Flipping EDPT 502 Learning and Individual Differences

by

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Abstract

After careful review of the EDPT 502 Learning and Individual Differences course at the University of Southern California (USC) Rossier School of Education, the instructor determined that the course would benefit from revision (e.g., course structure, instructional methods, recorded lectures, quiz items). EDPT 502 represents a foundational course in the School's Educational Counseling (EC) program, which enrolls students who vary in age, ethnicity, and motivation levels. The ADDIE model was implemented as a general instructional design framework, including the five steps of analysis, design, development, implementation, and evaluation. The general delivery platform was blended, with learners accessing course content online prior to in-person class sessions in a physical environment. In addition to being physical and virtual, the course also utilizes asynchronous, formal, collaborative, individual, adaptive, non-adaptive, and closed learning environment typologies. The primary focus of this capstone was to "flip" course units, meaning that students would complete unit reading, watch a video lecture, and take a quiz before attending live sessions on the USC campus. For this purpose, recorded lecture content was developed using Microsoft PowerPoint and Screencast-O-Matic for Units Two and Twelve. Learners accessed recorded lectures via YouTube videos embedded in the Blackboard learning management system (LMS). The revised iteration of EDPT 502 was implemented and evaluated in Spring 2018. Note that, at the time this thesis was submitted, the EDPT 502 course had not concluded, with students having one week of class left to complete.

Overview of the Capstone

This capstone thesis represents the culminating experience in the University of Southern California (USC) Rossier School of Education's (RSOE) Master of Education in Learning Design and Technology (LDT) program. The capstone requires the application of learning science and instructional design principles towards the design and development of a learning module or course materials. This section will outline the instructional design process undertaken for this experience.

According to Smith and Ragan (2005) instructional design is "the systematic and reflective process of translating principles of learning and instruction into plans for instructional materials, activities, information resources, and evaluation" (p. 4). Essentially, instructional designers resolve learning needs by using their expertise in principles of instruction and learning to create instructional content, learning activities, and evaluation materials. Smith and Ragan (2005) assert that, at the most basic level, an instructional designer's job is to answer the following three questions:

1. What is the purpose of instruction?
2. What instructional strategies and mediums need to be used to fulfill that purpose?
3. What evidence is there to prove that the purpose has been fulfilled?

These basic questions were answered in the course of this capstone experience. For this capstone, the instructional design process was applied to the redesign of the Educational Psychology and Technology (EDPT) 502 Learning and Individual Differences course at the USC Rossier School of Education. After careful review of previous iterations, the instructor determined that the already successful course could be improved further through a redesign of its

structure, which required the development of new instructional content. This was accomplished through an instructional design process known as ADDIE, which stands for analyze, design, develop, implement, evaluate (Branch, 2009). Table 1 (pp. 8-9) will describe the purpose of each phase in the ADDIE model and how it was applied to the redesign of EDPT 502.

Table 1

ADDIE Model in the Redesign of EDPT 502

ADDIE Phase	Purpose	Application to EDPT 502
Analyze	The analysis phase is done to (a) determine if there is a need for learning, and (b) examine the learners, learning environment, and learning task to inform the creation of learning goals.	● Multiple instructors and program administrators were consulted to determine the need for a redesign. ● An overview of the learning environment and its typologies were conducted. ● A learner profile was created. ● The task was analyzed to revise course learning outcomes.
Design	Informed by careful analysis, the design phase essentially creates a blueprint for the course. Here instructional materials and learning activities are planned out to suit the needs of the learning task and learners.	● An assessment and evaluation plan was created for EDPT 502, including specific changes made in its redesign. ● The course syllabus was revised as were overall and unit-specific learning outcomes. ● An overall instructional methods approach was outlined. ● Specific learning activities for Units Two and Twelve were outlined, including storyboarding

		for video lessons to be made in the development phase. ● Specific media was chosen for course content delivery.
Develop	In the development phase, instructional material and assessments are created for implementation with learners.	● Created or revised assessment and evaluation materials and video lesson content for Units Two and Twelve. ● Developed a course prior knowledge pre-assessment and instructor interview protocol.
Implement	Here, developed course materials are implemented with the target learners. Learning management systems (LMS) are actively managed and formative assessments are applied to gauge learner progress and adjust lesson materials accordingly.	● The course's redesigned structure and newly developed content were delivered to students. ● The course instructor ensured that the LMS was updated and functional. ● The instructor conducted formative assessment to adjust pacing and content as necessary.
Evaluate	Though listed at the end of ADDIE, the evaluate phase actually takes place throughout the whole process. Here, data is analyzed to determine if learning outcomes are being met. The course and instructor's effectiveness are gauged to determine if changes need to be made.	● The instructor implemented formative and summative evaluation through a pre-assessment, unit quizzes, in-class observation, course assignments, and student surveys. ● Data was collected and analyzed to evaluate course changes and identify areas for further revision.

As outlined in Table 1 (pp. 8-9), the entire ADDIE process was undertaken for the redesign of EDPT 502. First, numerous forms of analysis were performed to help determine course learning outcomes and the need for revision. Analyses done for this capstone include a needs assessment, an overview of the learning environment, a learner profile, and a task analysis. This phase led to the revision of the course syllabus and learning outcomes. Next, considerable planning for the course redesign was informed by information gleaned from analysis. Here, an assessment and evaluation plan was created, overall instructional methods were determined along with specific learning activities for Units Two and Twelve, and appropriate media were selected to deliver outlined learning materials. In the development phase, course assessment and evaluation materials were created or revised and new learning activities developed for Units Two and Twelve. Specifically, unit quizzes and recorded video lectures were created to be hosted in the learning management system (LMS) for their respective units and live session activities were determined in collaboration with the instructor. The course's redesign and newly revised or developed content were implemented with students during the Spring 2018 semester. Throughout this time, the course's instructional design was evaluated to determine if it effectively guided students towards the stated learning outcomes.

Needs Assessment

One of the most important aspects of instructional design is the constant evaluation and revision of courses alongside their implementation. Upon careful review of the EDPT 502 Learning and Individual Differences course at USC RSOE, the current instructor determined that its general structure and specific learning tasks would benefit from revision. EDPT 502 represents a foundational course in USC RSOE's Master of Education in Educational Counseling

(EC) program, which aims to blend "a counseling-based theoretical foundation with practical applications in student affairs to prepare practitioners who promote and facilitate educational attainment" ("ME in Educational Counseling," 2018, para. 1). The EC program is designed for individuals seeking careers in "two- and four-year postsecondary institutions, with a focus on academic counseling and advising" ("ME in Educational Counseling", 2018, para. 1). EDPT 502, which largely takes place on USC's physical campus, is unique within the program in that it is the only one that focuses on introductory learning and motivation theory. Subsequently, this course better prepares learners to solve learning and motivation problems in their roles as academic advisors. Learners who do not complete this instruction will miss the theoretical foundation that is essential to informing their educational counseling scholarly work and practice.

This redesign of EDPT 502 aims to build on what is already quite a successful and well liked course, as evidenced by evaluations from previous student cohorts. In the final course evaluation from the Spring 2017 student cohort, 80% of respondents rated the overall course as excellent ("Individual Report for Instructor," 2017). Moreover, in the same cohort's midterm evaluation, all respondents strongly agreed with every measure related to course organization and overall effectiveness ("EDPT 502 Midterm Evaluation," 2017). Clearly, the previous student cohort received EDPT 502 well. However, these evaluations, with insight from the current instructor, also reveal some areas where the course can be improved.

Identifying the Need for Revision

In building upon the success of EDPT 502's previous iterations, it is vital to identify ways in which the course can be improved. Insights from course evaluations and the current instructor

have revealed a few areas in the course that would benefit from revision. Areas of improvement include the amount of live instructional time spent on low level, supplantive learning activities, the level of preparedness shown by students in the live sessions, and the format of the course's final project, which was revised to better suit learning outcomes and reduce cognitive load on students and the instructor.

According to the current instructor of EDPT 502, too much time is spent in class building the learners' prior knowledge around each respective unit's content. This necessitates that learners spend much of their time in class for direct instruction with less time for practice and feedback. According to Smith and Ragan (2005), practice is essential for the transfer of new conceptual and procedural knowledge. One respondent of the Master's Programs Office midterm evaluation even remarked that the course should "provide more interactive activities and allow for more collaborative learning" ("EDPT 502 Midterm Evaluation," anonymous survey respondent, 2017). Additionally, the current instructor found that learners may not have engaged enough with the material prior to class, as they appeared unprepared to participate in higher level or generative learning activities. This indicated that learners were applying inadequate mental effort to their course preparations. Given that mental effort is a behavioral indicator of motivation (Schunk, Meece, & Pintrich, 2014), this lack of engagement may represent a motivational problem within the course, which could hinder student learning.

It has been determined that this problem can be resolved by utilizing flipped classroom instruction (FCI). FCI is an emerging blended learning pedagogy that exposes learners to new content on their own time before class, often through digital presentations (Bhagat, Chang, & Chang, 2016; Missildine, Fountain, Summers, & Gosselin, 2013; Zainuddin & Halili, 2016).

This imparts learners with essential prior knowledge of the content before they attend class, allowing instructors to use time in class for active, meaningful learning (e.g., projects, games, partner or group-work). Such activities promote learner retrieval of knowledge, which Karpicke (2012) observes as enhancing recall and transfer of learning. Moreover, Mayer (2011) asserts that knowledge is constructed when it is assimilated with prior knowledge through active engagement. This revision will provide online learner-controlled and segmented direct instruction with embedded review checks to increase learner motivation, and more time on-ground for practice and immediate peer and instructor feedback. The additional class time will also allow for learners to collaborate, review one another's class projects, and receive feedback.

Discrepancy Model

The first step in redesigning EDPT 502 is conducting a needs assessment. Given that the purpose of this redesign is to address the gaps that exist between the course's learning goals and its outcomes, the discrepancy needs assessment model is an appropriate choice. Smith and Ragan (2005) describe the discrepancy model as a summative evaluation that assesses a course's outcomes against its goals to determine if any significant gaps exist. Essentially, the discrepancy model measures "what is" versus "what should be" (Ragan, 2005, p. 47). Using the discrepancy model to evaluate past iterations of EDPT 502 has helped reveal numerous gaps between its high level learning outcomes and the actual learning that has taken place, including

- time students spend engaged in high versus low level learning activities;
- student engagement with the material prior to attending live sessions; and

- student evaluations that indicate a need to do more contextual work around diversity, access, and inclusion that could enrich the course's content and better align its outcomes with RSOE's mission "to prepare leaders to achieve educational equity through practice, research and polity" ("About USC RSOE," 2018).

Effective instructional design involves continuous revision to meet learner needs. These discrepancies indicate that there is an opportunity to improve the learning in EDPT 502, building on the success of previous semesters. Redesigning the course so that it utilizes FCI will positively impact the learners' levels of engagement with EDPT 502's essential course materials, enabling them to better apply their knowledge to various contexts through the use of higher level, generative learning activities. This revision will be a great benefit to the course and all aspects of the EC program, including the candidates and their constituencies.

Overview of the Learning Environment

Organizational Mission and Goals

EDPT 502 is fundamental to USC RSOE's EC program as it relates to the organization's mission to prepare leaders who will promote educational equity through scholarly work and practice. RSOE's mission strives to "improve learning opportunities and outcomes in urban settings and to address disparities that affect historically marginalized groups" ("About USC RSOE," 2018). At the heart of this mission is the desire to help institutions of learning to support all students in their development. This mission shapes all learning at RSOE, including its EC program. All courses in the program intend to touch on the "salient issues and needs of a diverse student population" ("ME in Educational Counseling," 2018, para. 4). Specifically,

EDPT 502 provides candidates with a theoretical framework with which they can "critically examine learning and teaching in urban settings within the context of learning and cognitive development" ("EDPT 502 syllabus," 2018, p. 1). Of the course's seven learning outcomes, three relate either directly or indirectly to diversity, culture, and urban education.

Organizational Stakeholders

Organizational stakeholders include the EC program faculty, staff, students, and the students' social networks (e.g., students, organizations, colleagues). Additional stakeholders include all individuals associated with USC RSOE and its surrounding community.

Organizational Resources

USC RSOE provides many resources that make EDPT 502 possible, particularly as it relates to virtual and physical learning environments. For asynchronous, virtual portions of the course, Rossier has the Blackboard online LMS available. Prior to attending the weekly live session on the USC campus, learners will access the LMS to complete readings, view pre-recorded lectures and video content, submit quizzes and assignments, and receive feedback from the instructor. The LMS also enables learners to interact with one another and the instructor through forum and wall posts. The school also has available a physical classroom on the USC campus, which will be used for weekly live sessions. The classroom has individual student desks and chairs on wheels to promote movement and flexibility. Additionally, the classroom has dry erase boards, a projector screen for presentations, and USC wireless Internet access.

Discussion of Learning Environment Typologies

EDPT 502 incorporates a myriad of learning environment typologies. Table 2 (pp. 16-17) lists the typologies with summaries as to how they are utilized by the course. While all of these typologies are common among EC courses, the asynchronous portions are uniquely used in the redesign EDPT 502.

Table 2

EDPT 502 Learning Environment Typologies

Typology	Integration into EDPT 502
Formal	● Learning environments are controlled by the instructor ● Course outcomes are set by the instructor and institution ● The course includes: (a) hierarchical relationship between learners and the instructor, (b) instructor-designed learning activities, and (c) formative and summative assessments
Physical	● Live portions of the course will take place in a physical classroom space on the USC campus ● Live classroom sessions facilitate interaction between peers and the instructor ● Includes whole-group and small-group discussion of asynchronous content, and individual work ● Gives learners an opportunity to engage in higher level social learning activities with the course content
Virtual	● Asynchronous portions of the course are delivered online via Blackboard
Asynchronous	● The course utilizes FCI, which has learners prepare for sessions in the physical environment through readings, pre-recorded lectures, videos, and an online quiz ● Learners also work on and submit assignments between live sessions
Collaborative	● Small-group work promotes collaboration in higher level learning activities taking place during live class sessions ● Learners review and give feedback on one another's assignments ● Participation in whole and small-group activities is a graded component of the course

Individual	● Learners complete asynchronous portions of the course individually
Adaptive	● Asynchronous portions of the course are accessible anywhere with an internet connection ● Learners control how they prepare for live learning activities ● Learners control how they view recorded lecture content
Non-adaptive	● Learners must come to USC's campus to attend live portions of the course ● Student work is regulated by templates and rubrics ● Mandatory graded assignments ● Learning activities are controlled by the instructor
Closed	● Must be enrolled in the EC program and pay a fee to attend the course ● High-degree of interaction among the student-cohort ● Formative and summative assessments are used for grading

Human-Centered Design Elements

When evaluating learning environments, it is important to take note of how they support 21st century and human-centered learning. A 21st century learning environment can be described as any system that is set up to support human learning and needs along with individual learner differences and the social relationships required for effective learning (P21, 2009). Similarly, human-centered design guidelines ensure that learning environments support universal human needs and learning and motivation principles (Gee, 2006). The typologies summarized in Table 2 (pp. 16-17) work cohesively to ensure that the learning environments of the course adhere to these important design principles.

Given that EDPT 502's learning goals and instructional strategies are institution and instructor-controlled, the course represents a formal learning environment (Schweir, 2012). The goals and strategies were created to align with human-centered design guidelines. Course learning outcomes are designed with the intention of promoting higher level thinking and

transfer of learning. Course-long and weekly assignments are designed to provide learners with formative and summative structured feedback from both the instructor and fellow students. The use of FCI will enable learners to control the way in which they engage with the course's asynchronous content. Hrastinski (2008) posits that the flexibility of asynchronous learning environments allows learners to process more information. The use of FCI within EDPT 502's formal learning environment will enhance learning in the course by allowing learners to interact with content in a way that suits their individual needs. Clearly, the use of blended learning environments will be needed to implement this instructional strategy.

The use of both physical and virtual learning spaces will also enhance learning in this course. Using an online platform for asynchronous activities and a physical classroom for live sessions provides learners with the best aspects of each typology. Virtual environments give learners the flexibility to access course content where, when, and how they prefer. This flexibility represents an important aspect of human-centered design guidelines (Gee, 2006). However, virtual environments, especially those that are asynchronous, lack the face-to-face human social interaction that promotes learning. Fortunately, learners will be prepared to engage with course content at a high level in the physical environment classroom space. This environment will enable learners to form personal connections with their cohort and the instructor. This will support collaborative group activities that have been shown to increase individual learning (Mayer & Clark, 2011). The combined use of physical and asynchronous virtual environments makes EDPT 502 a truly blended learning environment.

These blended learning spaces also allow the course to use both collaborative and individual learning activities. Gee (2006) asserts that human-centered learning environments

have a balance between community and solitude. In EDPT 502, learners work individually in the asynchronous, virtual environment and collaboratively in the physical classroom. According to Mayer and Clark (2011), collaborative environments increase learners' ability to obtain both low and high level content knowledge (e.g., retention, critical thinking, creative problem solving). Learners in EDPT 502 will participate in weekly collaborative activities that are facilitated by the instructor during the live sessions. This active learning and application of prior knowledge obtained during the asynchronous, individual portion of the course will take part in both whole and small-group activities. During whole-group activities, learners will engage in discussions around course content, quiz questions, and assignments. Learners will also form small breakout groups of two to five individuals to take on specific prompts from the instructor, practical application activities, and peer feedback. This small-group work is enabled by the use of tables and chairs on wheels in the physical classroom. Given that participation is a graded part of EDPT 502, it is expected that learners will actively engage in all of its collaborative activities.

The course also utilizes adaptive and non-adaptive learning environment typologies. The online, asynchronous portion of the course allows some users some adaptability in where, when, and how they access content. Learners can access course content from any computer with an internet connection and can go about preparing for the live sessions in ways that best meet their individual needs. However, many aspects of the course are non-adaptive, including the location of the physical classroom space, the timing of classes and course assignments, and the structure of graded assignments and learning activities. Learners will not have control over weekly quiz

questions nor the general requirements of individual assignments and in-class activities. Generally, all learning activities will be predetermined and controlled by the instructor.

It should finally be noted that EDPT 502 represents a closed learning environment. This is due to the fact that those attending the course must have been accepted, enrolled, and paid into the EC program, the course's use of formative and summative assessments to promote accountability, and the degree to which the student cohort will interact with one another. These elements promote structure and interactivity, thus adding to the course's value. Learners who attend this course pay to attend because they value the course content and should be motivated to engage with it.

Constraints and Limitations

While EDPT 502's learning environment typologies primarily promote learning through 21st century, human-centered design guidelines, they also come with a few constraints and limitations. One of the primary constraints of the course is the size of the physical classroom space. Unfortunately, the classroom is overcrowded with desks and chairs, limiting learner movement despite the fact that the furniture is on wheels. This also represents an obstacle to access and inclusion for individuals with physical disabilities. Another course constraint is that learners must have internet connection with a reliable computer to access asynchronous content and assignments. This may hinder some learners' ability to fully participate in the course. Additionally, the use of Blackboard as the course's LMS is predetermined, giving learners, the instructor, and instructional designers no flexibility in the medium they use to access course content.

Learner Profile

Given that one of the primary goals of the EC program is to support the learning of diverse and underrepresented student populations, it is no surprise that the individuals who enter this program come from diverse backgrounds themselves. They are motivated to apply the knowledge they gain from this program to their particular contexts, with the hopes of benefiting numerous stakeholders, including students, families, and two- and four-year postsecondary institutions. Students from the Spring 2017 cohort indicated their intention to serve students from diverse backgrounds in urban settings on the course's midterm and final evaluations ("EDPT 502 Midterm Evaluation," 2017; "Final Report for Instructor," 2017). Included in this knowledge are essential theories and principles related to learning and motivation, covered through EDPT 502.

Demographic Characteristics

Given that the live portions of the EC program occur on the USC campus, all learners reside in Southern California while they attend the program. This is a diverse group of individuals, many of whom being first generation college students, largely reflecting the student populations that they seek to serve. Based on data from the Fall of 2017 student cohort, 31 of 44 enrolled students were first generation college students ("Class Profile," 2018). Additionally, 68% of the candidates were female. The vast majority of learners are below the age of 30, and no one is over the age of 50. Data on the cohort's race and ethnicity reveal that students identified as:

- 45.45% Hispanic,
- 20.45% Asian,

- 2.27% Unspecified mixed-race,
- 18.18% African American,
- 13.64% White, Non-Hispanic

This diverse group of young learners seeks to serve communities that largely reflect their own races and ethnicities. This is a motivating factor to attend and do well in the EC program. Many of the learners have experienced challenges within the urban education system, and want to help upcoming generations to overcome the obstacles that they once faced.

Developmental Considerations

Candidates are in early and middle adulthood. The vast majority of learners are considered young adults. This is a period marked by independence and self-discovery. Young adults, who are nearing their peak physical and cognitive development, may be motivated to engage in activities that help them form identities, professional careers, lasting social groups, and responsible self-reliance (Santrock, 2016). Thus, the learners should be motivated to engage in all aspects of the course, as course content represents a tangible benefit with regards to their goals. Some theorists assert that individuals in this developmental period are in an advanced formal operational stage of thinking, meaning that they can think in logical, abstract, nuanced, and idealistic ways that build on their accumulated knowledge and experience (Santrock, 2016). Other theorists suggest that those in early adulthood have entered a stage of postformal thought, which is characterized by realistic, pragmatic, and reflective thinking (Sinnot, 2003). These young adults have the capacity to think deeply and reflectively about EC program content and the motivation to transfer their new knowledge into professional and community practice.

One learner from the 2016 program was between the ages of 40-45, which is the developmental period of middle adulthood. At this stage, individuals find that some cognitive abilities continue to improve while others begin to decline (Santrock, 2016). Middle adults' crystallized intelligence, accumulated information and verbal skills, continues to improve through this period. However, their fluid intelligence, the ability to reason abstractly begins to slow. Additionally, middle adults experience regression in perceptual speed and working memory, meaning that more time is required to perform new tasks (Santrock, 2016). Fortunately, middle adults have much accumulated knowledge, experience, and expertise to rely on as they begin to experience cognitive decline.

Prior Knowledge

Learners' prior knowledge will play an essential role in the course. It is vital to assess learners' prior knowledge before the course to ensure that they can access its online instruction, assessments, assignments, and surveys. This requires that learners know how to turn on their computers, access the internet, and use their computer's audio and video recording capabilities. Being in the second semester of the program, all learners will have experience accessing and using the Blackboard LMS, and should have prior knowledge to meet all technical requirements.

Prior knowledge related to course content and the ability to complete learning tasks varies by learner. All learners will have taken foundational courses related to educational counseling in the previous semester and many have experience working in educational counseling environments or, more broadly, the educational field. However, for many learners, this will be the first exposure to learning and motivation theory and meaningful learning strategies.

Motivation

Value. Many of the individuals who enter the EC program come from diverse, often underrepresented, student populations and are eager to support students with similar backgrounds. They are motivated to apply the knowledge they gain from this program to their particular contexts, with the hopes of benefiting numerous stakeholders, including students, families, and two- and four-year postsecondary institutions. Included in this knowledge are essential theories and principles related to learning and motivation, covered through EDPT 502. This course provides learners with theoretical knowledge around learning and motivation that will be highly useful to them as they seek to improve learning outcomes for individual students and families.

Self-efficacy. Learners' self-efficacy, or belief in their ability to perform the requisite learning tasks, is a critical aspect of their profile, as it is a predictor of their level of engagement and invested mental effort in the task (Bandura, 1977). Learners who have especially low or high self-efficacy may resign from investing mental effort in a task for fear that they may fail or that it would be inconsequentially easy. Learners' self-efficacy varies from person-to-person but is likely to increase over the course of the semester. Being only their second semester in a graduate program, learners are still fairly new to graduate level scholarly work and writing, and may exhibit some nervousness around course content and assignments. Alternatively, learners have experienced one semester of graduate school and should be better prepared to take on the more advanced work. To support learners' self-efficacy, course content and assignments will be introduced early and scaffolded throughout the semester. Additionally, learners will receive formative feedback and support from the instructor and peers.

Cognitive Characteristics

All learners admitted into the EC program have graduated college and have the requisite graduate level reading skills and technical abilities to succeed in the course. Learners have demonstrated in previous courses the ability to work independently and collaboratively, participate in discussions, listen actively, and follow written and oral directions. Learners are also quite inquisitive and have demonstrated the ability to ask questions of the instructor.

Social Characteristics

Having gone through the previous semester of classes together, it is likely that there will be varying degrees of connections among individuals in the cohort. The level of connectedness that individuals feel to the cohort may impact their motivation to engage in course content and activities. Learners who feel socially close to one another may more effectively influence each other, either positively or negatively. Additionally, learners who have formed social relationship are more likely to discuss course content outside of class, thus enhancing learning.

Other notable social characteristics relate to the learners' backgrounds and moral development. As mentioned previously, learners come from diverse socioeconomic, racial, and ethnic backgrounds and are motivated to improve learning outcomes for students in urban education settings. Having similar backgrounds to the populations that they seek to serve motivate students to actively engage in the course content in an effort to transfer skills and knowledge to their practice. These learners are at a place where they want to make a meaningful difference in the lives of students and their communities.

In summary, considering the learners in the EC program, general instruction will be effective for this course. However, accommodations are made available to students through

USC's Disability Services and Programs (DSP). Learners who wish to receive accommodations should register with DSP prior to the start of the semester.

Task Analysis and Overall Learning Goal

Overall Learning Goal and Outcome

The overall goal for EDPT 502 is for students to have a foundational understanding of learning and motivation and how it can inform their practice as aspiring educational counselors. Additionally, learners should be able to assess and evaluate students to accurately diagnose learning and motivation problems while also applying evidence-based interventions to solve those problems. These skills culminate in a semester-long case study that requires learners to assess the nature of a learning and motivation problem, identify its potential causes, recommend potential solutions based on causal analysis, and provide a plan for evaluating the effectiveness of the chosen intervention. Specifically, learners will achieve the following learning outcomes by the course's conclusion:

1. Analyze various learning and motivation theories and principles in order to apply them in higher education contexts to support student growth and development;
2. Assess student learning and motivation in secondary and postsecondary educational contexts;
3. Plan research-based interventions to facilitate student learning and motivation as based on student data and knowledge of learning and motivation theories, concepts, processes, and principles;
4. Evaluate the effectiveness of these learning and motivation interventions for a variety of learners in diverse settings and from different cultural backgrounds;

5. Explain the role of academic advisor in supporting student learning and motivation in urban two- and four-year postsecondary institutions;
6. Analyze the relationship between social and cultural factors and student learning and motivation;
7. Apply knowledge of critical analysis for understanding research on learning and motivation.

The overall goal for this course is what Smith and Ragan (2005) call "domain-specific problem solving," which is an intellectual skill (p. 81). Intellectual skills require learners to both recall knowledge and apply it to novel circumstances. For domain-specific problem solving, learners must select from a number of possible rules (e.g., declarative and procedural knowledge) "and apply those rules in a unique sequence and combination to solve a previously unencountered problem" (Smith & Ragan, 2005, p. 81). In the case of EDPT 502, learners will have to recall declarative knowledge related to student learning and motivation, analyze students and educational contexts in relation to that knowledge, apply procedural knowledge related to learning and motivation interventions to solve problems that they encounter, and evaluate the applied interventions to determine their effectiveness at resolving such problems. Learners will demonstrate these skills through the semester-long case study.

Cognitive Task Analysis (CTA)

Two subject matter experts (SMEs) were consulted over the course of several months to identify the need for course revision, specific-content areas that could be improved, and key course outcomes and deliverables (e.g., case study). Additionally, significant document analysis of the course's syllabus and EC program scope and sequence materials was conducted to gain

insight into EDPT 502 and its role in the EC program. Therefore, it was unnecessary to conduct formal CTA interviews. The primary SME is an Adjunct Assistant Professor at USC RSOE, and the current instructor of EDPT 502, having taught the course to two previous cohorts. This SME is a Doctor of Educational Psychology with emphasis in learning and motivation. The other SME is a Professor of Clinical Education and Assistant Dean for Strategic Initiatives and Evaluation at RSOE, in addition to formerly being the Chair of Master's Programs at RSOE. This SME provided documents related to the EC program's scope and sequence and engaged in correspondence to verify the course's overall goal and course outcomes.

The overall goal of the course was refined after individual consultations with the primary SME. Additionally, course learning outcomes were revised to provide a clearer picture of the contexts in which learners would be applying their knowledge. These changes were affirmed by the current Chair of Master's Programs through email correspondence. Lastly, individual units of instruction were analyzed with the primary SME to develop flipped video lessons and presentations that sufficiently covered essential content. Interaction with SMEs helped to identify the course's major steps and affirm that learners would be acquiring the knowledge and skills necessary to complete the case study.

Major Tasks

Students enrolled in EDPT 502 will be expected to accomplish the major tasks listed below. These major tasks ensure that learners understand learning and motivation theories and can apply that understanding to their practice. Each major task represents a skill that must be learned in order to complete the case study assignment.

1. Identify examples and nonexamples of learning, motivation, and commonly held myths

regarding both.

2. Understand learning and motivation principles related to learning and memory, metacognition and self-regulation, motivation and self-efficacy, and values, goal setting, and goal orientation.
3. Analyze the learner and learning environment for learning and motivation problems.
4. Apply causal analysis to determine the root causes of learning and motivation problems encountered in practice.
5. Create interventions for diverse learners with individual differences in postsecondary education settings using knowledge of learning and motivation principles and counseling strategies.
6. Apply instructional design strategies to develop learning outcomes aligned with intervention strategies and assessments.
7. Assess student learning and motivation through formative and summative methods.
8. Evaluate the effectiveness of learning and motivation intervention initiatives.
9. Demonstrate proficiency in academic writing and critical research review skills.
10. Demonstrate effective oral presentation skills.

Description of Units

The major tasks outlined above will be taught to learners across 15 units in the EDPT 502 course. Having a firm grasp of these major skills will be essential to learners as they progress through their case study assignment and, more importantly, in their careers as aspiring educational counselors. First, learners will develop a foundational understanding of learning and motivation, instructional design, and educational counseling strategies. They will also practice

analyzing learners and learning environments through a field interview paper. In the second half of the course, learners will apply their foundational knowledge and skills towards the creation of the case study assignment. Table 3 (pp. 30-33) will outline the succession of weekly units in EDPT 502 along with their corresponding major tasks, lesson goals, and type of learning outcomes.

Table 3

EDPT 502 Weekly Units

Weekly Unit Topic	Major Task	Learning Goal	Learning Outcome Type
Unit One: Learning, Motivation, and Common Myths	Identify examples and nonexamples of learning, motivation, and commonly held myths regarding both.	Explain the relationship between learning and motivation.	Declarative
Unit Two: Understanding Learning and Memory	Understand learning and motivation principles related to learning and memory, metacognition and self-regulation, motivation and self-efficacy, and values, goal setting, and goal orientation.	Explain how information processing theory and social cognitive theory support student learning and achievement.	Declarative
Unit Three: Metacognition and Self-Regulation	Understand learning and motivation principles related to learning and memory, metacognition and self-regulation, motivation and self-efficacy, and values, goal setting, and goal orientation.	Articulate ways in which metacognition and self-regulation influence learning. Articulate strategies for promoting students' metacognitive awareness and	Declarative, Intellectual: Procedural

		self-regulatory behavior.	
Unit Four: Understanding Motivation	Understand learning and motivation principles related to learning and memory, metacognition and self-regulation, motivation and self-efficacy, and values, goal setting, and goal orientation.	Explain how learning and motivation theories support student learning and achievement. Articulate strategies for developing students' motivation.	Declarative, Intellectual: Procedural
Unit Five: Values, Goal Setting Goal Orientation	Understand learning and motivation principles related to learning and memory, metacognition and self-regulation, motivation and self-efficacy, and values, goal setting, and goal orientation.	Demonstrate effective strategies for goal setting. Articulate strategies for promoting a growth mindset. Articulate effective strategies for promoting students' mastery orientation.	Declarative, Intellectual: Procedural
Unit Six: Social and Emotional Influences on Learning and Motivation	Analyze the learner and learning environment for learning and motivation problems.	Explain the relationship between identity and motivation, including how stereotype threat affects achievement. Explain how emotions influence learning and motivation.	Declarative, Intellectual: Problem Solving
Unit Seven: Time Management and Regulation of Physical and Social Environments	Analyze the learner and learning environment for learning and motivation problems.	Articulate strategies for helping students to manage their time and physical and social environments.	Declarative, Intellectual: Problem Solving

Unit Eight: Learning From Textbooks and Lectures	Analyze the learner and learning environment for learning and motivation problems.	Articulate effective note taking and reading strategies for postsecondary students.	Declarative, Intellectual: Procedural, Problem Solving
Unit Nine: Preparing for and Taking Exams	Analyze the learner and learning environment for learning and motivation problems.	Articulate effective test-taking strategies for postsecondary students.	Declarative, Intellectual: Procedural, Problem Solving
Unit Ten: Designing Interventions	Apply instructional design strategies to develop learning outcomes aligned with intervention strategies and assessments.	Demonstrate how to develop effective learning objectives. Explain how to help students avoid cognitive overload.	Declarative, Intellectual: Procedural, Problem Solving
Unit Eleven: Supporting Students with Disabilities	Create interventions for diverse learners with individual differences in postsecondary education settings using knowledge of learning and motivation principles and counseling strategies.	Articulate ways that educational counselors can support students with disabilities. Identify examples of appropriate accommodations.	Declarative, Intellectual: Procedural, Problem Solving
Unit Twelve: Media and Technology on Learning and Motivation	Apply instructional design strategies to develop learning outcomes aligned with intervention strategies and assessments.	Demonstrate how instructional technology can be used to support learning.	Intellectual: Procedural, Problem Solving
Unit Thirteen: Assessing Learning	Evaluate the effectiveness of	Demonstrate how to measure and assess	Intellectual: Procedural, Problem

and Motivation	learning and motivation intervention initiatives.	learning and motivation.	Solving
Unit Fourteen: Course Conclusions	Understand learning and motivation principles related to learning and memory, metacognition and self-regulation, motivation and self-efficacy, and values, goal setting, and goal orientation.	Discuss how knowledge from the course will impact their practice as educational counselors.	Declarative
Unit Fifteen: Case Study Presentations	Demonstrate proficiency in academic writing and critical research review skills. Demonstrate effective oral presentation skills.	Create a coherent case study that fulfills all assignment requirements. Create an effective case study presentation.	Intellectual: Procedural, Problem Solving

Assessment and Evaluation Plan

This section will provide an overview of the assessment and evaluation plan for EDPT 502, including revisions implemented in the course redesign. The assessment and evaluation plan spans the course's entirety, from pre-assessments for knowledge and motivation to formative and summative assessments during, after, and beyond instruction. According to Smith and Ragan (2005), assessment and evaluation plans play a critically important role in instructional design in that they both "assess individual students' performances and provide information about what kinds of revisions are needed in the instructional materials" (p. 104).

This assessment and evaluation plan will help in ensuring that students meet EDPT 502's learning goals and highlighting areas where the course can be improved further.

To provide a robust picture of student learning and course outcomes, pre-assessment, formative assessment, and summative evaluation were administered at different stages of the course. A pre-assessment was first administered prior to instruction to determine learners' prior knowledge and motivation, and to provide baselines from which to measure progress in those areas. Formative assessments are also conducted throughout the course to measure student learning in specific course content areas and inform the instructor about the success of instruction in meeting learning outcomes. This enabled the instructor to adjust instruction as necessary within units to meet student learning needs. Lastly, summative evaluations were conducted at the end of instruction and beyond instruction as learners transfer knowledge in future EC courses and field experiences. Evaluation of the course at the end of and beyond instruction took place according to the Kirkpatrick (2006) model. This model outlines four levels of evaluation that should take place in sequential order: a) Level 1 (Reaction), (b) Level 2 (Knowledge), (c) Level 3 (Transfer), (d) Level 4 (Impact). These evaluations help to determine the course's success in achieving the desired learning outcomes and providing critical data for decisions about future course revisions, especially when compared to baseline scores acquired from pre-assessments.

Overview of Approach to Assessment and Evaluation

The assessment and evaluation plan for EDPT 502 (see Appendix A) presents the different types of assessment and evaluation conducted for the redesign of EDPT 502, which were used to assess learner prior knowledge and student performance in addition to obtaining

course feedback. Prior to beginning the course, students were administered an online pre-assessment to measure their prior knowledge and motivation via Blackboard. The survey consisted of multiple-choice knowledge items and Likert-scale motivation items (see Appendix B). Multiple-choice knowledge items were based on learning outcomes from the overall course and individual units while Likert-type motivation scales were derived from Pintrich, Smith, Garcia, and McKeachie (1991) and Midgley et al. (2000). Scores from the knowledge and motivation pre-assessment were analyzed to determine learners' prior knowledge, value, self-efficacy, and goal orientation. This information was then used throughout the course to adjust lesson content and instructional strategies to match learners' prior knowledge and motivation. This ensured that time was used efficiently in asynchronous and live class activities.

Multiple types of formative assessment were used while instruction took place. First, close-ended, multiple-choice quizzes were conducted within each unit for a total of 12. These graded, online quizzes were administered asynchronously. Note that the quiz for Unit 1 was graded as credit/no credit, as it was used for the prior knowledge and motivation surveys. Students had to complete each unit's quiz after progressing through its activities (e.g., weekly readings, videos and/or pre-recorded lectures) but prior to attending the live session. These quizzes ensured student accountability for completing the course activities, indicated student progress in content mastery, and helped the instructor to identify subject areas that required further attention during live sessions. Formative assessment also included document analysis of student work. Assignments such as written work and presentations represented evidence of student learning and achievement of the course outcomes. The semester-long case study project in particular allows the instructor to provide suggestions, fill gaps in understanding, and offer

positive reinforcement through written feedback. The final type of formative assessment used in the course examines behavioral data based on instructor observation. This required the instructor to observe students for evidence of participation and engagement. Here, the instructor observed student reactions during live sessions in the physical environment, such as verbal and nonverbal cues and on-task behavior during breakout sessions. The instructor will also observe the persistence and effort that students apply to their assignments, especially as it pertains to revising their work based on instructor and peer feedback.

As mentioned previously, this assessment and evaluation plan utilizes Kirkpatrick's (2006) four levels of evaluation model. Level 1 accounts for learners' initial feelings about the instruction. This essentially consists of what Kirkpatrick (2006) calls "happiness ratings," which are important because "when the reactions are positive, the chances of learning are improved" (p. 6). In EDPT 502, Level 1 is determined through mid-semester and final course evaluations and the posttest motivation survey items. Level 2 goes beyond learners' reactions to the course to determine what knowledge they have actually gained from it. In the case of EDPT 502, Level 2 was measured through student performance on the pretest knowledge survey, weekly unit quizzes, live session participation, and document analysis of student assignments. While Level 2 evaluates what students know immediately following the course's conclusion, it does not measure what students do with that knowledge.

Beyond instruction, Level 3 evaluates if learners were able to transfer their knowledge towards application in different contexts or over the course of time. For the purposes of EDPT 502, this will have to take place through document analysis of other EC program coursework, particularly their masters seminar or thesis courses. These culminating EC program experiences

will require that learners apply knowledge gained from EDPT 502. Finally, Level 4 measures the impact of EDPT 502 far beyond its conclusion. It aims to evaluate the greater effect that EDPT 502 has had on its organization and surrounding community. This requires organizational data that can often be difficult to obtain. For EDPT 502, Level 4 will be measured through the students' final course grades, graduation rates from the EC program, and job placement data. An alumni survey may also be distributed to determine the extent to which course concepts are being utilized in the learners' future practice. This could help determine how much of an impact the course has had on its students' professional practice and, thusly, the surrounding community.

Assessment and Evaluation Protocols

The protocols included in this section are representative of the different type of assessment and evaluation used in EDPT 502. These protocols were used to determine if EDPT 502's overall learning goal was met, gain insight into the instructor's and students' perceptions of the course, glean whether learners transferred learning to novel contexts, and evaluate the course's greater organizational and community impacts. Here, examples of surveys, interviews, observation, and document and data analysis protocols will be described in detail.

Survey protocols. Survey protocols measuring student learning and motivation and the overall course impact were administered at numerous points during instruction. This section will describe these protocols in greater detail as they relate to Kirkpatrick's Four Levels of Evaluation (2006).

Level 1. Learners' reactions to the course will be measured through multiple surveys. First, learners will be administered online pre-post surveys that include three motivation items measuring value, self-efficacy, and goal-orientation. Delivering these items through pre-post

surveys provides insight into learner characteristics prior to instruction and captures their reaction to the course at its conclusion. For instance, if learners' posttest scores in value, self-efficacy, or goal orientation fall below those from their pretests, then it can be inferred that they have had a negative reaction to the course. The three 1-3 Likert scale items (e.g., agree (1), neutral (2), disagree (3)) were derived from Pintrich, Smith, Garcia, and McKeachie (1991) and Midgley et al. (2000). The three pre- and posttest motivation items are included below:

1. Understanding the subject matter of this course is very important to me.
2. I'm certain I can master the skills being taught in this class.
3. It's important to me that I improve my skills this year.

Learner reactions to the course were also recorded through a mid-semester evaluation, which students accessed online through a link that was emailed in the semester's sixth week. The survey included seven open-ended items and three Likert scale items that elicited feedback about the course and instructor. These were also 1-5 Likert scale items (e.g., strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5)). The mid-semester course evaluation items are included here:

1. Course Number/Name
2. Instructor
3. Degree Program
4. What are the main strengths of this course to date?
5. What are possible areas of improvement at this point in the semester?
6. At this point in the course, how would you describe your instructor's teaching effectiveness?

7. What recommendations do you have for improving your experience in the course?
8. Please rank the following:
    a. The course is organized in a way that helps me learn.
    b. The course provides an opportunity to practice the skills required in the course.
    c. The course content has been valuable for my professional goals.
9. Optional: Please let us know if you have any additional thoughts about the course.

Lastly, learner reactions were measured through final course evaluations, which the university emailed to students at the end of the semester. This survey included three Likert scale items on a 1-5 scale using Poor (1), Below Average (2), Average (3), Above Average (4), and Excellent (5) and three open-ended items. Here are the items included in the final course evaluation:

1. How would you rate the instructor's effectiveness on the following items?
    a. Clearly articulated course goals.
    b. Organized course to achieve those goals.
    c. Carefully explained difficult concepts, methods, and subject matter.
    d. Encouraged students to participate in the learning (e.g., through discussion, projects, study groups and other appropriate activities).
    e. Was accessible to students (e.g., during office hours, before and after class, etc.).
    f. Evaluated student work in fair and appropriate ways.
    g. Was enthusiastic about communicating the subject matter.
    h. Stimulated student interest in the subject matter.
    i. Presented subject matter in ways that were academically challenging.

j. Provided students a valuable learning experience.

2. Overall, how would you rate this instructor?
3. Overall, how would you rate this course?
4. What were the instructor's main strengths?
5. How might the instructor improve his or her teaching effectiveness?
6. Additional comments?

Level 2. Survey protocols evaluating Level 2 (Knowledge) consisted of a pretest and 11 unit quizzes. The pretest was administered as a credit/no-credit quiz taken online prior to the Unit 1 live session. Taking a pretest prior to instruction provided the instructor with valuable insight into the learners' prior knowledge so that instruction may be designed to fit their needs. In addition, the pretest created a baseline of knowledge that was compared against quiz and midterm scores to determine if students learned from the course. The pretest included seven multiple-choice items (in addition to the three motivation items presented in Level 1) consisting of a stem and three or four alternatives. Of the alternatives, one was the best response. This multiple-choice item structure is consistent with the recommendations of Salkind (2017).

The pretest was completed no later than 24 hours before the Unit 1 live session. Learners had only one attempt to complete the untimed quiz. A complete list of all pretest items can be found in Appendix B. A sample of the pretest items is included below:

1. Motivation can be measured by assessing the learner's:
    a. Affect, verbal expression, time on task.
    b. Choice, persistence, mental effort.
    c. Rationale for engagement, time on task, affect.

2. Why is metacognition an important function of learning?
    a. Metacognition as knowledge about and control of one's own thinking during learning enhances learning outcomes.

b. Metacognition promotes an increased ability to store information in the sensory registry.
c. Metacognition is not an important function of learning since only experts can engage in this process.

3. If not rehearsed, information stays in the working memory for:
   a. 0.5-3 seconds.
   b. 5-10 seconds.
   c. 5-20 seconds.
   d. indefinitely.

In addition to the pretest, learners took 10-item unit quizzes prior to most live sessions, totalling 11 graded quizzes by the end of the semester. The unit quizzes served as both formative assessment and Level 2 evaluation. Weekly quizzes held learners accountable for asynchronous content such as recorded lectures and assigned readings. They were a vital tool for demonstrating learner acquisition and retention of knowledge. All unit quizzes had 10 items consisting of multiple-choice or true-false items. The multiple-choice items presented a stem and three to four alternatives, with one alternative being the best choice. All quizzes were accessed online with a 30 minute time-limit for completion. Learners were permitted two attempts at each quiz, which must have been completed by midnight the day before class. The Unit Two and Twelve quizzes, which were revised or created for the purposes of this capstone project, are included in Appendices C and D for reference.

Level 4. Though it extends beyond the focus of this capstone, Level 4 Impact could be evaluated through an EC program alumni survey. This could be sent electronically to EC program graduates to provide valuable data for enhancing the program. Pertinent questions related to EDPT 502 could include:

- What was the most useful aspect of EDPT 502 as it relates to your professional practice?

- How are you applying the skills and knowledge obtained in EDPT 502 to your professional practice?
- What area(s) of EDPT 502 can be improved? Please be specific in your recommendation(s).

Interview protocols. An interview was conducted with the course instructor near the course's conclusion to glean general patterns of student achievement and motivation. This was an important step in the capstone project, as it provided insight into students' course progress while protecting their privacy, as no identifying information was provided or discussed. The interview's open-ended questions were provided to the instructor prior to the interview, which took place via video chat. The interview protocol included the following items, which evaluated both Level 1 Reaction and Level 2 Knowledge:

1. How did students perform on the pretest?
    a. How did their performance influence your instruction?
2. How did students' posttest scores compare to the pretest scores?
3. How would you describe students' performance on the unit quizzes?
    a. What feedback did students have to offer about the unit quizzes?
    b. Was there any indication that quiz items were not clearly worded (i.e., did students understand what the quiz items were asking?)?
4. From your perspective, how did the students' mental effort and preparation compare to previous cohorts?
5. From your perspective, how did students react to the flipped classroom format?

6. How would you describe the quality of student assignments, including the creation of the case study?
7. What lessons did students find particularly challenging? How do you know?
    a. How can lessons be improved to better support student learning?
8. Generally speaking, where do you think students need more support?
9. Describe student levels of self-efficacy as it relates to the course.
10. How would you describe and evaluate students' overall patterns of achievement thus far in the course?

Observation protocols. The instructor observed students' in-class participation throughout the semester to evaluate their Level 2 performance. A participation rubric facilitated these observations, as described in greater detail below.

Level 2. The instructor evaluated Level 2 formatively during each live class session to determine if learners were grasping the units' essential content. This evaluation was conducted through observation of learner participation, which took place in both large and small group activities during live class sessions. Students were often asked to elaborate on key concepts from a unit's asynchronous content, work in teams to apply knowledge to context scenarios, review peer work, and generally demonstrate high level understanding of essential content. Additionally, student participation served as a graded component in the course, constituting 5% of the final course grade. Table 4 (p. 44) presents the grading rubric that was used by the instructor to assess student participation ("EDPT 502 Syllabus," 2018).

Table 4

EDPT 502 Student Participation Rubric

Active Participation	Moderate Participation	Low Participation
Exhibits evidence of having completed all assignments and activities according to guidelines that were assigned	Attempts to participate and has completed most assignments and activities	Exhibits lack of preparation and non-completion of required assignments
Initiates discussion and supports points using page-specific references to readings or other materials	Supports points during discussion but uses general references to readings and other materials	Rarely initiates discussion and is not able to reference required readings or other materials
Furthers the discussion and builds on the ideas of others; comments and questions reflect having thought deeply about the material	Furthers the discussion and builds on the ideas of others; general or limited references to course materials	Comments do not further the discussion and do not exhibit careful reflection on the material

Document analysis protocols. The instructor used document analysis or course assignments to measure Level 2. Document analysis could also be used beyond the course to evaluate Level 3 (e.g., Master's thesis) and Level 4 (e.g., overall course grades, EC program graduation rate). Each of these levels, as they relate to document analysis, are discussed in greater detail below.

Level 2. The instructor utilized document analysis of numerous class assignments to evaluate student learning. The assignments in the course served as formative assessment in that they helped the instructor determine where learners stood with course content. The assignments, being graded components of the course, also served as summative evaluation of Level 2. The major assignments analyzed in the course were a field interview paper, an online multiple-choice midterm exam, and a case study. These assignments gave learners an opportunity to demonstrate

their higher level understanding of course content. Thusly, document analysis of these assignments proved to be valuable in determining learner proficiency in the course's essential content across all levels of Bloom's revised taxonomy (see Anderson & Krathwohl, 2001).

Level 3. If the instructor or other RSOE faculty were interested, Level 3 could be evaluated through document analysis of the learners' master's thesis projects. Creating a successful master's thesis in the EC program involves applying numerous concepts and skills learned in EDPT 502. Therefore, examination of the learners' master's thesis projects would determine whether knowledge and skills taught in EDPT 502 have been transferred to novel contexts across time.

Level 4. The instructor or other interested faculty at RSOE could also evaluate Level 4 through document analysis of numerous data points, including:

- the final EDPT 502 course grades, and
- the ED program graduation rate.

Course grades serve as useful data for document analysis as they offer easy insight into student performance and the overall success of the course and the instructor. For example, if all students receive a high grade in the class, it could be indicative of the course lacking challenge or the instructor being too lenient as a grader. Such insight could point to areas where the course might be improved for future iterations.

The EC program graduation rate is also an important and valuable means of Level 4 evaluation. It is vital for all stakeholders to know that the EC program is successful in achieving its goals for students and that EDPT 502 plays a role in that accomplishment. After all, poor performance in EDPT 502 could result in program deferment or dropout, as students must

maintain at least a 3.0 grade point average to remain in the program. Having multiple students perform poorly in EDPT 502 or other EC program course would reflect poorly upon RSOE, negatively impacting the School's standing. Ultimately, this could impact (a) the competitiveness of the EC program applicant pool, (b) the quality and experience of EC program instructors, or even (c) the termination of the EC program at RSOE.

General Instructional Methods Approach

The overall purpose of EDPT 502 is for students to apply their knowledge of learning and motivation towards intervention strategies in postsecondary educational counseling contexts. This will be accomplished through weekly units, with Units Two and Twelve being delivered via FCI (see Appendices E and F for samples of developed material). The general approach to these units will be a combination of supplantive and generative strategies. However, given important learner considerations, the course will generally take a more supplantive approach. Participants will be directed to complete unit readings, consume a video lesson, and take a quiz prior to attending a weekly live-session with the instructor. Each unit represents important foundational information for understanding learning and motivation theories and how they apply to postsecondary educational counseling contexts. By the end of the course, learners will have identified a learning and motivation problem and develop a case study centered around addressing that problem. This section will provide an overview of EDPT 502's general approach to instruction based on cognitive load theory (CLT) and important learner characteristics, such as attitudes towards the subject matter, self-efficacy, and prior knowledge.

The learners who participate in EDPT 502 have important characteristics and prior knowledge that influence the course's general approach to instruction. Given that the core

content being taught in the course represents new knowledge to most learners, and that the knowledge requires significant mental effort to comprehend, some units may cause trepidation and anxiety among learners. To remedy this, the course implemented many strategies for managing learners' cognitive load.

Being that the content is novel, complicated, and delivered via a blended learning format, learner's working memory may be constrained if strategies to manage cognitive load are not implemented (Smith & Ragan, 2005). One benefit of FCI is that it effectively manages the intrinsic load of a learning task, while promoting germane load in the classroom. Intrinsic load, or the load that is inherent to learning any particular task, will be most effectively managed through the use of pre-training, segmenting, and signaling strategies. When learners view the asynchronous, pre-live session video lessons, they are pre-training themselves to apply that knowledge during the live session. The video lessons will also manage this load by segmenting the tasks into bite-sized chunks that learners can consume at their own pace. These segments will also clearly label each segment to provide cues as to how learners can effectively process the material. Extraneous load, or stimuli that distracts and is unnecessary for the completion of the task, will be reduced by weeding out unnecessary content and eliminating the redundancy of identical written and spoken words. Lastly, germane load, or the load that represents a learner's mental effort in completing the task, is also fostered by the use of FCI. FCI has students experience rote learning on their own time in order to engage in higher level thinking activities in the classroom. Moving much of the intrinsic load to the pre-live session lesson promotes germane load inducing activities during the live session. These strategies will greatly enhance the course outcomes.

Overall, EDPT 502 used a combination of supplantive and generative strategies. This instructional approach both supported learners as they encountered novel, complex knowledge and skills and motivated them to generate their own meaning from the content through application and practice activities. The course's asynchronous, pre-live session video lessons represent the supplantive portions of the units. Learners independently consumed the video lessons, being supplied the knowledge that they needed to succeed in the unit. This is appropriate because the learning represented new, complex knowledge that may have caused anxiety among some learners. This approach conserved learners' cognitive capacity as they acquired new knowledge and skills essential to the overall learning task (Smith & Ragan, 2005). Alternatively, the live sessions used a mostly generative instructional approach. Given that learners arrived to the live sessions with requisite prior knowledge from the pre-live session video lesson, they were primed to apply that knowledge and needed the motivation to do so. The live sessions asked learners to generate meaning from their knowledge by having them organize, elaborate, and transfer that knowledge in a practical context.

Description of Specific Learning Activities

Clark's (2006) Guided Experiential Learning (GEL) design system was used to outline the key instructional events for Units Two and Twelve. GEL is an evidence-based design framework that sequences learning activities into key components. Each component in the GEL outline can be framed to enable either supplantive or generative instructional strategies. Key components in the GEL framework used here include (a) unit objectives; (b) reasons for learning; (c) overview of content; (d) learning guidance including both lecture and demonstration; (e) time for practice and feedback on performance; (f) authentic assessment that

provides evidence of learning; (g) opportunities to enhance retention and transfer of learning; (h) overview of "big ideas" from the unit; and (i) a preview of the next week's unit.

Unit Two: Understanding Learning and Memory

Learning objectives. The learning objectives detailed below cover the knowledge and skills that students should have gained at the conclusion of Unit Two. By the completion of Unit Two, learners will be able to:

- Describe how the information processing system (IPS) operates.
- Articulate how social cognitive theory (SCT) explains learning and behavior.
- Differentiate between rote and meaningful learning strategies.
- Demonstrate confidence in their ability to apply knowledge related to learning and motivation to postsecondary educational counseling contexts.

Learning activities. Table 5 (pp. 49-52) outlines the key learning activities as well as an explanation of the instructor's and learners' respective action and decision steps in relation to the learning activity.

Table 5

Learning Activities for EDPT 502 Unit Two

Instructional Sequence	Description of the Learning Activity	Instructor Action/Decision (Supplantive)	Learner Action/ Decision (Generative)
Gain Attention	Learner attention will be drawn to the topics of learning and memory through welcome slides in both the asynchronous and live session presentations.	● The pre-recorded lecture will present a slide with Unit Two's title and welcome narration from the instructional designer. ● The live-session presentation will present a similar welcome slide with live narration from the instructor.	● Learners will press play to begin the pre-recorded lecture. ● During the live-session, learners will indicate whether or not they are prepared to discuss the unit's readings through raised hands.

Learning Objectives	Learning objectives will be presented to learners in both the asynchronous and live session presentations. Each respective session will present the objectives as a presentation slide.	● The pre-recorded lecture narration will announce that the unit's learning objectives are listed on-screen, prompting them to pause the video and read each objective. ● During the live session, post the learning objectives in a presentation slide, give learners an opportunity to review, and answer any questions that learners may have.	● Learners will pause the pre-recorded lecture to read through each learning objective. They may jot down notes or questions for the instructor. ● Learners may pose questions about the learning objectives to the instructor during the live session.
Reasons for Learning - Benefits - Risks	Benefits: learners will understand key learning and motivation theories such as IPS and SCT and how they apply to postsecondary educational counseling contexts. Risks Avoided: misunderstanding key information about learning and motivation (e.g., how new information is acquired) and being ill-prepared to support student learning at the postsecondary level.	● The pre-recorded lecture will give a verbal explanation of the unit's reasons for learning. ● The instructor will emphasize key points during the live-session to build learner value for the task.	● Listen to the reasons for learning in the the pre-recorded lecture. Make note of how the unit benefit them (e.g., how it relates to the current work or aspirations). ● Make note of clarifying questions the instructor during the live session.
Overview **-Prior Knowledge** (what you already know) **-New Knowledge (**what you are going to learn) **-Learning Strategies (**how you are going to learn it)	During the asynchronous, online pre-recorded lecture, learners will receive an overview of the content covered in Unit Two. This information will be presented through a lecture slide with narration from the instructional designer. During the live session, the instructor will review prior knowledge obtained from the unit's asynchronous activities and present the learning activities that will take place in class that day.	● The pre-recorded lecture will present a brief overview of new knowledge presented in the unit. ● During the live session, briefly review prior knowledge obtained through the unit's asynchronous content. Answer any questions the learners have about the unit's essential content. ● The instructor will also give a preview of the learning activities that will take place later in the live session.	● Learners will view the unit overview in the pre-recorded lecture, pausing and taking notes as necessary. ● During the live session, learners will listen and and ask clarifying questions.
Prerequisite Knowledge	The asynchronous, online pre-recorded lecture will present instruction related to theories of learning and memory. Learners	● Present theories related to learning and memory through the pre-recorded lecture in	● Complete unit readings and the pre-recorded lecture. Take notes as necessary.

	will also complete the unit's required readings. Key points will be emphasized during the live class session, particularly as they relate to postsecondary educational counseling contexts. Learners must be able to reflect upon their experience and identify examples of learning theories (e.g., working memory, SCT) in their own lives.	the form of graphics, text, and narration. ● Review pertinent information during the live session (e.g., IPS, SCT, other learning theories). ● Provide an opportunity for learners to reflect upon and share examples of learning theories from their own lives. ● Answer student questions.	● Write down clarifying questions to ask the instructor during the live session. ● Learners generate and share examples of learning theories at play in their own lives.
Learning Guidance - Lecture - Demo.	During the live session, the instructor will lead learners through activities that exemplify the inherent flaws in working memory. Activities include interviewing a classmate and trying to remember all that they can about them, and recalling images and lists of words that they viewed only briefly. The instructor will also introduce the field interview assignment at the end of the live session, providing learners with a grading rubric and worked example.	● Provide learners with instructions and lead them through the working memory activities, narrating through slides in the live session presentation. ● Introduce the field interview major assignment and present its grading rubric and worked example.	● Learners will interview a classmate and try to remember all that they can about them. ● They will also briefly view images with random objects and lists and try to jot down as many items as they can remember. ● Learners will discuss how the activities relate to what they have learned about learning and memory. ● Learners will take notes on the field interview paper and ask the instructor clarifying questions as necessary.
Practice and Feedback	Organized, instructor-led discussion will take place during the live session with learners as a whole group and in smaller breakout groups. The conversation among learners and the instructor will guide student thinking around how theories related to learning and memory apply to postsecondary educational counseling practice. After the live session, learners will begin working on their field interview papers, which will be due in Unit Six. The instructor will offer weekly office hours for students to seek out assistance with course content and	● The instructor will lead whole- and small-group discussions around course content and demonstrations. ● The instructor's interjections in these conversations will provide learners with clarifying feedback on course content and its application to practice. ● The instructor will present the field interview paper and provide support to learners as necessary	● Learners will reflect upon course content and activities and share their insights and experiences with classmates in both whole- and small-group discussions. ● They will listen to the instructor and classmates and incorporate feedback from the conversation into their understanding of content.

	assignments.	through weekly office hours appointments.	● Learners will begin planning their field interview papers and ask the instructor clarifying questions as needed.
Authentic Assessment	Refer to Appendix A		
Retention and Transfer	Learners will be provided with opportunities to retain and transfer knowledge during the unit and throughout the course. Retention will be promoted through the unit quiz and knowledge checks embedded in both the pre-recorded and live lecture presentations. Retention will also be promoted through major assignments such as the midterm exam. Transfer will be promoted through context-related discussions around course content and application activities such as the field interview paper and case study worksheet.	● The instructor will present knowledge checks during the pre-recorded and live presentations. ● The instructor will also present scenario based discussion opportunities during the live session to promote contextual application of content. ● The instructor will present, assist with, and provide feedback on major assignments that promote retention and transfer.	● Learners will take the unit quiz prior to attending the live session and answer knowledge check items in the pre-recorded and live presentations. ● Learners will also engage in contextual discussions related to course content. ● Learners will complete the course's major assignment, seeking instructor assistance as necessary.
Big Ideas	The pre-recorded lecture will conclude with a summary of the unit's "big ideas" (e.g., IPS, SCT) and how they relate to postsecondary educational counseling practice. The live class session will also conclude with the instructor briefly reflecting upon what the class accomplished that day.	● A review of "big ideas" will be presented at the end of both the pre-recorded and live lectures.	● Learners will reflect upon the unit's "big ideas" and ask clarifying questions as necessary.
Advance Organizer for the Next Unit	The live sessions presentation will conclude with a preview of the next unit, including what learners need to accomplish by the next live class session.	● During the live class session, the instructor "previews" the next unit through a presentation slide and narration.	● Learners listen to the instructor preview and think about how to approach the next week of course content.

Unit Twelve: Media and Technology on Learning and Motivation

Learning objectives. The learning objectives detailed below cover the knowledge and skills that students should have gained at the conclusion of Unit Twelve. By the completion of Unit Twelve, learners will be able to:

- Articulate the role and impact of media and technology on learning and motivation.
- Evaluate current evidence regarding the impact of media and technology on various learning contexts.

Learning activities. Table 6 (pp. 53-56) outlines the key learning activities as well as an explanation of the instructor's and learners' respective action and decision steps in relation to the learning activity.

Table 6

Learning Activities for EDPT 502 Unit Twelve

Instructional Sequence	Description of the Learning Activity	Instructor Action/Decision (Supplantive)	Learner Action/ Decision (Generative)
Gain Attention	Learner attention will be drawn to the topic of media and technology on learning and motivation through welcome slides in both the asynchronous and live session presentations.	● The pre-recorded lecture will present a slide with Unit Twelve's title and welcome narration from the instructional designer. ● The live-session presentation will present a similar welcome slide with live narration from the instructor.	● Learners will press play to begin the pre-recorded lecture. ● During the live-session, learners will indicate whether or not they are prepared to discuss the unit's readings through raised hands.
Learning Objectives	Learning objectives will be presented to learners in both the asynchronous and live session presentations. Each respective session will present the objectives as a presentation slide.	● The pre-recorded lecture narration will announce that the unit's learning objectives are listed on-screen, prompting them to pause the video and read each objective.	● Learners will pause the pre-recorded lecture to read through each learning objective. They may jot down notes or questions for the instructor. ● Learners may pose questions about the

		● During the live session, post the learning objectives in a presentation slide, give learners an opportunity to review, and answer any questions that learners may have.	learning objectives to the instructor during the live session.
Reasons for Learning - Benefits - Risks	Benefits: learners will be introduced to common misconceptions around the role of media and technology in learning and motivation. This will prepare them to better evaluate media and technology in their practice as educational counselors. Risks Avoided: misconceptions about the role of media and technology in learning and motivation.	● The pre-recorded lecture will give a verbal explanation of the unit's reasons for learning. ● The instructor will emphasize key points during the live-session to build learner value for the task.	● Listen to the reasons for learning in the the pre-recorded lecture. Make note of how the unit benefit them (e.g., how it relates to the current work or aspirations). ● Make note of clarifying questions the instructor during the live session.
Overview **-Prior Knowledge** (what you already know) **-New Knowledge (**what you are going to learn) **-Learning Strategies (**how you are going to learn it)	During the asynchronous, online pre-recorded lecture, learners will receive an overview of the content covered in Unit Twelve. This information will be presented through a lecture slide with narration from the instructional designer. During the live session, the instructor will review prior knowledge obtained from the unit's asynchronous activities and present the learning activities that will take place in class that day.	● The pre-recorded lecture will present a brief overview of new knowledge presented in the unit. ● During the live session, briefly review prior knowledge obtained through the unit's asynchronous content. Answer any questions the learners have about the unit's essential content. ● The instructor will also give a preview of the learning activities that will take place later in the live session.	● Learners will view the unit overview in the pre-recorded lecture, pausing and taking notes as necessary. ● During the live session, learners will listen and and ask clarifying questions.
Prerequisite Knowledge	The asynchronous, online pre-recorded lecture will present instruction related to principles of media and technology on learning and motivation. Learners will also complete the unit's required reading. Key points will be emphasized during the live class session, particularly as they relate to postsecondary educational counseling contexts. Learners must be able to reflect upon their	● Present misconceptions related to media and technology through the pre-recorded lecture in the form of graphics, text, and narration. ● Review pertinent information during the live session (e.g., the role of media versus instructional methods).	● Complete unit reading and the pre-recorded lecture. Take notes as necessary. ● Write down clarifying questions to ask the instructor during the live session. ● Learners generate and share examples of media and technology's role in their own lives.

	experience and identify examples where media and technology may be helpful or unhelpful (e.g., online versus live instruction, intelligent tutoring systems) in their own lives.	● Provide an opportunity for learners to reflect upon and share examples of media and technology from their own lives. ● Answer student questions.	
Learning Guidance - Lecture - Demo.	During the live session, the instructor will lead learners through activities that put into context the role of media and technology on learning and memory. Activities include discussing specific media and technology options that may or may not be helpful in their roles as educational counselors. Students will also discuss their progress on the case study worksheet major assignment.	● Provide learners with instructions and lead them through the media and technology in practice activities, narrating through slides in the live session presentation. ● Discuss progress on the case study worksheet major assignment and give students an opportunity for peer review, if time allows.	● Learners will select a form of media or technology and discuss its pros and cons for learning and motivation with a classmate. ● The discussion will then open up to the whole group, with individuals having an opportunity to share what they discussed with their partner. ● Learners will discuss general patterns that they notice across media and technology forms. ● If time allows, learners will discuss their progress on the case study worksheet major assignment and share their draft with a classmate for peer review.
Practice and Feedback	Organized, instructor-led discussion will take place during the live session with learners as a whole group and in smaller breakout groups. The conversation among learners and the instructor will guide student thinking around how misconceptions around the role of media and technology on learning and motivation apply to postsecondary educational counseling practice. After the live session, learners will continue working on their case study worksheets, which will be due in Unit Fourteen. The instructor will offer weekly office hours for	● The instructor will lead whole- and small-group discussions around course content and demonstrations. ● The instructor's interjections in these conversations will provide learners with clarifying feedback on course content and its application to practice. ● The instructor will discuss progress on the case study worksheet and provide support to learners as necessary	● Learners will reflect upon course content and activities and share their insights and experiences with classmates in both whole- and small-group discussions. ● They will listen to the instructor and classmates and incorporate feedback from the conversation into their understanding of content.

	students to seek out assistance with course content and assignments.	through weekly office hours appointments.	● Learners will continue to work on the case study worksheet assignment and ask the instructor clarifying questions as needed.
Authentic Assessment	Refer to Appendix A		
Retention and Transfer	Learners will be provided with opportunities to retain and transfer knowledge during the unit and throughout the course. Retention will be promoted through the unit quiz and knowledge checks embedded in both the pre-recorded and live lecture presentations. Transfer will be promoted through context-related discussions around course content and application activities such as the case study worksheet assignment.	● The instructor will present knowledge checks during the pre-recorded and live presentations. ● The instructor will also present scenario based discussion opportunities during the live session to promote contextual application of content. ● The instructor will present, assist with, and provide feedback on major assignments that promote retention and transfer.	● Learners will take the unit quiz prior to attending the live session and answer knowledge check items in the pre-recorded and live presentations. ● Learners will also engage in contextual discussions related to course content. ● Learners will complete the course's major assignment, seeking instructor assistance as necessary.
Big Ideas	The pre-recorded lecture will conclude with a summary of the unit's "big ideas" (e.g., instructional methods versus instructional technology) and how they relate to postsecondary educational counseling practice. The live class session will also conclude with the instructor briefly reflecting upon what the class accomplished that day.	● A review of "big ideas" will be presented at the end of both the pre-recorded and live lectures.	● Learners will reflect upon the unit's "big ideas" and ask clarifying questions as necessary.
Advance Organizer for the Next Unit	The live sessions presentation will conclude with a preview of the next unit, including what learners need to accomplish by the next live class session.	● During the live class session, the instructor "previews" the next unit through a presentation slide and narration.	● Learners listen to the instructor preview and think about how to approach the next week of course content.

Instructional Delivery Media Selection

Before delving into the key considerations taken in media selection for flipping EDPT 502, it is important to differentiate between media and instructional methods. Though these

topics are often thought of as one in the same, they are actually quite different. According to Clark, Yates, Early, and Moulton (2010), instructional methods are the external activities utilized in supporting the internal cognitive processes that are required for learning new knowledge and skills. Effective instructional methods ensure that meaningful learning takes place. Media, on the other hand, is the vehicle used to deliver instruction and has no impact on learning, motivation, or performance (Clark et al., 2010). Clark (1994) anologizes media with a grocery delivery truck, asserting that learning delivery vehicles do not impact student achievement any more than grocery delivery trucks cause changes in nutrition. The key here is that there may be many effective ways to deliver instructional methods, the differences among them only being a matter of economics (i.e., some media options may be more cost-effective or efficient at delivering instruction). Thus, media selections should be based on options that meet key considerations of the learning task and offer the most economic means of instructional delivery.

Key Considerations in Choosing Media

When selecting media for use in a learning task, it is important to first consider the instructional methods that it requires. Clark et al. (2010) observe three qualities that often constrain instructional media selection options. First, one should consider if the media option meets the conditional knowledge requirements for the task, known as *conceptual authenticity*. The media option must be able to promote situated cognition by adequately simulating the conditions where the learner will apply their new skills and knowledge. Next, designers should examine whether the media option can provide adequate feedback for learners. The media option must be able to provide either synchronous (immediate) or asynchronous (delayed) feedback, as required by the complexity of the task. Lastly, it is important to consider whether

the media option can provide all of the sensory information required by the situated task. Some tasks require that the training provide more sensory information than visual and aural senses, such as tactile, olfactory, or kinesthetic experience. For the most part, the numerous media incorporated into the flipped redesign of EDPT 502 remained consistent with those used in the course's previous iterations.

Table 7 (p. 59) describes how the three considerations pertain to revisions in EDPT 502 according to the constraining instructional methods presented by Clark et al. (2010). The course upholds conceptual authenticity by (a) delivering course content in physical and asynchronous environments, (b) giving learners numerous means for applying course content to real-world scenarios, and (c) presenting course content to learners in multiple forms (e.g., graphics, aural, text, etc.). Immediate feedback on learning task performance was also vitally important, especially as it relates to the final case study worksheet assignment. The case study worksheet is sequentially built through drafts that learners bring to class every week for peer and instructor review, culminating in a final project that is submitted at the course's conclusion. Additionally, since much of the knowledge covered in EDPT 502 is required for other EC program courses and real-life practice, it is essential that learners receive timely feedback on all learning tasks, including quizzes, written assignments, and class discussions. Lastly, course content had to be presented in numerous formats (e.g., text, visual, aural) to expand learner access. To allow for flipped classroom instruction (FCI), the course also needed media that could enable physical and asynchronous environments.

Table 7

Key Considerations for Media Selection

Key Consideration	Media Considerations for EDPT 502
Conceptual Authenticity	● Media must deliver course content in physical and asynchronous environments ● Media must allow for the application of course content to real-world contexts ● Media must present course content in multiple forms
Immediate Feedback	● Course content includes high stakes skills and sequentially built assignments that require instructor and peer feedback through synchronous and asynchronous means
Special Sensory Requirements	● Media must present course content in numerous forms (e.g., test, visual, aural) ● Media must enable physical and asynchronous environments

General Instructional Platform Selection

Flipping EDPT 502 required that instruction be presented in a blended format, where learners access course content asynchronously and apply that information in live classes. The course's numerous typologies (e.g., formal, physical, virtual, asynchronous, collaborative, individual, adaptive, non-adaptive, and closed) were minimally impacted by this process. Though they do not all use FCI, other courses in the EC program share similar typologies. Using FCI in EDPT 502 does not add to its financial cost, as it still takes place on both the physical USC campus and virtual Blackboard LMS. Since many other RSOE programs use Blackboard and a physical classroom on-campus, the EC program does not have added costs for media.

Specific Media Choices

As discussed previously, EDPT 502 took place using blended learning environments, with the Blackboard LMS representing the virtual and asynchronous and a USC campus classroom the physical. Flipping EDPT 502 units required the use of Blackboard, which housed numerous forms of media including pre-recorded, YouTube hosted video lectures, supplemental videos, scholarly articles, and unit quizzes. Blackboard also allowed for assignment submissions, grading, and instructor feedback. PowerPoint presentations were used for both the flipped and live lessons, being presented via YouTube video in the asynchronous environment and projector screen in the physical classroom. Lastly, the course instructor serves as the learners guide to asynchronous content and the primary medium through with instructional methods are delivered in the physical environment. Table 8 (pp. 61-62) summarizes the purpose and benefit of each media type selected for EDPT 502.

Table 8

Media Choices in EDPT 502

Media	Purpose	Benefits
Blackboard	• Delivers asynchronous online instruction	• Versatile platform used by many RSOE programs • Can be customized and used year after year • Accessible to EC program students and faculty • Can host other media (e.g., YouTube videos, scholarly articles) • Can clone content for multiple sections • Can support course communication via announcements and the Grade Center
YouTube video	• Delivers asynchronous instruction	• Can embed into Blackboard • Allows learners to pause and rewind as necessary (pacing) • Free
PowerPoint	• Delivers asynchronous and live instruction	• Versatile platform can be used in live sessions or recorded into YouTube video presentations • Can embed numerous forms of information (e.g., text, graphic, aural)
Projector screen	• Delivers live instruction	• Clearly and efficiently presents course content in the physical environment
Textbook and Scholarly Articles	• Delivers asynchronous instruction • Enables individual and collaborative learning	• Articles can be uploaded into Blackboard • Empirical data and seminole work influencing the field of educational

		counseling ● Promotes individual and collaborative learning
Course Instructor	● Guides learners through asynchronous instruction ● Presenter and facilitator of live session learning ● Guides learners through individual and collaborative learning activities	● A credible, personable means for accessing and discussing course content ● Guides learners through course learning activities ● Provides asynchronous feedback on written assignments ● Provides real-time feedback in the live sessions ● Provides observational assessment of student understanding ● Promotes learning by questioning, clarifying, contextualizing, and fostering collaboration ● Promotes learner attention and engagement ● Highlights key content for learners

Assessment and Evaluation Data

Altogether, there were 57 students making up two sections of EDPT 502 in spring 2018. An interview with the course instructor in week 11 of the semester gave insight into student performance, the impact of the course's redesign, and potential improvements for future iterations. All enrolled students completed a pre-assessment measuring prior knowledge and motivation in the semester's first week (see Appendix B). Of the 57 enrolled students, 37 (64.9%) completed a mid-semester course evaluation administered by USC in the semester's sixth week (see pp. 37-38). Though the pre-assessment was originally intended to also be

administered as a posttest, it was determined that, due to redundancy between its items, the weekly quizzes, the multiple-choice midterm, and classroom participation, learning had been demonstrated, and it would be irrelevant. Table 9 provides an overview of course assessment tools and the participant sample.

Table 9

EDPT 502 Assessment Tools and Participant Sample

A&E Tool	Description	Number of Students Completed	Percentage of Students Completed
Instructor Interview	65-minute interview with course instructor	n/a	n/a
Pre-Assessment	Administered before students attended the Unit 1 live session using the Blackboard LMS	57	100%
Post-Assessment	Was not administered	0	0%
Mid-Semester Evaluation	Administered by USC, the mid-semester course evaluation was delivered to students via email in the week six. Students were allowed time during the live session to complete the online survey	37	64.9%

Data Analysis

Both quantitative and qualitative data were used to measure the impact of revisions made to the EDPT 502 course. Table 10 (p. 64) categorizes the data sources that were used and the method of analysis undertaken.

Table 10

Quantitative and Qualitative Data Sources and Analysis

Type of Data	Data Source	Analysis
Quantitative	• Pre-Assessment (e.g., multiple choice, Likert survey items) • Mid-semester course evaluation (e.g., Likert survey items)	Mean, standard deviation, and frequency distribution
Qualitative	• Instructor Interview • Mid-semester course evaluation (e.g., open-response survey items)	Open and closed coding

Quantitative data. Two sources of quantitative data for this analysis were the pre-assessment and mid-semester course evaluations. The pre-assessment was used to measure prior knowledge and motivation. The data was collected by the instructor. The mid-semester course evaluation was used to measure students' reactions to the course. This data was collected and compiled by the university and Rossier School of Education Master's Program administrators before being shared with the course instructor. Both forms of data were conveyed to the researcher via instructor interview. No written data was collected from students directly for the purpose of this capstone. Additionally, students were assured that their mid-semester course evaluation submissions would remain anonymous.

Quantitative data was collected from three of the 10 mid-semester course evaluation items. Mean and standard deviation were calculated for each Likert-scale item (on a 1-5 scale - Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree). Mean, the most common type of measure of central tendency, is determined by summing all scores in the data set then dividing by

the total number of scores in the set (Salkind, 2018). Standard deviation measures the average difference from the mean for each score in the data set (Salkind, 2018). This is the most frequently used measure of variability. It is important to consider standard deviation as it indicates how similar or dissimilar a data set is to its given mean. If there is a large standard deviation, it is more likely to find data points further away from the measure of central tendency. Table 11 lists the measures for each Likert-scale item on the mid-semester course evaluation. With means approaching the highest possible score (i.e., 5) and low standard deviation across all items, the data collected indicated a high level of motivation for each individual attending the course.

Table 11

Descriptive Statistics for Mid-Semester Course Evaluation

Item	*M*	*SD*
The course is organized in a way that helps me learn.	4.92	0.28
The course provides an opportunity to practice the skills required in the course.	4.89	0.31
The course content has been valuable for my professional goals.	4.95	0.23

Note: Scores were on a 1-5 scale (e.g., 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree)

Qualitative data. Qualitative data were gathered from the instructor interview and mid-semester course evaluation. The instructor interview comprised of 10 open-response questions, not including follow up questions posed to the instructor as needed. The mid-semester course evaluation included five open-ended survey items. The instructor interview and

mid-semester course evaluation open-ended items were analyzed using open and closed coding techniques. This helped in identifying trends within the instructor's comments and the student survey responses.

Results and Interpretation

A few substantive themes emerged after coding of qualitative data collected from the instructor interview and student mid-semester evaluations: (a) course organization, (b) student engagement and performance, and (c) general areas for improvement (e.g., case-based scenarios, limitations of the learning environment, and unit quizzes).

Effective course organization. Both the mid-semester evaluations and instructor interview indicated that course organization effectively supported learning. Students appreciated the course's structure and organization. Many commented on how the use of flipped classroom instruction helped them to process course material at their own pace and engage in discussions and activities in class. They appreciated the use of recorded lectures to review course content before attending the live session. The mid-semester course evaluation included three (8%) student responses mentioning the flipped classroom format and nine (24%) student responses indicating course structure and organization as a strength. Specifically, students appreciated: (a) the structure of video lessons, readings, and quizzes on the Blackboard LMS, (b) the structure of live sessions, and (c) the scaffolding of assignments to give direction towards graduate level writing expectations.

Strong student engagement and performance. Qualitative data also indicated that students were quite engaged with course content and performed well overall. Student responses in the mid-semester evaluation commented positively on the use of live class time for lively

discussions and learning activities. Students also found the course material to be extremely relevant to their practice as learners and aspiring educational counselors. They especially appreciated all of the learning strategies that are introduced in the course. In the instructor interview, the instructor commented that, with increased engagement in pre-class activities, students came to class more prepared to participate. The instructor also noted that almost all students have earned a high grade in the course (e.g., A, A-), evidence of their thorough understanding of course material. However, the instructor indicated that students needed extra support in graduate level writing expectations, and application of principles learned to their own work. For instance, the instructor often found students neglecting to make connections to content covered in the course when justifying causes and solutions of learning and motivation problems, even though it directly applied. Scaffolding of written assignments helped to support students through these difficulties.

Areas with potential for improvement. Though the revisions made to EDPT 502 were generally successful in improving the course, there still remain a few areas that can be improved upon further. These areas include: (a) strategies for better supporting thorough understanding and application of learning principles, (b) the physical limitations of the classroom space, and (c) unit quiz structure and item revisions.

Better support application of principles. The instructor indicated students had some difficulty applying the learning principles they were learning in the course to their own work. One way to address this in future iterations of the course is to use a structured case-based scenario activity during each live class session. This structured activity would present students with a problem of practice that needs to be addressed and referenced throughout the course.

Each class, the students will: (1) discuss the learning principle they are learning that week, (2) apply the principle to the problem of practice scenario, and (3) apply the principle to their own case study work. One concern that arose from the mid-semester evaluation was that the course should focus more on specific populations of students (e.g., first-generation students, students of color), which could also be addressed in this problem of practice worked example.

Cramped physical classroom space. A major theme that emerged from the mid-semester evaluation and instructor interview was the physical classroom's small limited space. On the mid-semester course evaluation, three (8%) student responses indicated that the classroom was too cramped, making movement difficult. This is especially noteworthy because the instructional method utilized by the instructor required students to move their desks and chairs often. This was also mentioned to be a problem by the instructor during the instructor interview, although alternative locations offered by the class scheduling office posed other challenges.

Restructure quiz format and revise items. Another theme that emerged from the coding of qualitative data was the potential to improve unit quizzes. One area of potential improvement is how quiz items are presented. In this iteration of EDPT 502, the instructor elected to present quiz items one at a time instead of all at once, with students having to answer each question before being allowed to move on to the next one. The one at a time format seemed to cause undue pressure during unit quizzes, with one student indicating on the mid-semester evaluation that it made them anxious. The instructor has elected to present quiz items all at once in future course iterations. The instructor interview also revealed that, although generally well understood, some of the revised quiz items were overly wordy or difficult to understand.

Moreover, a few quiz items included key terms as acronyms, which caused confusion for some students. Such items would benefit from further revision.

Conclusion

This capstone experience has been challenging, rewarding, and invaluable to my growth as a learning designer. I am extremely appreciative of Dr. Rebecca Lundeen and Dr. Helena Seli for giving me the opportunity to work on EDPT 502. It was an honor to work with and learn from experienced and insightful practitioners. I am also grateful to have had the opportunity to undertake the entire ADDIE process, applying all the knowledge and skills taught throughout the Learning Design and Technology program over the course of this capstone. The extra challenge presented by this opportunity also served to greatly enrich my experience.

The most challenging aspects of this capstone project were its timing and scope. Given that the course was set to be implemented with revisions in the Spring 2018 semester, most of the analysis, design, and development work had to be accelerated. This presented a challenging reflection of a real-world instructional design environment. Deadlines are an inextricable aspect of instructional design work and it is vital that one know how to produce high quality, timely work. Though projects are often rushed, it is still important to conduct thorough analysis. Design and development are certainly essential and time-consuming, but the analysis phase took the longest to complete, as it was important for me to have a thorough understanding of the course, its learners, and the environment. This allowed me to undergo thoughtful and deliberate design and development processes.

This capstone's design and development processes were especially rewarding. It was an honor to develop learning content for graduate students who are themselves seeking growth in an

area that will enable them to help others. This process enabled me to transfer my knowledge regarding principles of learning science and multimedia to a real-world learning environment. For example, in developing recorded presentations, I considered the learners' cognitive load and utilized multimedia principles such as signaling to bring their attention to important information. This was a truly invaluable experience that has contributed greatly to my growth as a learning designer.

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Appendix A

EDPT 502 Assessment and Evaluation Plan Matrix

			LEARNING (Knowledge and Skills)					**MOTIVATION**		
			Survey		**Interview**	**Observation**	**Document and data analysis**	**Behavioral data (choice, persistence, effort)**	**Self-report (Self-efficacy, value)**	
			Close-ended	Open-ended					Likert-type	Inter-view
ASSESSMENT	**Prior to instruction**	**Pre-assessment**	X Pre-post knowledge survey		X Instructor interview				X Motivation survey items	
	During instruction	**Formative Assessment**	X Unit quizzes			X Instructor observations		X Instructor observations		
EVALUATION	**End of instruction**	**Level 1 (Reaction)**								
		Level 2 (Knowledge)	X Pre-post knowledge survey		X Instructor interview	X Participation rubric	X Case study Midterm/ workshop			

	Beyond instruction	**Level 3 (Transfer)**					X Courses Master's thesis			
		Level 4 (Impact)					X Final course grade EC graduation rate Alumni survey			

Appendix B
EDPT 502 Pre-Assessment Items

Instructions: Carefully read each question and select the best answer. Keep in mind that this pre-assessment is being conducted to determine what you already know from content that will be covered in the course. Full credit will be given to participants who complete the assessment.

1. Motivation can be measured by assessing the learner's:
    a. Affect, verbal expression, time on task.
    b. Choice, persistence, mental effort.
    c. Rationale for engagement, time on task, affect.

2. Why is metacognition an important function of learning?
    a. Metacognition as knowledge about and control of one's own thinking during learning enhances learning outcomes.
    b. Metacognition promotes an increased ability to store information in the sensory registry.
    c. Metacognition is not an important function of learning since only experts can engage in this process.

3. If not rehearsed, information stays in the working memory for:
    a. 0.5-3 seconds.
    b. 5-10 seconds.
    c. 5-20 seconds.

4. Self-efficacy is:
    a. a global perception of oneself.
    b. one's reaction to a self-perception.
    c. confidence in one's ability to perform a specific task.

5. Learners with a ____ mindset are more likely to have a ____ orientation.
    a. Growth, mastery
    b. Growth, performance
    c. Fixed, mastery

6. Which of the following statements is TRUE?
    a. Anxiety always has a negative impact on learning outcomes.
    b. Anxiety can reduce working memory resources.
    c. Anxiety is classified as a negative, deactivating emotion.

7. In order to help yourself be more successful in this course, you decide to organize a study group with some of your classmates. You are exhibiting which aspect of self-regulation?
    a. Use of time.

b. Managing physical environment.
c. Managing social environment.

Instructions: Carefully read each prompt and select an answer that most accurately reflects your feelings about the course. Keep in mind that this pre-assessment is being conducted to determine your feelings about the course and its content. There are no right or wrong answers and full credit will be given to participants who complete all items.

8. Understanding the subject matter of this course is very important to me.

   Agree (1), neutral (2), disagree (3)

9. I'm certain I can master the skills being taught in this class.

   Agree (1), neutral (2), disagree (3)

10. It's important to me that I improve my skills this year.

    Agree (1), neutral (2), disagree (3)

Appendix C
EDPT 502 Unit Two Quiz
Understanding Learning and Memory

Information Processing System (IPS)

Instructions: Carefully read each question and select the best answer.

1. All of the following are MAIN components of the Information Processing System (IPS) except:
    a. Sensory memory
    b. Working memory
    c. Executive control system
    d. Long-term memory

2. According to IPS, what happens to visual and auditory input if it is not attended to when entering sensory memory?
    a. The input gets immediately transferred to one's working memory
    b. The input is subconsciously processed and retrieved from one's long-term memory
    c. The input is lost, which results in information loss
    d. None of the above

3. Working memory is limited by:
    a. Capacity
    b. Duration
    c. Automaticity
    d. Both a and b

4. If not rehearsed, information stays in the working memory for:
    a. .5-3 seconds
    b. 5-10 seconds
    c. 5-20 seconds
    d. Indefinitely

5. Long-term memory
    a. Is limited in duration and capacity
    b. Is involved in screening incoming information
    c. Is where the executive control system resides
    d. Is capable of holding an unlimited amount of information for an indefinite amount of time

6. Learning occurs in a social context, has a strong cognitive component and much of what is learned is gained through observation. This statement reflects:
    a. Behaviorism
    b. Cognitivism
    c. Social cognitive theory
    d. Sociocultural theory

7. Higher levels of perceived self-efficacy have been associated with:
    a. Greater choice
    b. Greater persistence
    c. More effective strategy use
    d. All of the above

8. According to social cognitive theory, which of the following would be true?
    a. Children who identify with characters on TV are more likely to behave in a manner similar to those characters
    b. Children are likely to behave in a manner similar to the characters they observe on TV
    c. Children are not influenced by characters they observe on TV
    d. Children are only influenced by pro-social behaviors observed on TV

9. Which of the following is NOT a core concept within social cognitive theory?
    a. Self-regulation
    b. Information processing system
    c. Perceived self-efficacy
    d. Goal setting

10. The learning strategy of chunking is:
    a. Repeating information mentally to keep it activated in working memory
    b. Grouping of data so that a greater amount of information may be retained
    c. Using rhymes and alliteration to remember important information
    d. Sequencing items so they are easier to remember

Appendix D
EDPT 502 Unit Twelve Quiz
Media and Technology on Learning and Motivation

Instructions: Carefully read each question and select the best answer.

1. Which of the following is an example of instructional media?
    a. Human instructors
    b. Books
    c. Electronic devices
    d. All of the above

2. Which of the following most accurately defines instructional media?
    a. The external strategies used to support internal cognitive processes
    b. *Any vehicle used to present or deliver instruction*
    c. The instructional methods used to promote meaningful learning
    d. Any digital means for conveying information to learners.

3. What is the difference between instructional methods and instructional media?
    a. *Instructional methods cause learning while instructional media delivers the instructional methods*
    b. Instructional media cause learning while instructional methods deliver the instructional media
    c. Instructional methods refer to the content to be learned while instructional media are the strategies used to promote learning
    d. There is no difference between instructional methods and instructional media

4. According to Clark and Feldon (2005), multimedia instruction does not yield more learning than traditional instruction because…
    a. Multimedia instruction is too expensive to effectively implement
    b. Multimedia instruction is inferior to live, human-to-human interaction
    c. *Given the same instructional methods, multimedia instruction yields the same amount of learning as traditional media*
    d. Multimedia instruction distracts learners from the instructional content

5. What are the three indices of motivation?
    a. Positive affect, quality performance, self-awareness
    b. Self-efficacy, mastery goal orientation, metacognition
    c. *Active choice, persistence, mental effort*
    d. Participation, grit, determination

6. According to Clark and Feldon (2005), what is relationship between perceived difficulty and mental effort?
    a. *Learners invest less mental effort into tasks that they perceive to be less demanding.*

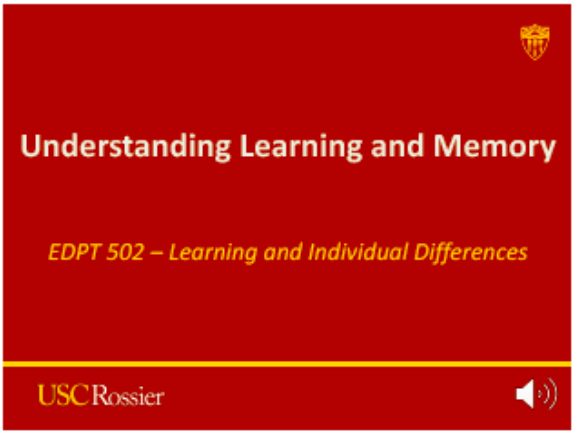
   b. Learners invest more mental effort into tasks that they perceive to be less demanding.
   c. Learners invest less mental effort into tasks that they perceive to be more demanding.
   d. Perceived difficulty and mental effort are not related.

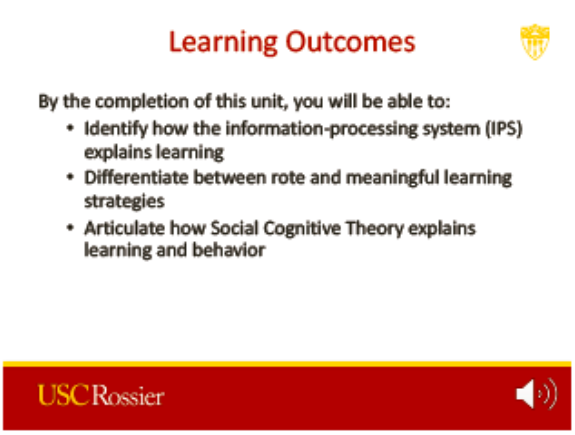
7. According to Clark and Feldon (2005), instruction can only be effectively tailored to individuals according to their…
   a. Learning styles
   b. *Prior knowledge*
   c. Preferences
   d. Self-efficacy
   e.
8. Which of the following best defines animated pedagogical agents?
   a. Any on-screen animation that facilitates learning
   b. Instructors who use emotion and gesturing to capture learners' attention
   c. Voice-overs that mimic human-to-human conversation
   d. *Computerized characters, humanlike or otherwise, designed to facilitate learning*

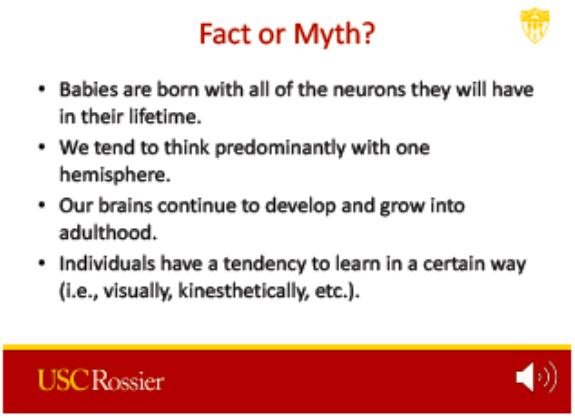
9. According to Clark and Feldon (2005), learner controlled discovery pedagogy…
   a. Enhances novice learning by allowing learners to navigate through content at their own pace
   b. Detracts from novice learning by providing learners with overly structured content
   c. Allows novice learners to develop conceptual understanding of content more effectively than guided discovery.
   d. *Detracts from novice learning, as learners waste much of their cognitive load trying to organize information rather than developing conceptual understanding*

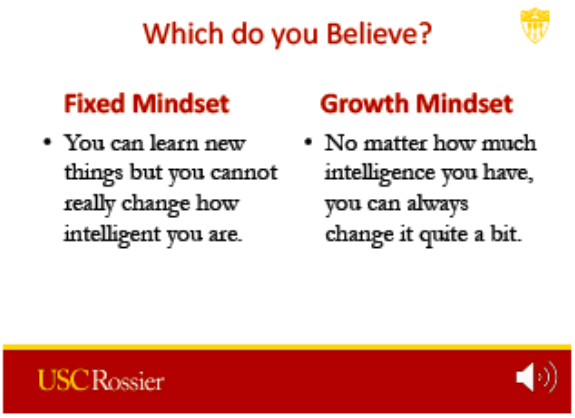
10. Which of the following best defines the expertise reversal effect?
    a. Optimal instruction utilizes instructional supports that increase in proportion to the learner's level of expertise for a particular skill or concept
    b. *Optimal instruction utilizes instructional supports that fade in proportion to the learner's level of expertise for a particular skill or concept*
    c. Optimal instruction utilizes instructional supports regardless of the learner's level of expertise for a particular skill or concept
    d. Optimal instruction does not utilize instructional support for learners at any level of expertise for a particular skill or concept.

Appendix E
EDPT 502 Unit Two Developed Material Sample









Appendix F
EDPT 502 Unit Twelve Developed Material Sample

Media and Technology on Learning and Motivation

EDPT 502 – Learning and Individual Differences

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Learning Outcomes

By the completion of this unit, you will be able to:

- Articulate the role of media and technology on learning and motivation
- Evaluate the current evidence regarding the impact of media and technology on various learning contexts

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What is Media?

- Instructional media generally refers to any vehicle for presenting or delivering instruction

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Media versus Instructional Methods

- Instructional methods are the external strategies used to support internal cognitive processes
- Instructional media generally refers to any vehicle for presenting or delivering instruction

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