# An Evaluation Plan for the University of Virginia's Ed.D. Instructional Design and Technology Program Focus Area

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#### Abstract

This paper outlines an evaluation plan for the Ed.D. IDT focus area delivered by the University of Virginia's School of Education and Human Development. Since it unclear if the current program meets the students' expectations and well as the professional expertise required by the IDT identify, this evaluation is intended to identify programmatic gaps or needs. The paper begins with a brief description and history of the IDT program, as well as a discussion concerning stakeholder groups. The evaluation's purpose, type, and design are described in detail. The purpose will be to gain insights into the program and determine any instructional gaps and needs. These gaps and needs will likely be learning objectives not currently addressed in the program. The evaluation type will be a knowledge and skills needs assessment, and it will be conducted with a sequential mixed methods design. The design description details data collection, sampling, and analyses. The paper closes with the intended utilization of findings by stakeholders, discussion, and anticipated limitations to the evaluation.

Keywords: Needs assessment, knowledge and skills assessment, sequential mixed methods

## An Evaluation Plan for the University of Virginia's Ed.D. Instructional Design and Technology Program Focus Area

#### Introduction

This paper outlines an evaluation plan for the Ed.D. IDT focus area delivered by the University of Virginia's (UVA) School of Education and Human Development. Despite being relatively new, it is unclear if this focus area adequately addresses the knowledge, skills, attitudes, and behaviors (KSAB) that the IDT field (i.e., pertinent literature, similar educational programs, IDT professionals, and educators) deems essential for professional success.

The purpose of the evaluation will be to gain insights and determine inputs into the current program. These inputs will be essential KSAB learning objectives not currently addressed in IDT focus area courses. Two major stakeholder groups, IDT program faculty and administrators of the Curriculum, Instruction, and Special Education (CISE) department, will be the intended primary users of the evaluation results—to inform programmatic changes to sustain and expand the IDT program.

#### **Program Description**

This Ed.D. focus area launched during the 2018-2019 academic year, and it is one of six doctoral focus areas offered by the CISE Department. During the following year (2019-2020), Ed.D. administrators transitioned the entire program to a primarily part-time, online learning experience. This transition appears to be positive, as the most recent U.S. News and World Report ranked the UVA C&I graduate program as the 11th best online program in the United States (U.S. News and World Report, 2022).

The program's description denotes a mission to prepare graduates for various professional roles, including educational technology coordinators, directors of online instructional design, faculty members, educational consultants, and organizational performance improvement specialists (*Instructional Technology*, n.d.). Therefore, this mission implies that graduates will acquire the essential knowledge, skills, attitudes, and behaviors (KSAB) to succeed in various professional contexts within the IDT field.

To provide insight into this program, I have created a logic model to outline its resources, strategies and activities, outputs, short-term outcomes, long-term outcomes, and impacts (see Appendix A). The program's resources are typical of an online graduate program, including revenue, a learning management system (LMS), program faculty and administrators, mission and vision statements, and student research and support services. The program's activities are standard and include course offerings, course objectives aligned with essential knowledge and skills, instructional and adjunct faculty committed to student success, and student support services. The outputs of this program include students who have assimilated IDT professional knowledge and skills and feel valued, challenged, and supported. The short-term outcomes include students who fulfill their professional goals, make meaningful personal and professional connections, and feel satisfied with their learning experience. The long-term outcomes include preparing Ed.D. graduates to work successfully in various professional IDT roles. And, these individuals—UVA Ed.D. who will contribute to an advance the IDT field—also represent the program's impact. This model also assumes that the School of Education and the CISE department are committed to continuous improvement, enhancing learning outcomes, and addressing stakeholders' needs.

Currently, eight IDT students are enrolled in the doctoral program, most of whom are working professionals who complete online coursework part-time. One student works and studies full-time at the University. Overall, these students represent a variety of professional experiences and wide-ranging interests both within and beyond K-12 contexts.

Two distinct departments within the School of Education—CISE, and Leadership, Foundations, & Policy--deliver Ed.D. course sequences. The Ed.D. learning sequence includes four to six program area courses, C&I and Research Methods courses, program milestones, and examinations. Two full-time faculty members, Dr. Ginger Watson (Program Area Director), and Dr. Jennifer Chiu, serve as the core the IDT instructional faculty.

CISE doctoral program administrators are currently mapping all Ed.D. focus areas to identify the curricula and define programmatic outcomes. Therefore, this is a critical time for the purpose and goals of the IDT program to be appropriately identified and purposefully enacted. Presently, there seems to be a mismatch between what the program promises students and what it delivers. Current University advertising touts a holistic IDT program designed to develop students' expertise in a variety of fields, but from my discussions with IDT students and faculty members, current course options may not develop such wide-ranging professional expertise—especially in professional contexts beyond the K-12 scope.

Therefore, there appears to be an inherent tension between IDT students' expectations versus the CISE department's programmatic status quo. Indeed, the *merit* of this program is well established and nationally recognized (i.e., the current U.S. News and World Report ranking). But, the program's actual *worth* to students will be a central theme of this evaluation (Mertens & Wilson, 2019). IDT students like myself determine the program's worth by measuring program outcomes against the KSAB valued by the IDT field and the current job market—specifically, expertise in analytics, gamification, and artificial intelligence domains (DeCoito & Tasha, 2018). Since these domains may not be addressed in current IDT courses, there may be a need to modify course learning objectives, content, or perhaps entire course offerings. However, school resources, such as budgetary and staffing limitations, could potentially limit substantial changes.

#### **Program Stakeholders**

There are four stakeholder groups associated with this evaluand: current IDT students, IDT program faculty, program administrators, and Ed.D. student in other focus areas. These groups hold varying and somewhat conflicting levels of power and interest, which could potentially exacerbate tensions among the program's stakeholder groups.

Current IDT students comprise a high-interest, low-power stakeholder group. While students have a voice to articulate their programmatic expectations, they lack any high-level decision-making

power--they can only "vote with their feet" if the program fails to meet their expectations. In contrast, program CISE program administrators (Department Chair, Senior Associate Dean for Academic Programs & Student Affairs, and Ed.D. program coordinators) represent a high-power and low-interest stakeholder group. This group collectively holds the high-level decision-making power for the Ed.D. program (e.g., program budget and spending allocations) and focuses its attention on the program's overall success. However, these individuals are responsible for many other initiatives within the School of Education of Human Development, leaving the IDT program outside their immediate periphery. In addition, these additional responsibilities could be barriers to change because they overlap or possibly conflict with the IDT program. For example, Dr. Matthew Wheelock, the Ed.D. program coordinator, also serves as the Innovation program director. As a high-level decision-maker, Dr. Wheelock may not be inclined to allocate additional funding to the IDT program if doing so impacts the resources available to the Innovation program. Therefore, one of the most significant challenges of this evaluand is how the IDT students are the most vested but have little power to enact substantive change. Yet, the high-power decision-makers who have the power to enact change have little or even conflicting interest with the IDT focus area.

Dr. Watson and Dr. Chiu are the evaluand's high-interest and high-power stakeholders because their decisions directly affect IDT students and instructors. Together, they shape the focus area by setting goals, defining spending priorities, developing courses, hiring adjunct faculty, and aligning IDT within the Ed.D. program. They also have a voice in the wider Ed.D. programmatic decisions, but they lack high-level decision-making power beyond the IDT focus area. For example, they can request additional funding, but the high-level, low-interest stakeholder group approves or denies these requests.

Ed.D. students in other focus areas are the low-power and low-interest stakeholder group.

These students likely desire a highly ranked Ed.D. program but do not have a particular interest in the

IDT program. In addition, they may not support funding allocations for other focus areas besides their own.

#### **Evaluation Plan**

#### **Evaluation Purpose**

The purpose of this evaluation will be to gain insights and determine necessary inputs to the IDT focus area (Mertens & Wilson, 2019). Despite being relatively new, it is unclear if the current program addresses the KSAB identified as essential by the wide-ranging IDT field (i.e., pertinent literature, similar educational programs, IDT professionals, and educators). Since the UVA online Ed.D. program is nationally recognized and highly ranked (U.S. News and World Report, 2022), I assume the programs' stakeholders are committed to continuous improvement initiatives designed to sustain and expand the IDT program. Therefore, there is an implied need for the IDT focus area to engage in continuous improvement since such initiatives will likely sustain and expand the program. In addition, IDT graduates expect to assimilate the essential KSAB to achieve professional success within the field. To that end, results from this evaluation could be used as program inputs to enhance learning outcomes and sustain continuous programmatic improvement. Such improvement is in the best interest of the CISE department, as administrators seek to maintain the doctoral program's high rankings.

#### **Types of Evaluation**

Grant (2002) argues that needs assessments are critical in the education process because they reveal critical programmatic gaps and inform instructional planning. In addition, Altschud & Kumar (2010) also argue that needs assessments allow evaluators to identify discrepancies between what a program is and what it should be. Therefore, I have determined that a needs assessment is the most practical approach to gain insights and determine any necessary inputs to the IDT focus area.

However, choosing a specific assessment type warrants consideration. Two types could be adapted for this evaluation's purpose. The first is competency-based assessment, which "seeks to

identify the knowledge, skills, attitudes, and behaviors the performer needs to excel at a job" (Sleezer et al., 2014b, p. 146). The second is a knowledge and skills assessment, which has a two-fold purpose: 1) to identify the knowledge and skills needed for people to perform effectively in their work; 2) "to prescribe appropriate interventions that can close the knowledge and skills gaps (Sleezer et al., 2014a, p. 91).

Researchers recently conducted a skills and knowledge needs assessment of online Instructional Technology courses (IT) at a midwestern University. The purpose of this assessment was to "(a) to identify the gap between the current state and the desired state and (b) to provide recommendations for the overall quality of student learning" (Allen et al., 2020). Since the case study's purpose is similar to my evaluand, I believe a knowledge and skills needs assessment will be a good fit. Therefore, I will determine the essential IDT KSAB objectives that Ed.D. graduates should attain to excel in the field.

#### **Evaluation Questions**

I will conduct a skills and knowledge needs assessment framed by the following evaluation questions:

EQ1: What are the essential knowledge and skills needs identified by the IDT field (i.e. pertinent literature, similar educational programs, IDT professionals, and educators)?

EQ2: How do the UVA IDT activities and outputs align with its programmatic objectives?

EQ3: How do the knowledge, skills, attitudes, and behaviors (KSAB) developed by the IDT program align with the KSAB identified by the IDT field?

EQ4: What are the strengths and weaknesses of the UVA IDT program in relation to KSAB identified by field?

#### **Evaluation Design**

I will conduct a skills and knowledge needs assessment in four distinct phases, with each evaluation question representing a single phase. Data collected in phase one inform phase two, and

culminating data inform phases three and four, as illustrated by my evaluation design diagram (see Appendix D). I have identified a sequential mixed methods study (Creswell & Creswell, 2018) as a good fit for this design. In a similar study aimed to identify tacit knowledge, its use, and application in automotive development, researchers used a sequential explanatory mixed method approach to allow the first set of data to be analyzed and inform data collected at later stages (Bell et al., 2022). Therefore, to address these four culminating phases, I believe a sequential mixed methods approach to be the most suitable design.

While deliberating different evaluation designs, I also considered a concurrent mixed method design (Creswell & Creswell, 2018), wherein I would address EQ1, EQ2, and EQ3 simultaneously, and the resulting data would inform EQ4. However, to understand how the UVA IDT activities and outputs align with the KSAB identified by the IDT field, I must address EQ1 before EQ3, making a concurrent mixed method design untenable.

#### **Data Collection Strategy**

Data collection in this evaluation will be primarily qualitative, except for one quantitative survey instrument. I also plan to draw from multiple data sources and attend to quality in data collection. A detailed description of the data collection and quality criteria processes are included in Appendix D.

To address EQ1: What are the essential knowledge and skills needs identified by the IDT field (i.e., pertinent literature, similar educational programs, IDT professionals and educators)? I will conduct a systematic horizon scan bounded in both scope and sensemaking (Konnola et al., 2012) and gather information from current literature, similar educational programs, recent job postings, and IDT field experts. To collect data from current literature, I will conduct a review of peer-reviewed literature from the most pertinent journals in the IDT field I have identified in Appendix B. In addition, since the IDT field is rapidly changing, I will only review literature from the last three years. I will also consider the

journal's impact factor¹ (e.g. bibliometrics) as I collect, interpret and make sense of journal data (Konnola et al., 2012). To collect data from similar IDT programs, I will identify IDT Ph.D./Ed.D. programs that are similar in format, size, and scope to the UVA program. A document analysis is the most conducive method to systematically collect and code data from course offerings, sequencing, and program requirements (Mertens & Wilson, 2019). Similarly, to collect data from recent job postings, I will conduct a document analysis of job postings from the most prominent employment websites that I have also identified in Appendix B. I will search for "educational technology coordinators," "directors of online instructional design," "faculty members," "educational consultants," and "organizational performance improvement specialists" job listings--as these job types correspond with the IDT program description. To ensure quality in the literature review and document analyses, I will draw from multiple sources to establish credibility and dependability by keeping track of significant themes, codes, and processes using reflexive memo strategies.

To collect data from IDT field experts, I will follow a sequential explanatory design methods within this step (Creswell & Creswell, 2018). A "sequential explanatory design consists of two distinct phases: quantitative followed by qualitative" (Ivankova et al., 2006, p. 5). I will develop valid and credible survey items that are informed by data collected in both the literature review and document analyses. I will also conduct a survey pilot test with a similar participant group to ensure the instrument's reliability. Survey items will be Likert-style questions wherein IDT field experts will evaluate each knowledge and skill item as either "very important," "important," "somewhat important," "less

<sup>&</sup>lt;sup>1</sup> The Journal Impact Factor (JIF) is a journal-level metric calculated from data indexed in the Web of Science Core Collection. It should be used with careful attention to the many factors that influence citation rates, such as the volume of publication and citations characteristics of the subject area and type of journal. The Journal Impact Factor can complement expert opinion and informed peer review. Source: Clarivate Journal Citation Reports. Retrieved from https://jcr-clarivate-com.proxy01.its.virginia.edu/jcr/browse-journals.

important," or "not important. During the qualitative phase, I will conduct semi-structured interviews with selected survey participants to provide additional explanation and elaboration on the survey results. To ensure credibility and dependability when collecting interview data, I will share survey and interview data with participants to confirm my accuracy and employ a consistent coding system supported by a reflexive memo process.

To address EQ2: How do the UVA IDT activities and outputs align with its programmatic objectives? I will conduct semi-structured interviews with the core IDT program faculty, Dr. Ginger Watson and Dr. Jennifer Chui. During these interviews, I will ask these faculty how the IDT program objectives were established as well as how courses are developed. I will also seek their insights into how specific IDT skills, knowledge, attitudes, and behaviors in course offerings align with program objectives (see Appendix C). To ensure credibility and dependability when collecting interview data, I will share interview data with Dr. Watson and Dr. Chui to confirm my accuracy and employ a consistent coding system supported by a reflexive memo process.

To address EQ3: How do the knowledge, skills, attitudes, and behaviors (KSAB) developed by the IDT program align with the KSAB identified by the IDT field? I will conduct additional document analyses. To determine the specific skills and knowledge addressed in the UVA IDT program, I will systematically review program offerings, sequencing, requirements, and course syllabi to collect and code data. Again, I will attend to credibility and reliability by employing a consistent coding system supported by a reflexive memo process.

To address EQ4: What are the strengths and weaknesses of the UVA IDT program in relation to KSAB identified by the field? I will consolidate the data from questions 1, 2, and 3 to analyze the IDT program's strengths, weaknesses, threats, and opportunities (SWOT), illustrated in my evaluation design diagram (see Appendix D). The blended analysis will help me identify the (1) strengths of the IDT program—how it is aligned with the KSAB identified by the IDT field; (2) weaknesses of the IDT

program—how it is not aligned with the KSAB identified by the IDT field; (3) opportunities for the IDT program—ways the program can bolster its alignment with the KSAB identified by the IDT field; and (4) threats to the IDT program—barriers to IDT programmatic improvement.

#### **Sampling Plan**

Since this evaluation is primarily qualitative, I will employ various purposeful/theoretical sampling methods throughout four evaluation phases. To address EQ1: What are the essential knowledge and skills needs identified by the IDT field i.e., pertinent literature, similar educational programs, IDT professionals, and educators)? As mentioned previously, I will restrict the literature review to be bounded within the last three years and only review the professional journals I have identified in Appendix B. When reviewing similar programs, I will use a homogeneous sampling method to identify educational programs that share relevant characteristics with the UVA IDT program. When reviewing employment websites, I use a two-tiered criterion sampling method; the first criterion will be employment websites I have already identified in Appendix B. The second criterion will be "educational technology coordinators," "directors of online instructional design," "faculty members," "educational consultants," and "organizational performance improvement" job listings.

Regarding the quantitative survey, I will use a convenience sampling method to recruit participants from the Association for Educational Communications & Technology (AECT), the largest IDT professional organization, and one in which I am a member. With over 2,000 members, I hope to recruit at least 91-333 participants to yield a margin of error at or between +/- 5-10% (Mertens & Wilson, 2019). Survey demographic information will reveal subgroups within the entire participant group. Subgroups relevant to this study will be participants' professional roles, i.e., educational technology coordinators, directors of online instructional design, faculty members, educational consultants, and organizational performance improvement specialists. For the follow-up interviews, I will purposively recruit participants from each professional group to understand how essential KSAB vary across

professional contexts. If I do not recruit enough participants from AECT, I can expand the participant pool and include additional professional and educational organizations I have identified in Appendix B.

For EQ2: How do the UVA IDT activities and outputs align with its programmatic objectives? and EQ3: How do the knowledge, skills, attitudes, and behaviors (KSAB) developed by the IDT program align with the KSAB identified by the IDT field? I will be using intact group sampling methods. Since sample sizes are small--two IDT faculty and six IDT courses--an intact group approach is the most appropriate.

For EQ4: What are the strengths and weaknesses of the UVA IDT program in relation to KSAB identified by field? The SWOT analysis will entail a data consolidation method, wherein the combined results from the mixed methods will "create blended data for further analysis" (Mertens & Wilson, 2019, p. 449). I have illustrated the SWOT analysis process in the evaluation design diagram (see Appendix D).

#### **Data Analysis Plan**

I will use several different analysis methods in this evaluation: qualitative coding, complementary analysis, sequential exploratory design, quantitative inferential statistics, data consolidation, and a SWOT analysis.

To analyze document data collected for EQ1 horizon scan (literature review, review of similar education programs, and recent job postings), I will follow the qualitative coding process outlined by Mertens and Wilson (2019). I will read all documents several times to develop a list of preliminary codes. As previously mentioned, I will analyze and make sense of the data during the collection process (Konnola et al., 2012), I will then create a codebook that contains each potential code with its definition. Next, I will begin coding resources while also keeping a reflexive memo to document my thought processes. In addition, since I am using multiple data sources to identify salient IDT knowledge, skills, attitude, and behavior (KSAB) themes, I will use a complementary analysis method as identified by Walden and Baxter (2001), wherein I will integrate various data sources for analysis in this study.

When analyzing data collected from IDT field participants, I will use a sequential exploratory design identified by Ivankova et al. (2006). This design consists of a quantitative phase followed by a qualitative phase (Bell et al., 2022; Ivankova et al., 2006). I will assign numeric values to the Likert-style survey categories, which will enable me to analyze survey responses using inferential statistics to identify common KSAB skill themes. During the qualitative phase, I will record interviews, transcribe transcripts, and follow the same qualitative coding process as I've outlined above. I anticipate that interview data analysis will refine and explain the statistical analysis from the quantitative phase (Bell et al., 2022; Ivankova et al., 2006).

I will use qualitative data analysis strategies for data collected during the EQ2 and EQ3 phases. To analyze data collected for EQ2, I will record interviews, transcribe transcripts, and follow the qualitative coding process I've outlined above. To analyze data collected for EQ3, I will analyze IDT program offerings, sequencing, requirements, and syllabi following the same qualitative document analysis as I described for EQ1.

To analyze data for EQ 4, I will use a consolidation analytic strategy (Bazeley, 2006; Caracelli & Greene, 1993) to conduct a SWOT analysis. I will blend resultant data from EQ1, EQ2, and EQ3 to identify the UVA IDT program's strengths, weaknesses, threats and opportunities. While conducting the SWOT analysis, I will use a systematic approach to consolidate data sets, supported by a reflexive memo process.

#### Discussion

#### **Utilization of Findings**

As I mentioned previously, there are four distinct stakeholder groups associated with this evaluand: 1) IDT program faculty (Dr. G. Watson and Dr. J Chiu); 2) CISE program administrators; 3) current IDT students; and 4) current Ed.D. students in other program focus areas.

The primary users of this evaluation will be the IDT program faculty and the CISE program administrators, as both stakeholder groups are empowered to make programmatic improvement decisions. Since the ICT program is delivered by a R-1 institution<sup>2</sup> an academic report will be the most appropriate means to communicate the evaluation's methodology, results, and recommendations to stakeholder groups. In addition, for wider dissemination within stakeholder groups, I can also present the evaluation's key points in a narrated digital slide deck (e.g., PowerPoint).

I anticipate that IDT program faculty and CISE administrators will utilize the results both conceptually and instrumentally (Mertens & Wilson, 2019). When utilizing the results conceptually, individuals will likely take time to personally ruminate over the evaluation results, engage in several group discussions regarding the results, and work together to devise strategic plan to address any programmatic shortfalls the results may reveal. I believe these processes will also lead to instrumental use--wherein the results and findings will directly inform revisions to course learning objectives, course content, or course additions.

The secondary users of the evaluation will be IDT students. This group may be interested to read the academic report, attend a presentation, or both. However, I believe students will utilize the results legitimately (Mertens & Wilson, 2019) to reinforce their decision to continue in the IDT program, or perhaps recommend the program to others. On the other hand, I also envision that some students might use the results quite differently, and de-legitimizing the program and its worth. These students might choose to discontinue their studies, or to seek another program better suited to their needs. With respect to the last group--current Ed.D. students in other focus areas—I do not anticipate they will utilize the results in any significant way.

#### Limitations

<sup>&</sup>lt;sup>2</sup> Indicates very high research activity defined by the Carnegie classification of Institutes of Higher Education. https://carnegieclassifications.iu.edu/classification\_descriptions/basic.php

The first limitation pertains to the general nature of sequential mixed methods design. While there are advantages and disadvantages to every research design, Bell et al., (2022) argues that sequential designs are not as effective for triangulation since "findings from the first stage might influence the second stage, or the phenomenon and its context might have changed between the two phases of data collection, thus influencing the findings (p. 6)." The very reason I chose a sequential mixed-method design—to inform subsequent steps—is also its inherent weakness, as each phase could taint data collection and interpretation in subsequent phases, possibly weakening triangulation. However, by understanding and acknowledging this risk, I can exercise greater reflexivity when collecting an analyzing data in each evaluation phase.

A second limitation is seven out of eight data collection methods are qualitive in nature: five document analyses and two rounds of semi-structured interviews. In addition, as illustrated by my evaluation design diagram (Appendix D) the one quantitative survey instrument is informed by qualitative document analyses. This heavy qualitative slant comes with an inherent risk--that my positionality as a current IDT student will influence my biases, assumptions, and understandings, which in turn could data collection, interpretation, and subsequent analysis. Once again, careful attention to reflexivity will be essential to minimizing these risks.

A final limitation pertains to the horizon scan. Since a horizon scan is a somewhat an organic and "bottom-up" collection method, resulting data may by fragmented, incoherent, and possibly conflicting (Konnola et al., 2012). One way to address this limitation would be to systematically synthesize data into theme clusters and interconnections, but this could quickly become an enormous task (Konnola et al., 2012). In their paper, Konnola et al., (2012) provide three guidelines for iteratively defining and organizing data clusters: 1) build an initial set of themes that emerge as significant, 2) expand with data that are consistent with what has already been identified, and 3) continue the process until the thematic

cluster is broadly addressed (p. 229). By following these guidelines, I intend to minimize these problematic aspects when I conduct the horizon scan.

#### **Conclusion**

This paper outlines the proposed evaluation for the UVA IDT Ed.D. focus area. While this program is relatively new, it is unclear if it sufficiently addresses the KSAB identified as essential by the wide-ranging IDT field (i.e. pertinent literature, similar educational programs, IDT professionals and educators). Therefore, purpose of this this evaluation will be to gain insights and determine necessary inputs. These inputs will the KSAB learning objectives that Ed.D. IDT graduates need to be successful in the field. To identify these KSAB objectives, I will conduct a knowledge and skills needs assessment and employ a sequential mixed-methods design. It is my intention that key stakeholders (IDT program faculty and CISE program administrators) will use these results and findings to inform changes in course learning objectives, content, and course offerings. Such programmatic improvement will likely sustain and expand the program in the future.

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#### Appendix A

### Ed.D. IDT Program Focus Area: Evaluand Logic Model

**Problem Statement:** It is unclear if the IDT focus area coursework addresses students' wide-ranging professional goals and essential knowledge and skills required by the IDT field.

Resources	Strategies / Activities	Outputs	Short-term outcomes	Long-term outcomes	Impacts
Tuition and fees  Canvas LMS  Mission/vision statement  Teaching/Advising Faculty  Adjunct Instructors  Program Administrators  CISE Department/ School Deans  Leadership, Foundations and Policy Department  Library resources  Student support services	IDT asynchronous course offerings delivered through Canvas.  Course objectives align with IDT field knowledge and skill requirements  Faculty committed to student success.  Student advising  CISE program site and student resources  Ed.D. student support delivered through various departments  Online teaching and learning community	Students gain IDT focus area expertise.  Students are valued and challenged.  Students match course selections with professional goals.  Students access pertinent program information at any time.  Students receive academic, health & wellness, and financial support.  Students develop meaningful collegial relationships.	IDT students fulfill their professional goals.  IDT students make meaningful connections with program-area faculty.  IDT students make longlasting peer connections with the cohort.  IDT students are satisfied with their overall learning experience and recommend the program.	UVA IDT graduates will successfully work in the field.  More students will apply to the UVA Ed.D. IDT program.  The IDT program will receive higher rankings from external ranking systems.	UVA will positively impact the IDT field by graduating professionals who will contribute and advance the IDT field.

#### **Assumptions:**

- The School of Education is committed to delivering course offerings that meet IDT students' goals and stakeholders' needs.
- The School of Education is committed to continuous programmatic improvement.
- The School of Education is committed to growth within economies of scale principles.
- Essential IDT knowledge and skills can be identified by focus area faculty, field experts, current literature, similar educational programs, and recent job postings.

#### **If/Then Statements**

IF	THEN/IF	THEN/IF	THEN/IF	THEN
The IDT focus area engages in continuous improvement	An evaluation will reveal programmatic insights and determine necessary inputs	Stakeholders can provide insights into the program in terms of strengths and weaknesses	Resultant data will inform recommendations for programmatic improvement	Program will sufficiently address all stakeholder groups' needs and improving learning outcomes

#### **Appendix B**

#### **Horizon Scan Data Sources**

#### 1) Scholarly IDT Journals

	2020 Journal Impact Factor <sup>3</sup>			
Journal Name	Calculation	JIF scale		
American Educational Research Journal	4.811	6.0		
Australian Journal of Psychology	2.316	3.0		
Australian Journal of Education	2.257	3.0		
British Journal of Educational Technology	4.	5.0		
Cognition	3.65	4.0		
Computers & Education	8.538	10.0		
Contemporary Educational Psychology	4.277	5.0		
Educational Psychologist	9.541	10.0		
Educational Technology, Research & Development	3.565	4.0		
Journal of Computer Assisted Learning	3.862	4.0		
Journal of Educational Psychology	5.805	6.0		
Learning and Instruction	5.146	6.0		

<sup>&</sup>lt;sup>3</sup>The Journal Impact Factor (JIF) is a journal-level metric calculated from data indexed in the Web of Science Core Collection. It should be used with careful attention to the many factors that influence citation rates, such as the volume of publication and citations characteristics of the subject area and type of journal. The Journal Impact Factor can complement expert opinion and informed peer review. From Clarivate Journal Citation Reports. Retrieved from https://jcr-clarivate-com.proxy01.its.virginia.edu/jcr/browse-journals.

#### 2) Applied IDT Journals

Journal Name	Journal Citation Indicator <sup>4</sup>
Journal of Learning Analytics	2.21
International Journal of Learning Technology	0.28
International Journal of Instruction	0.81
Journal of Computers in Education	1.08
TechTrends	1.1
Journal of Formative Design in Learning	0.67

#### Top Employment Websites<sup>5</sup>

- Indeed
- LinkedIn
- Glassdoor
- Google for jobs
- Zip Recruiter
- Career Builder
- Monster

<sup>&</sup>lt;sup>4</sup> The Journal Citation Indicator (JCI) is the average Category Normalized Citation Impact (CNCI) of citable items (articles & reviews) published by a journal over a recent three-year period. The average JCI in a category is 1. Journals with a JCI of 1.5 have 50% more citation impact than the average in that category. It may be used alongside other metrics to help you evaluate journals. From Clarivate Journal Citation Reports. Retrieved from https://jcr-clarivate-com.proxy01.its.virginia.edu/jcr/browse-journals.

<sup>&</sup>lt;sup>5</sup> Reported by the Wall Street Journal: <a href="https://www.wsj.com/articles/where-to-search-for-jobs-finding-your-next-opportunity-11605109352">https://www.wsj.com/articles/where-to-search-for-jobs-finding-your-next-opportunity-11605109352</a> and U.S. News and World Report: <a href="https://money.usnews.com/money/blogs/outside-voices-careers/articles/best-job-search-sites">https://money.usnews.com/money/blogs/outside-voices-careers/articles/best-job-search-sites</a>.

#### Educational/Instructional Technology Organizations<sup>6</sup>:

- American Educational Research Association (AERA)
- Association for Talent Development (ATD)
- Association for the Advancement of Computing in Education (AACE)
- EDUCAUSE
- IEEE Technical Committee on Learning Technology (TCLT)
- Instructional Technology Council (ITC)
- International Society for Performance Improvement (ISPI)
- International Society for Technology in Education (ISTE)
- International Society of the Learning Sciences (ISLS)
- International Technology and Engineering Education Association (ITEEA)
- Michigan Association for Computer Users in Learning (MACUL)
- Society for Applied Learning Technology (SALT)
- Society for Information Technology and Teacher Education (SITE)

#### Distance Learning/E-Learning Organizations<sup>7</sup>:

- American Distance Education Consortium (ADEC)
- Distance Education Accrediting Commission (DEAC)
- European Association for Distance Learning (EADL)
- European Distance and E-Learning Network (EDEN)
- International Association for K-12 Online Learning (iNACOL)
- International Council for Open and Distance Education (ICDE)
- Online Learning Consortium (OLC)
- Open and Distance Learning Association of Australia (ODLAA)
- United States Distance Learning Association (USDLA)

<sup>&</sup>lt;sup>6</sup> Source: Kurt, S. "Educational Technology: Associations & Organizations," in *Educational Technology*, September 6, 2016. Retrieved from https://educationaltechnology.net/educational-technology-associations-organizations/

<sup>&</sup>lt;sup>7</sup> Source: Kurt, S. "Educational Technology: Associations & Organizations," in *Educational Technology*, September 6, 2016. Retrieved from https://educationaltechnology.net/educational-technology-associations-organizations/

#### Appendix C

#### Semi-Structured Interview Protocol: IDT Faculty Interviews

**Warm up**: Thank you for meeting with me today. As you know I am seeking to gain your insights about the IDT focus area courses, I'm especially interested in understanding the how learning objectives are identified and how courses are developed. Before we begin, so I have your permission to record this interview?

#### **Background Information**

- 1. How long have you been associated with the IDT program?
- 2. Which IDT course have you taught? Developed?

#### **IDT Course Development**

- 3. How are IDT course objectives identified?
- 4. From where do you draw for course content?
- 5. Can you explain the course development process?

#### **Essential IDT KSAB**

- 6. What do you think is essential knowledge that Ed.D. IDT graduates should assimilate? Skills?

  Attitudes? Behaviors?
- 7. In what ways do the current courses align with the KSAB you identified?
- 8. Do you think there are instructional gaps? If so, what are they?
- 9. In what ways do you think these gaps can be addressed?

#### **SWOT**

- 10. In your opinion, what are the program's greatest strengths? Most concerning weaknesses?
- 11. What are some of the possible opportunities for the program?
- 12. What are the current barriers to growth?

- 13. How is the program currently positioned to capitalize on its current strengths and opportunities?
- 14. How is the program positioned to ameliorate its weaknesses and minimize its threats?

#### Closure

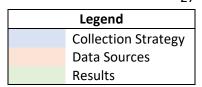
15. Is there anything else you would like to share with me about the program?

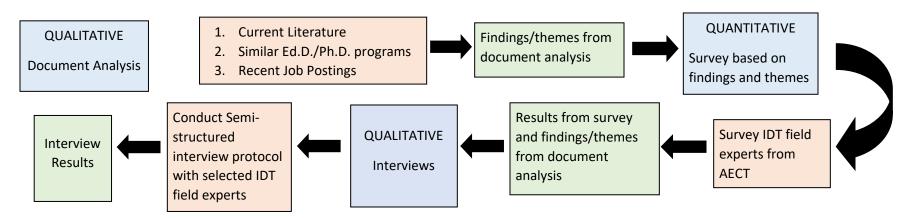
Thank you so much for spending time with me and sharing your insights. This information is so valuable as I evaluate the IDT program. Once I have transcribed this transcript, may I follow-up with you to confirm my accuracy?

#### Appendix D

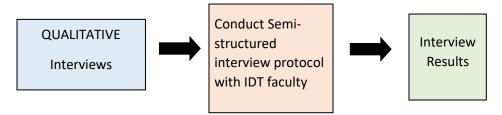
#### **Sequential Mixed-Methods Design Plan**

Phase 1 (EQ1): What are the essential knowledge and skill needs identified by the IDT field (i.e. pertinent literature, similar educational programs, IDT professionals and educators)?

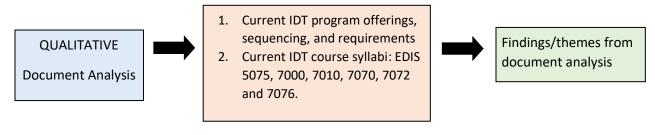




Phase 2 (EQ 2): How do the UVA IDT activities and outputs align with its programmatic objectives?



Phase 3 (EQ3): How do the knowledge, skills, attitudes, and behaviors (KSAB) developed by the IDT program align with the KSAB identified by the IDT field?

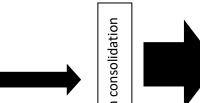


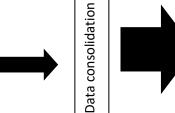
#### Phase 4 (EQ4): What are the strengths and weaknesses of the UVA IDT program in relation to KSAB identified by field?

#### **Results from EQ1**

- 1. Qualitative Findings/ themes from document analyses: literature review, similar programs, and recent job postings.
- 2. Quantitative Survey results
- 3. Qualitative interview results with IDT program faculty

Qualitative interview results with IDT program faculty





#### **Results from EQ3**

**Results from EQ2** 

Qualitative results/themes from IDT program document analyses



#### **SWOT Analysis**

#### **IDT Program Strengths**

The ways the program is aligned with the KSAB identified by the IDT field.

#### **IDT Program Weaknesses**

The ways the program is not aligned with the KSAB identified by the IDT field.

#### **IDT Program Opportunities**

The ways the program can bolster its alignment with the KSAB identified by the IDT field

#### **IDT Program Threats**

The barriers to IDT programmatic improvement.

Appendix E

Data Collection Quality Considerations

Understanding Aim	Rationale	Essential Information	Data Sources	Data Collection Strategies	Notes on Quality			
EQ1: What are the essential knowledge and skills needs identified by the IDT field (i.e. pertinent literature, similar educational programs, IDT professionals and educators)?								
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	To be able to identify what skills and knowledge the IDT field requires	Specific IDT knowledge and skills	Current literature	Systematic Literature Review	Credibility: Review recent peer-reviewed literature; use multiple sources. Triangulate data with other three sources.  Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).			
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	To be able to identify what skills and knowledge the IDT field requires	Specific IDT knowledge and skills	Recent Job postings	Systematic Review of employment websites.	Credibility: Examine multiple employment sites. Triangulate data with other three sources.  Validity: Use employment descriptions identified in UVA program description.  Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).			

Understanding Aim	Rationale	Essential Information	Data Sources	Data Collection Strategies	Notes on Quality
					<b>Credibility:</b> Examine multiple program sites. Triangulate data with other three sources.
The skills and knowledge that	To be able to identify what skills and	Specific IDT			Validity: Compare with programs that are similar to evaluand, size, scope, etc.
Ed.D. IDT graduates need to be successful	knowledge the IDT field requires	knowledge and skills	Similar Education Programs	Systematic Review of similar programs	<b>Progressive Subjectivity:</b> Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.
in the field.	·				<b>Dependability</b> : Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).
The skills and knowledge that	To be able to identify what skills and	tify what s and vledge the vledge the skills	IDT field experts	Online surveys	Validity: Construct/content validity. Use themes from literature, employment sites, and similar programs to create survey items.
Ed.D. IDT graduates need to be successful in the field.	knowledge the IDT field requires				<b>Reliability:</b> Conduct pilot tests with participants who are similar to study participants.
The skills and knowledge that Ed.D. IDT	To be able to identify what skills and	Specific			Credibility: Conduct follow-up interviews with IDT experts to gain further insights and clarification (multiple data sources). Share survey and interview data with participants for feedback about accuracy (member checks).
graduates need to be successful in the field.	knowledge the IDT field requires	IDT knowledge and skills	IDT field experts	Semi-structured interviews	<b>Progressive Subjectivity</b> : Use semi-structured interview protocol. Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.
					<b>Dependabilit</b> y: Employ a consistent coding system supported by a reflexive memo process. Raters would have to agree on coding interviews(inter-rater reliability).

EQ2: How do the UVA IDT activities and outputs align with its programmatic objectives?							
Understanding Aim	Rationale	Essential Information	Data Sources	Data Collection Strategies	Notes on Quality		
which the UVA IDT program addresses its identified  identify the the prograr courses alig with	To be able to	ntify the how program's objectives and course offerings ogrammatic	IDT program faculty	Semi-structured interviews	Credibility: Conduct follow-up interviews with IDT program faculty to gain feedback about accuracy (member checks).		
	_				<b>Progressive Subjectivity</b> : Use semi-structured interview protocol. Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.		
	' "				<b>Dependability</b> : Employ a consistent coding system supported by a reflexive memo process. Raters would have to agree on coding interviews (inter-rater reliability).		

## EQ3: How do the knowledge, skills, attitudes, and behaviors (KSAB) developed by the IDT program align with the KSAB identified by the IDT field?

Understanding Aim	Rationale	Essential Information	Data Sources	Data Collection Strategies	Notes on Quality
The current learning knowledge and skills emphasized in the UVA IDT focus area	To able to identify what IDT skills and knowledge are addressed in current courses.	Specific IDT knowledge and skills	IDT focus area courses	Document analysis of program offerings, sequencing, and requirements.	Credibility/Validity: Construct/content validity. Use themes from literature, employment sites, and similar programs to identify a priori codes.  Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Employ a consistent coding system supported by a reflexive memo process. Raters

					would have to agree on coding documents (interrater reliability).
The current learning knowledge and skills emphasized in the UVA IDT focus area	To be able to identify what IDT skills and knowledge are addressed in current courses.	Specific IDT knowledge and skills	IDT focus area courses	Document analysis of course syllabi.	Credibility/Validity: Construct/content validity. Use themes from literature, employment sites, and similar programs to identify a priori codes  Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Employ a consistent coding system supported by a reflexive memo process. Raters would have to agree on coding documents (interrater reliability).

EQ4: What are the strengths and weaknesses of the UVA IDT program in relation to KSAB identified by field?							
Understanding Aim	Rationale	Essential Information	Data Sources	Data Collection Strategies	Notes on Quality		
To understand the UVA IDT program's strengths, weaknesses, threats and opportunities	To identify the gaps for needed inputs into the IDT program.	The essential KSAB identified by the IDT field  The ways in which the current program addresses its programmatic objectives  The KSAB addressed in current IDT	Results from IDT field document analyses.  IDT experts' survey results and interview results  IDT program faculty interview results.  Results from IDT course document	Blended analysis: Data consolidation	Credibility and Dependability: Employ a systematic process to consolidate data sets which is supported by a reflexive memo process. Raters would have to agree on comparisons. (inter-rater reliability).		

### Appendix F

#### **Evaluation Plan**

Understanding Aim	Data Sources	Data Collection Strategies	Sampling Plan	Plan for Data Analysis	Notes on quality			
EQ1: What are the essential knowledge and skills identified by the IDT field (i.e. pertinent literature, similar educational programs, IDT professionals and educators)?								
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	Literature review	Conduct a literature review. Retrieve literature from several databases. Keep track of searches and key word combinations: "Instructional Design" "Educational Technology" "skills" "knowledge" "doctoral program" "graduate"	Retrieve literature from the last three years. Databases: 1) ERIC 2) Academic Search Complete, 3) Education Full Text; 4) Web of Knowledge/Web of Science	Qualitative document analysis. Code data and organize into themes.  Complementary Analysis with other data sources: Review of other programs, job postings, surveys, and interviews to determine common themes.	Credibility: Review recent peer- reviewed literature; use multiple sources. Triangulate data with other three sources.  Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).			
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	Similar Educational Programs	Review Ed.D./Ph.D. programs similar in design, size and scope.	Review course offerings, sequencing, and program requirements.	Qualitative document analysis. Code data and organize into themes.  Complementary Analysis with other data sources: Literature review, job postings, surveys, and interviews	Credibility: Examine multiple program sites. Triangulate data with other three sources.  Validity: Compare with programs that are similar to evaluand, size, scope, etc.  Progressive Subjectivity: Keep a reflexive memo to be aware of how			

Understanding Aim	Data Sources	Data Collection Strategies	Sampling Plan	Plan for Data Analysis	Notes on quality
				to determine common themes.	assumptions, hypotheses, and understandings change during study.  Dependability: Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	Recent Job postings	Review top employment websites identified by the Wall Street Journal and U.S. News and World Report: Indeed, LinkedIn, Glassdoor, Google for jobs, Zip Recruiter, Career Builder, Monster.	Review job postings for "educational technology coordinators," "directors of online instructional design," "Instructional Design faculty," "Educational Consultants" and "Organizational Improvement"	Qualitative document analysis. Code data and organize into themes.  Complementary Analysis with other data sources: Literature Review, review of other programs, job postings, surveys, and interviews to determine common themes.	Credibility: Examine multiple employment sites. Triangulate data with other three sources.  Validity: Use employment descriptions identified in UVA program description.  Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	IDT field experts	Online surveys informed by themes identified in literature review and combined document analyses.	Sequential explanatory design (phase 1) Convenience Sampling: Fellow members of AECT. Will recruit from 2,000+ members. Target to	Inferential statistics; quantitative analysis to assess the common knowledge and skill themes identified by IDT experts.	Validity: Construct/content validity. Use themes from literature, employment sites, and similar programs to create survey items. Reliability: Conduct pilot tests with participants who are similar to study participants.

Understanding Aim	Data Sources	Data Collection Strategies	Sampling Plan	Plan for Data Analysis	Notes on quality	
			recruit between 91- 333 participants.			
The skills and knowledge that Ed.D. IDT graduates need to be successful in the field.	IDT field experts	Interviews informed by themes identified in literature review and combined document analyses.	Sequential explanatory design (phase 2). Identify professional subgroups and purposively recruit members from each professional group identified by the survey.	Qualitative analysis. Code data and organize interview data into themes.	Credibility: Conduct follow-up interviews with IDT experts to gain further insights and clarification (multiple data sources). Share survey and interview data with participants for feedback about accuracy (member checks).  Progressive Subjectivity: Use semistructured interview protocol. Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.  Dependability: Employ a consistent coding system supported by a reflexive memo process. Raters would have to agree on coding interviews(inter-rater reliability).	
EQ2: How do the UVA IDT activities and outputs align with its programmatic objectives?						
The ways in which the UVA IDT program addresses its identified objectives	IDT program faculty	Semi-structured interviews	Intact group sampling	Qualitative analysis. Code data and organize interview data into themes.	Credibility: Conduct follow-up interviews with IDT program faculty for feedback about accuracy (member checks).  Progressive Subjectivity: Use semistructured interview protocol. Keep a	

Understanding Aim	Data Sources	Data Collection Strategies	Sampling Plan	Plan for Data Analysis	Notes on quality
EQ3: How do th	e knowledge, ski	lls, attitudes, and beh	aviors (KSAB) develope	ed by the IDT program alig	assumptions, hypotheses, and understandings change during study.  Dependability: Employ a consistent coding system supported by a reflexive memo process. Raters would have to agree on coding interviews(inter-rater reliability).  gn with the KSAB identified by the IDT
field?		,		, , ,	·
The current learning knowledge and skills emphasized in the UVA IDT focus area	IDT focus area courses	Document analyses	Intact group sampling	Qualitative document analysis. Code data and organize interview data into themes.	Credibility/Progressive Subjectivity: Keep a reflexive memo to be aware of how assumptions, hypotheses, and understandings change during study.
					Dependability: Keep track of major themes, codes and thought processes as these themes emerge by using reflexive memo strategies. Raters would have to agree on coding documents (inter-rater reliability).
EQ4: What are the strengths and weaknesses of the UVA IDT program in relation to KSAB identified by field?					
To understand the UVA IDT program's strengths, weaknesses, threats and opportunities	Results from IDT field document analyses.	Blended analysis: Data consolidation	n/a	SWOT Analysis:  • IDT program strengths: The ways the program is aligned with the	Credibility and Dependability: Employ a systematic process to consolidate data sets which is supported by a reflexive memo process. Raters would have to agree on comparisons. (inter-rater reliability).

Understanding Aim	Data Sources	Data Collection Strategies	Sampling Plan	Plan for Data Analysis	Notes on quality
	IDT experts' survey results and interview results  IDT program faculty interview results. Results from IDT course document analyses.			KSAB identified by the IDT field  IDT program weaknesses: The ways the program is not aligned with the KSAB identified by the IDT field  IDT program opportunities: The ways the program can bolster its alignment with the KSAB identified by the IDT field  IDT program threats: The barriers to IDT programmatic improvement	

### Appendix G

#### **Evaluation Utilization Matrix**

Output and/or Product	Intended Users	Intended Use	Category of Use
Scholarly, academic report	Ed.D. and CISE program administrators and IDT program faculty	To present the SWOT analysis of the IDT program and the findings of the evaluation.  To report on KSAB learning objective gaps in the IDT program.	Conceptual Use Instrumental Use
Narrated presentation	Ed.D. and CISE program administrators and IDT program faculty.	To present the SWOT analysis of the IDT program and the findings of the evaluation.  To report on KSAB learning objective gaps in the IDT program.	Conceptual Use
Scholarly, academic report	Ed.D. IDT students	To present the SWOT analysis of the IDT program and the findings of the evaluation.  To report on KSAB learning objective gaps in the IDT program.	Legitimate Use
Narrated presentation	Ed.D. IDT students	To present the SWOT analysis of the IDT program and the findings of the evaluation.  To report on KSAB learning objective gaps in the IDT program.	Legitimate Use