

Program Reflection

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IDT 8130: Master's Project

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Before entering the IDT Master's program at the University of Cincinnati, I was already active in the field of instructional design as an e-learning project manager for a language learning company. Although the team I was part of was knowledgeable about languages and linguistics, no one had formal ID training and I had begun to sense that much of our design process was based on intuition or the "this is how I learned" notion. My personal goal entering the program was to learn to apply theory and best practices to my professional endeavors. My diverse experiences in the IDT program transformed my practice that had not been rooted in theory into a grounded instructional design process (Hannafin et al., 1997).

Program Outcome 1: Apply learning theories and sound pedagogical practices to the instructional design and development process.

Throughout the IDT program, I gained knowledge and insight into a variety of learning theories and instructional design models, particularly in IDT 8020: Learning Sciences and IDT 8010: Instructional Design, both theoretical courses that laid the groundwork for putting these theories into practice. In other hands-on courses I created a variety of learning objects. For example, in IDT 8030: Design of Blended Online Learning Environments, I created a graduate-level Canvas course using the ADDIE framework and Keller's (2010) ARCS theory of motivation. For SPED 7052, I created a German grammar e-learning module for military linguists in alignment with Universal Design for Learning (UDL) principles and guidelines (CAST, 2018) and VanPatten's (2003) Input Processing grammar learning theory. For IDT 7120: Tools for Online Learning, I produced an e-learning training module for new instructors at LanguageBird (the virtual language school where I work) using the RAPID model of

instructional design I had created in IDT 8010: Instructional Design, and following Cathy Moore's action mapping and branching scenario methodology (Moore, n.d.)

Over the course of two semesters of IDT 8130: Master's Project, I conducted a rigorous formative evaluation of the German grammar e-learning module I had created for SPED 7052\.

During the first semester of the course, I planned a methodological usability evaluation involving two practice think-aloud interviews with classmates and following Nielsen's (2000) best practices for conducting think-aloud protocols (e.g., only interviewing five participants).

In the second semester of the course, I reinforced my initial evaluation plan to ensure that it not only measured the module's usability in support of UDL principles that call for the removal of barriers to learning (CAST, 2018), but also the learning object's effectiveness in terms of the attainment of the learning goal; or in other words, to determine whether the underlying learning theory of Input Processing is indeed effective in teaching grammar (VanPatten, 2003).

Because the learning object is an e-learning module, it naturally lends itself to usability issues, which pose barriers to learning, in that poor usability distracts learners from the topic to-be-learned (Burch, 2021). In addition to ensuring optimal usability, I incorporated all three UDL principles by supporting multiple means of representation (e.g., text and audio), engagement (e.g., enhancing the module's relevance by anchoring it in a military environment), and action and expression (e.g., a variety of closed and open-ended activities and choice boards) (CAST, 2018). Moreover, because it is a grammar module, I deemed it appropriate to test the effectiveness of Input Processing. To attain this, I chose a mixed-methods approach in my collections of both qualitative and quantitative data that I later analyzed to determine to what extent the learning object supported UDL and the attainment of the learning goal.

Program Outcome 2: Apply a systematic process to design instructional strategies that meet identified learning contexts and needs.

Applying a systemic process to the design of instruction was my primary goal in joining the IDT program. Throughout it, I transformed my practice and applied it directly to my academic and professional pursuits.

In the course IDT 8010: Instructional Design, I was introduced to the systemic design process, from comprehensive needs analysis, through the selection and implementation of the instructional strategy and media, to formative evaluation (Dick et al., 2021). The course was centered around the rigorous Dick & Carey model (Dick et al., 2021)—an ID model involving comprehensive needs analysis and planning, skill hierarchies, extensive instructional alignment, and in-depth evaluation. As a culminating activity, I presented my RAPID model of instructional design that I based on the SAM model (Allen & Sites, 2012), which emphasizes rapid prototyping. The Dick & Carey and RAPID models present opposite ends of the spectrum of instructional design approaches, with the former being the most comprehensive and the latter the most agile. As a result, IDT 8010 opened my eyes to diverse ID approaches and their use cases. Although rapid, as the name suggests, my model's evaluation framework was based on the Dick & Carey model's extensive evaluation stages: one-on-one, group, and field tests (Dick et al., 2021).

IDT: 8010: Instructional Design highlighted the value of evaluation in the iterative design process of any learning environment. With this in mind, in IDT 8130: Master's Project, I conducted a formative evaluation of a German grammar module I had developed for SPED 7052: Universal Design for Learning. Although it focused on usability testing, I modified my initial evaluation plan to also measure the effectiveness of VanPatten's (2003) Input Processing—a

grammar learning theory. To achieve this, it was necessary to select participants whose profile was similar to that of the target population; namely, adults who have prerequisite knowledge of German grammar. My sampling criteria and modified evaluation instruments helped verify both the ID model and learning theory.

For IDT 7120: Tools for Online Learning, I was tasked with creating a branching scenario in Articulate Storyline using Cathy Moore's action mapping (Moore, n.d.). This learning object presented an opportunity for systemic design using the framework outlined in my RAPID model. This learning object's purpose was to train new LanguageBird instructors on communication best practices with students, families, and administrators. Following the RAPID (Review, Analyze, Produce, Investigate, Debrief) framework and as a first step, I reviewed the existing training. Then, I analyzed the performance gap identified by stakeholders that is not addressed in the existing training. Next, I produced lo-fi and hi-fi prototypes in Articulate Storyline. Based on weekly peer feedback, I continually tweaked and refined the learning object. To investigate the effectiveness of the learning object, I tested it on the target audience to which I had access due to the module's direct application to my work. Lastly, based on the findings in my investigative evaluation, I debriefed by drawing conclusions for the redesign of future iterations. Guided by my RAPID model of instructional design, I followed a systemic and iterative design approach.

Program Outcome 3: Create authentic, technology-mediated learning experiences.

Throughout the IDT program, I created a variety of technology-mediated learning objects using an array of tools like Articulate Storyline, Canvas, Mural, Microsoft Sway, Google Docs, and more. Among this collection of learning experiences, I developed three robust artifacts that are showcased in [my portfolio](#).

All three artifacts had real-world applications and were designed to meet the unique needs of their respective audiences. For example, the Canvas course I created for IDT 8030: Design of Blended Online Learning Environments, titled *Introduction to Processing Instruction*, culminates in a final project requiring the learners (aspiring world language instructors) to create and demo a lesson based on VanPatten's (2003) grammar instruction method. Learners walk away from this course with a lesson plan that they can use immediately or in the future.

Similarly, my Articulate Storyline module titled *Communication Best Practices* (created for IDT 7120: Tools for Online Learning) is based on real-world scenarios and includes simulations of tasks and situations LanguageBird instructors encounter on the job, like opening a support ticket, identifying problems with email messages, or responding to nuanced inquiries or requests.

Lastly, also authored in Articulate Storyline, the artifact I created for SPED 7052: Universal Design for Learning, titled *Two-way Prepositions in German*, is applicable to its audience for two reasons. First, the content and example sentences used to illustrate this grammar topic are framed as a day in a life of a German soldier, keeping in mind the target population. In addition to this, the subject matter is directly applicable to target group's task of acquiring the German language to perform their job as military linguists.

To ensure that the above artifacts not only support learners' needs but also function flawlessly, I tested their usability and effectiveness. To improve *Introduction to Processing Instruction* (IDT 8030), I implemented peer and facilitator feedback received upon the development of key multimedia elements and weekly modules. In IDT 7120, each iteration of *Communication Best Practices* was reviewed by my classmates and instructor, enabling me to refine this artifact to perfection. Lastly, *Two-Way Prepositions in German*—created for SPED

7052 and evaluated in IDT 8130—underwent comprehensive testing that included rigorous data collection and analysis. This evaluation helped eliminate issues to ensure an optimal user experience.

Program Outcome 4: Evaluate learning technologies and strategies using a variety of methods.

Evaluation was a central theme in the IDT program that I practiced in a variety of courses using multiple methods. In IDT 7100: Designing Online Assessments, I explored a wide array of online assessment tools and methods. Throughout the course, I built an assessment portfolio that showcased three key technology-mediated assessment activities. All three work samples were selected from *Introduction to Processing Instruction* (IDT 8030). The first activity, a formative assessment, titled *Muddiest Point*, was a collaborative Google Doc, where each student stated one concept that was still murky to them after consuming the module's lectures and reading. Next, classmates left comments on one another's "muddiest points" clarifying and explaining the concepts. The second activity, a summative assessment, was the final project in this course, in which learners create and demo a lesson based on the course's teachings. Lastly, the third work sample was formative assessment in the form of a short, interactive e-learning module titled *How Does Your System Develop?* This activity bridges the road from the *Muddiest Point* and final project by helping learners consolidate concepts in the middle of the course.

Also as part of the requirements for IDT 7100: Designing Online Assessments, I created a course alignment map to ensure that these and other assessments were aligned to the learning objectives and course learning outcomes, and that the activities and materials in the course supported learning that could be measured by these assessments.

In addition to exploring assessments and their appropriateness, in IDT 8130: Master's Project I conducted a comprehensive evaluation of the artifact I had initially created for SPED 7052: Universal Design for Learning, titled *Two-Way Prepositions in German*. In the evaluation process, I relied on a variety of methods to collect and analyze data regarding the effectiveness of the selected ID model, learning theory, and technology, like the Nielsen Norman Group's (Budiu, 2017; Budio, 2023; Farrell, 2017; Nielsen, 2000) usability testing protocols that include but are not limited to think-aloud interviews and System Usability Scale questionnaires, as well as Laubheimer's (2018) Simple Easy Question surveys. These methods and data analysis are presented in full detail in the [Evaluation Report](#) I wrote for IDT 8130: Master's Project.

Program Outcome 5: Analyze current research and emerging trends in the area of learning technologies.

While IDT 8020 opened my eyes to the history of learning sciences and overarching concepts in learning and instruction, IDT 7130: Teaching with Technology enlightened me about emerging trends in the world of learning technologies. Throughout the course, my classmates and I explored a wide range of issues and trends in this area, like data privacy, artificial intelligence, and more. Personally, I facilitated a group discussion on the topic of digital sharing in education, pertaining to OER, plagiarism, and ethics regarding intellectual property. Additionally, I explored and synthesized an online textbook page on the role of social media in education that included a description of these environments, relevant emerging trends, and predictions for the future.

A key motif in this class was artificial intelligence. Over the course of the semester, I worked with a partner to complete a number of AI exploration tasks. As part of these tasks, we consistently included our rationale for or against the use of AI in education. With AI being the most prominent trend in learning technologies currently, I deepened my understanding of its

potential benefits and threats to learning environments in educational, academic, and professional settings.

Conclusion

In conclusion, in meeting all give program learning outcomes, I have me my personal goal of applying theory to practice in the design of instruction. Although theoretical courses like IDT 8010 and 8020 informed my design decisions in subsequent courses, the specific focus of each other course allowed me to practice grounded design (Hannafin et al., 1997) in the creation of learning objects with real-world applications. I have also been fortunate to be able to incorporate my newly acquired skills into professional projects. Thanks to this theoretical and practical experience, and building upon current knowledge, I will continue to hone my instructional design skills now and in the future.

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