students or in a whole-
class approach. This flexibility, along with the other key features of the Study Island program, allows for successful implementation of the Study Island program within any differentiated instruction environment. According to Tomlinson the role of the teacher in fostering a strong learning community and a positive learning environment is critical to effective differentiation of instruction. Tomlinson also asserts that teachers must use flexible classroom management strategies for effective differentiation of instruction to occur. The following sections outline how the Study Island program aligns with each element of Tomlinson’s framework of differentiated instruction.

Alignment to the General Principles of Differentiation

Study Island helps to support teachers as they implement the general principles of differentiation to guide their instruction.

Respectful Tasks

The flexible instruction delivery formats of the Study Island program allow educators to be mindful of learners’ individual differences and address the diverse instructional needs and levels of all students in a classroom efficiently with a single program. Study Island helps teachers to differentiate instruction through a customized and personalized learning experience based on demonstrated need while maintaining equally engaging and interesting learning opportunities for every student, regardless of the student’s learning ability. Study Island customizes instruction automatically for each student. As shown in Figure 6, if a student does not reach the requisite proficiency level on a specific tested objective, Study Island provides students with the opportunity for students to practice the skills necessary to succeed with the task. Additionally, a teacher can differentiate by adjusting the difficulty level of the instructional practice by either increasing the number of questions to achieve a proficient rating or by restricting users to material congruent with their skills.

“I would recommend Study Island to others (and I have) because it is a fun, unique way to help students master skills they may have difficulty mastering in other ways. They learn while they don’t realize they are learning. Teachers are able to track (and students can track data too) their students’ data and create worksheets based on students’ needs. This is a fabulous way to differentiate! Students can learn computer skills and teachers can focus in on those areas of need.”

Debbie Firestone, Staff Development Teacher
Wheaton Woods Elementary School
Rockville, Maryland
Additionally, Study Island uses the same motivational strategies for every student. Study Island exposes students to a wide range of content to appeal to students with varying interest levels. Furthermore, Study Island seeks to build confidence for all students through sufficient practice and learning opportunities that will help students realize positive gains in achievement. The Study Island system allows students to both control and monitor their own instructional progress over time and provides each student with personalized rewards in the form of blue ribbon icons, serving as concrete symbols of recognition for their achievements and, in turn, further motivating students to be successful, regardless of their instructional levels.

Students of all ability levels have access to a wide variety of simple and short games they can play after they have answered a question correctly. Each student has access to the same games, and they can compete with other Study Island users to try to achieve the highest score. This competition motivates students to be successful on the instructional portion of the program to have a chance to play the games and compete with others.
Finally, the *Study Island* program affords teachers instructional flexibility through a variety of grouping options, including individual and small group options that assist teachers in differentiating instruction by varying the learning mode for the learner. Students can work individually or in small groups with the *Study Island* program while the teacher works with other students using a different mode of instruction. The *Study Island* program also allows teachers to create a printable worksheet of the lesson for those students that might prefer paper-and-pencil assignments to computer assignments.

**Flexible Grouping**

Teachers can efficiently differentiate their instruction to respond to each student’s needs, using the flexible grouping options of the *Study Island* program. The Web-based platform of the program enables students to use the program on any computer with Internet access, be it a classroom computer, a computer lab, or a home computer. This helps teachers to flexibly plan and assign instruction through a variety of grouping arrangements based on demonstrated student need.

> “*Study Island is the most comprehensive, effective program that meets the needs of both students and teachers. The design enables teachers to become monitors, tutors, and encouragers, spending one-on-one time with students. Our use of Study Island has made a profound difference in student learning and teaching on our campus.*”

*Cindy Newell, Principal*

*Northwest Heights Elementary School*

*Durant, Oklahoma*

Teachers can use the *Study Island* program in whole- or small-group settings or assign students individual work at home or within the classroom. Teachers can present a lesson and have students engage in skill practice as a group following the instruction. Alternatively, teachers could create groups based on a variety of characteristics, such as students with similar instructional needs or interests and have these students work on the program lessons as a group discussing the questions/answers or have students work on identical lessons individually within their group while the teacher assists. The individualized grouping option allows students needing additional or extended skill practice to gain that practice while the teacher works with other students in the classroom.

*Study Island* also includes clicker technology teachers can use in conjunction with program implementation to create an interactive environment for students, as well as another method to engage students in different grouping strategies. Teachers can gather real-time, formative data regarding students’ understanding of taught standards by using the clicker technology within a whole-group lesson. After teaching a lesson, teachers can present questions from the *Study Island* program to the whole class, and students can respond to the questions using the clickers. The clicker software automatically reports the students’ answers to the teacher, allowing the teacher to provide instant remediation, as needed. Teachers can also use this technology to create interactive groups or competitive groups based on student need or interest and have students discuss the questions and provide their answers using the clicker.

The flexible grouping options available through the *Study Island* program can help teachers to differentiate instruction based on student need easily and change this grouping quickly and efficiently. The teacher can group students by any characteristic and change this grouping strategy as needed to ensure that students can work with students demonstrating similar needs, interests, or learning styles. This permits the teacher to provide targeted instruction, either through the *Study Island* program.
Island program or classroom instruction, and gives students the opportunity to work with a variety of students in different contexts at any given time.

Ongoing Assessment and Adjustment

When integrated into a differentiated classroom, Study Island can act as a tool for continually monitoring student progress in mastering taught standards and alert teachers when they might need to adjust their instructional content or students’ instructional practice. Study Island includes an in-depth reporting system providing teachers with access to real-time achievement data as well as a method for establishing long-term trends in individual student performance. As demonstrated in Figure 7, at any time, teachers can view how students within a class are progressing toward their state testing performance requirements and quickly establish which students might not be reaching proficiency levels for a specific content area and might need further instruction.

Figure 7. Illustration of a class-level proficiency report in Study Island.
Teachers can review the performance data generated from the program reports and adjust their classroom instruction as needed. Additionally, the technological features of the Study Island program provide students with immediate remediation based on their individual needs, thus allowing for instant and individualized differentiation. During program implementation, when students answer a question, they immediately learn if the answer they selected was correct or not. Following each question, an explanation of the correct answer is available to the students, offering ongoing remediation to those students who might need it. At the end of each session, students can revisit the questions they missed and again seek learning opportunities for those missed questions. Students also have the option to engage in additional learning opportunities for any objective through lessons available at the beginning and end of a study session.

Study Island also uses technology to provide students with practice to develop skills needed for more complex tasks. If students do not achieve the requisite proficiency skills on a specific objective, the program provides additional practice on more basic skills. Once students demonstrate proficiency in the more basic skills, the program provides opportunities to apply the skills they have achieved on more complex tasks. In addition to providing many opportunities for remediation, Study Island also includes a number of features to challenge, or extend learning opportunities when appropriate for more advanced learners. Specifically, if a student masters content in his or her own grade level, teachers can easily move students up to the next grade level. In addition, teachers can increase passing parameters for students who need an extra challenge. Because Study Island is Web-based, more advanced learners can seek out additional challenge opportunities by accessing the program in the classroom, the school library, the computer lab, or at home, and they can work at their own pace in the program or follow teachers’ guidance when teachers use the custom teacher page. To help all learners monitor their progress, Study Island provides immediate feedback, with correct answers shown along with an explanation for the correct response when the student answers a question. Together, these tools can aid teachers in creating differentiated instructional paths based on each student’s performance, allowing for individualized, differentiated instruction that could otherwise be difficult for one teacher alone to provide.

Alignment to the Curriculum Elements Teachers Can Differentiate

The Study Island program supports teachers in differentiating the three main parts of a curriculum: the content, the process, and the product.

Content

The Study Island program authors developed the content for the Study Island program based on an in-depth analysis of state-specific standards to create highly specific and individualized versions of the program for each state. The Study Island program provides students with comprehensive instructional practice.

“I feel that Study Island is a quick and easy way to reinforce and assess students’ knowledge of key state standards. The students enjoy the games that continue to reinforce what they have learned in the classroom. The results that I have seen are that the program allows teachers to be focused on the skills assessed on the Nevada CRT.”

David Frydman, Principal
Vail Pittman Elementary School
Las Vegas, Nevada

2 This feature is only available if the schools has purchased the next grade level materials.
designed to promote proficiency in state required skills and concepts. When used in a differentiated classroom, *Study Island* can aid teachers in varying the manner in which students receive instructional practice in the critical skill areas. For those students needing more practice to build their proficiency on their state-required content, *Study Island* provides opportunities at appropriate levels.

Secondly, *Study Island* helps teachers differentiate the presentation of the curriculum content through its flexible instructional formats. Teachers can utilize the *Study Island* program to create a variety of grouping arrangements in the classroom. Students can work independently with the *Study Island* program while the teacher attends to other students, or students can work in small groups using the *Study Island* program to focus on different lessons based on the group need. *Study Island* also allows the teacher the ability to reteach specific concepts to some students through the *Study Island* program while continuing the main lesson with the rest of the class. In this way, *Study Island* can supplement or extend classroom instruction through the mini-lessons and learning opportunities embedded within the practice.

The *Study Island* program also assists teachers in differentiating content through topic suggestion reports (see Figure 8) indicating which skills students have mastered and which topic areas need improvement at both medium and high levels of priority. Teachers can use these individual student reports to assign students to further work in the higher priority areas through the *Study Island* program or use data based on the performance of the whole class or a group of students to decide how to differentiate classroom instruction to meet all the students’ highest priority needs.
Finally, for those students learning curriculum content through different modalities, Study Island can present the same content in a variety of learning modes. Students can work with the program online using a computer, teachers can print out the lessons in the form of worksheets students can work on independently, or the teacher can read the text aloud to the students as they answer the questions.

Process

When using Study Island as an instructional delivery and practice tool within a differentiated classroom, teachers have the option of using the Study Island program to present instructional activities at differing degrees of difficulty. Teachers can assign or restrict students to using different grade levels of the program to provide students with targeted practice at their instructional level. Having the Study Island program as an instructional option in the classroom also allows teachers to meet the needs of students with different interest levels. Some students might prefer to engage in skill practice through an interactive computer program, whereas others might prefer to use worksheets. The learning opportunities built into the Study Island program are accessible to students

Figure 8. Illustration of a topic suggestion report in Study Island.
at any point during program implementation. Students can refer to the lessons as much as they need to gain full understanding of the lesson objectives.

Product

Tomlinson’s model of differentiated instruction emphasizes the importance of students being able to express what they have learned and highlights many different ways in which teachers can differentiate these products of learning. Of the various methods that teachers can use to differentiate products, Study Island focuses on teachers’ use of a variety of assessments and reports to facilitate students’ demonstration of what they have learned from classroom instruction. Study Island includes instructional practice and assessment for each state-required content area objective. Teachers can use the Study Island program in conjunction with other classroom assessments or as a stand-alone assessment to gauge students’ overall proficiency or knowledge of any taught standard. Teachers can create customized assessments for any skill area at any time in the instructional process and gain immediate feedback on students’ understanding of the subject matter. As shown in Figure 9, educators can use the program’s reporting functions to gain access to a classroom’s or individual student’s proficiency levels for an objective or an entire subject area, and then compare that classroom’s or student’s achievement to other students in the school or in the state. Teachers can track student performance over time as well as through trend reports tracking student proficiency each week or cumulative proficiency over the course of the year.
Figure 9. Illustration of the performance comparison reports available in Study Island.

"The school summary that is sent weekly is a wonderful tool for the teachers. They are able to track the students’ progress as we move through the modules."

Denise Voyles, Principal
Martha Puckett Middle School
Jesup, Georgia

Additionally, when students reach the specified mastery level for any objective, they earn a personalized reward in the form of a blue ribbon icon, which becomes a concrete symbol of recognition for students’ academic achievements. Similarly, in the program’s remediation mode, when students reach proficiency at building block levels, they earn white ribbon icons to signify they have mastered the skills necessary for successful performance on more complex tasks. These symbols not only provide a motivating factor for students to achieve, but also allow teachers to quickly assess at a glance which objectives students have mastered and which they have not. As shown in Figure 10, teachers and administrators can create grade- or classroom-level reports of the number of blue ribbons earned for students across the content areas.
Alignment to Student Characteristics by Which Teachers Can Differentiate

*Study Island* can act as a tool to assist teachers in differentiating instruction based on the key characteristics by which students differ: readiness, interest, and learning profile.

**Readiness**

Teachers can use the *Study Island* program to target instructional practice efficiently at each individual student’s readiness level. The program’s technological features help to drive practice at a student’s ZPD. When students do not reach the expected proficiency levels on a lesson, the program can provide them with appropriate practice, along with support and scaffolding, to develop skills that are more complex. *Study Island* can adjust complexity of tasks, which makes the program appropriate for all learners by allowing students to achieve proficiency in simpler skills before moving to more complex tasks. This important feature ensures that students practice and build skills at their respective ZPD levels and modifies the instructional path as students become increasingly proficient and their ZPD levels change.

As shown in Figure 11, if students need extra practice in certain skill areas, teachers can assign individual students or small groups of students additional practice through the *Study Island* program just on those skill areas. The instructional mini-lessons and learning opportunities embedded into the lessons give students additional scaffolding and instructional support as they practice the skills.
Similarly, teachers can adjust the number of questions a student practices, thus increasing or decreasing the exposure a student might receive at a level based on a student’s readiness level for a specific skill or objective.

Figure 11. Illustration of the creation of assignments for practice with specific skills in Study Island.

Interest

When incorporated into the curricular routine of a classroom, technological-based programs such as Study Island inherently peak student interest and promote differentiation based on student interest. The Web-based format of the program can motivate students to interact with the program and increase learning opportunities. Furthermore, the open architecture of the content of the Study Island program allows students to complete the lessons in any order and move between lessons as desired. This offers students autonomy over their learning environment, allowing them to set their own goals, plan personalized learning experiences, execute their work with flexibility, and regulate their own progress. Essentially, this flexibility affords students the ability to differentiate their own instructional path based on their interests.

Study Island incorporates additional features that both promote student engagement and develop a learner’s motivation for learning. The blue or white ribbons students earn on demonstrating requisite proficiency act as concrete symbols of achievement. Students are motivated to learn to
obtain these markers of success. Additionally, the *Study Island* program includes access to a wide variety of simple, interactive games students earn the ability to play when they have correctly answered a question. Students compete with other *Study Island* users in the school and state to achieve the highest score on the game. This peer competition is designed to motivate students to do well on tasks and answer questions correctly. Teachers can choose whether to activate the gaming feature of the *Study Island* program thus controlling when students have access to the games. Teachers can activate the gaming feature to correspond to a specific passing rate, which is designed to motivate students to improve performance on tasks in order to play additional games.

**Learning Profile**

*Study Island* supports teachers in differentiating instruction based on a student’s individual preferences and learning profile. *Study Island* provides flexible instructional formats including a variety of grouping options, material presentation modes, and learning experiences. Teachers can assign students to work with the *Study Island* program independently or in small- or whole-group settings, which can promote cooperative work on a lesson or allow students to compete with one another using a variety of methods, including the clicker response technology or the gaming mode.

**Alignment to Instructional and Management Strategies Teachers Can Use to Differentiate Instruction**

Teachers can use the in-depth, real-time reporting features of the *Study Island* program to detect areas in which students might be deficient or experiencing weaknesses. Using this knowledge, teachers can plan differentiated lessons with the appropriate instructional strategies that will both meet students’ skill-level needs and correspond to the student’s learning preferences. *Study Island* also enables teachers to monitor students’ progress toward meeting state-specific objectives over time through valid and reliable benchmark assessments accurately predicting student performance on state assessments. Teachers can use the results of the benchmark assessments diagnostically to guide their selection of instructional strategies and plan classroom-based instruction (see Figure 12). Additionally, through monitoring students’ frequency of use of the features of the *Study Island* program, such as the gaming mode, teachers can determine the content areas in which students might need additional instruction based on students’ performance levels or the content areas in which students are concentrating their practice (see Figure 12). Teachers can then select appropriate instructional strategies to target skills in the needed content areas.

“Teachers have been able to learn the system easily and utilize *Study Island* for classroom instruction, reinforcement, tutorials, as well as benchmarking. *Study Island* allows for differentiation across the curriculum and can be used for accommodating the needs of special learners too.”

*Celia Drews, Executive Director of Curriculum and Instruction
Troy Independent School District
Troy, Texas*
A Foundational Research Study Connecting Carol A. Tomlinson’s Model of Differentiated Instruction to the Study Island Program Magnolia Consulting, LLC October 21, 2009

**CONCLUSIONS**

Differentiation within today’s mixed-ability classrooms is a growing necessity for all teachers. Although differentiating instruction can be daunting, especially if the need for individualized attention is high, theorists such as Tomlinson have helped to reconceptualize the process into a framework of critical elements and objectives allowing for organized implementation of differentiation techniques. The increasing need for classroom support in a differentiated classroom has led publishers such as Study Island to create products that support teachers in efficiently...

Figure 12. Illustration of benchmark results by objective and gaming mode results by content area.

Although the Study Island program does not supplant the teacher’s role in differentiating instruction, it can be a useful tool in helping teachers meet students’ needs. Tomlinson’s framework offers a holistic approach to the differentiated classroom. Not only does it include content, product, and process, but it also emphasizes the teacher’s role in creating an optimal classroom environment in which teachers can differentiate instruction.
implementing the processes recommended by differentiated instruction models such as Tomlinson’s framework.

Tomlinson’s framework promotes a pathway for differentiating instruction in which teachers use key principles of differentiation (respectful tasks, flexible grouping, and ongoing assessment) while varying the content, process, and products of a curriculum with respect to students’ readiness, interests, and learning profiles. Engaging in this process assists teachers in the selection of appropriate instructional strategies students need to be individually successful. The key features and components of the Study Island program align well to Tomlinson’s framework for differentiated instruction and fully support teachers at every level and aspect of differentiation within the framework. Given the importance of the teacher, the learning community, the classroom environment, and classroom management, Study Island is not meant to serve as a proxy for teachers’ differentiation. It is, however, a useful tool in addressing many critical elements of differentiated instruction. Table 1 summarizes the alignment between Tomlinson’s framework of differentiated instruction and the Study Island program. Overall, the flexibility of the program and real-time data reporting features of Study Island make it ideal for supporting teachers in differentiated instruction.

Table 1. Summary of How Study Island Aligns with Tomlinson’s Model for Differentiated Instruction

<table>
<thead>
<tr>
<th>Relevant Elements of Tomlinson's Framework</th>
<th>Study Island Features</th>
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<tbody>
<tr>
<td>Engage in Respectful Tasks</td>
<td>Offers instruction at various levels but with equally engaging and informative practice</td>
</tr>
<tr>
<td>Use Flexible Grouping</td>
<td>Works in whole-group, small-group, and individual instructional settings and allows for movement among the formats as needed</td>
</tr>
<tr>
<td>Provide Ongoing Assessment</td>
<td>Provides real-time, ongoing progress monitoring with in-depth, detailed, and comprehensive reports of student achievement on state-specific standards</td>
</tr>
<tr>
<td>Vary the Curriculum Content</td>
<td>Includes highly specific content, uses flexible instructional formats to present content, allows for prioritization of area for improvement</td>
</tr>
<tr>
<td>Vary the Curriculum Process and Activities</td>
<td>Assigns students to lessons at varying degrees of difficulty, varies instructional practice by student interest, provides ease of access to learning opportunities</td>
</tr>
<tr>
<td>Vary the Products of the Curriculum</td>
<td>Provides ongoing assessment of curriculum standards, creates customized assessments, tracks student progress through variety of reports</td>
</tr>
<tr>
<td>Consider Student’s Readiness</td>
<td>Offers instructional practice at student ZPD levels, personalized instructional pathways, scaffolding and support through embedded mini-lessons</td>
</tr>
<tr>
<td>Consider the Interest of Students</td>
<td>Is a Web-based program that utilizes gaming features and concrete symbols of success designed to increase student motivation and interest</td>
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<tr>
<td>Consider the Student’s Learning Profile</td>
<td>Takes into account individual student preferences for grouping, learning style, and presentation, both cooperative and competitive modes</td>
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<tr>
<td>Select Appropriate Instructional Strategies</td>
<td>Uses real-time reports of instructional strengths, weaknesses, proficiency levels, and benchmark assessments to diagnostically select strategies</td>
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REFERENCES


