This course supports the assessment for JNT2. The course covers 2 competencies and represents 2 competency units.

**Introduction**

**Welcome**
Welcome to the Instructional Design Analysis Course. Over the past 30 years, learning has shifted away from education based on lectures by a teacher in front of a classroom to interactive instruction. The instruction focuses on using research-based instructional strategies to improve learning outcomes, adapting the learning environment to the individual learners, and creatively thinking of how to use technology as a mind tool to help students think more effectively. In this domain you will acquire competence in the systematic design of instruction so that your teaching/learning efforts will be optimized.

As you work through this course and its assessments, you should focus all assignments and tasks on topics within your chosen program of study.

Watch the following video for an introduction to this course:

**Competencies**
This course provides guidance to help you demonstrate the following 2 competencies:

- **Competency 505.1.1: Needs Analysis**
  The graduate conducts a needs analysis to determine needs and interests of learners.

- **Competency 505.1.2: Learner Analysis**
  The graduate analyzes the population for whom the education program will be created to identify general characteristics that are important when developing instruction.

**Course Instructor Assistance**
As you prepare to successfully demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don't work out on your first try, course instructors act as a support system to guide you through the revision process. You should expect to work with course instructors for the duration of your coursework, so you are welcome to contact them as soon as you begin. Course instructors are fully committed to your success!

**Preparing for Success**
The information in this section is provided to detail the resources available for you to use as you complete this course.

**Learning Resources**
The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

**Automatically Enrolled Learning Resources**
You will be automatically enrolled at the activity level for the following learning resources. Simply click on the links provided in the activities to access the learning materials.

**VitalSource E-Texts**
The following textbook is available to you as an e-text within this course. You will be directly linked to the specific readings required within the activities that follow.


**Additional Preparations**

**Download WGU Library E-Reserve Readings**
This course utilizes resources located in the WGU Library E-Reserves, with articles available for you to download. Follow these directions for [accessing the WGU Library E-Reserves](#).

The article on reserve for this course is listed below:


**Log In to the Instructional Design Message Boards**
The message boards are an important part of the WGU experience. In the right-hand navigation portion of the course screen, there is a message board area. Throughout your studies, you will want to follow the questions, observations, and responses of the other students and the expert advice of the course instructor. If you have questions of your own, do not hesitate to use this resource to get those answered as you develop your competencies.

**Take Study Notes**
As you engage with the activities throughout this course, you will be answering questions, completing exercises, sketching out concepts, and so forth. You have the ability to take these notes online through the web-enabled course. A notebook or study journal (either paper or electronic) makes your learning more active. It also provides an excellent source of important materials to review prior to demonstrating your competencies through the assessment.

**Pacing Guide**
The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the pacing
guide carefully to complete the course in the suggested timeframe.

- Pacing Guide: Instructional Design Analysis

Note: This pacing guide does not replace the course. Please continue to refer to the course for a comprehensive list of the resources and activities.

Analyzing the Problem, Part I

The systematic process of instructional design involves the analysis, design, development, and evaluation of instruction. In this unit you will be introduced to the concepts and procedures for analyzing the problem to help ensure the design of effective instruction.

Needs Analysis: Identifying the Problem and Gathering Data

Identify needs analysis questions, sources of data, and data gathering instruments.

A needs assessment is conducted to obtain information about a problem or a need in education.

- Is there a need for instruction, or can the problem be solved by some other intervention?
- What instruction should be developed to bridge the gap between the current state and the desired state?
- The term "need" may be defined as the situation that occurs when what is actually happening is below that which is expected. By "need" two different things can be meant:
  1. discrepancy between actual and ideal situations or states of affair, and
  2. discrepancy between groups or subgroups of people.

When applying this definition to education, one might say that an educational need is the situation that occurs when student performance is below that which is specified in a behavioral objective or state standards.

This topic addresses the following competency:

- Competency 505.1.1: Needs Analysis
  The graduate conducts a needs analysis to determine needs and interests of learners.

Pre-instructional Activity: Review and Identification of a Problem

Identify a problem you believe instruction would help to improve. You may also post your problem statement in the Instructional Design Message Board where students are posting their problem statements for feedback.

  1. Summarize your problem in one paragraph.
  2. What is the current state of this problem you defined?
  3. What is the desired state? How would you like the students to be performing?

Content Presentation: Needs Analysis
Access and view the following presentation:

- **Needs Analysis**

Then, read the following chapter in *The Systematic Design of Instruction*:

- chapter 2 ("Identifying Instructional Goals Using Front-End Analysis")

Read the following e-reserve article:

- Rossett (Chapter 14, "Needs Analysis")

Access and read the following website to learn how to write surveys and tutorials:

- **Survey & Questionnaire Design Tutorial**

**Learning Activities: Needs Analysis**

1. Make a list of questions you would like to have answered about your problem from the following:
   - students
   - teachers
   - parents
   - principal or manager
   - test score data

2. Identify sources of information on your problem or need. Who could you survey or interview that would provide you with additional information on your problem and the possible solutions?

Solutions will include what you will need to teach your students.

One source of information you will be asked for in the needs analysis performance task is computerized sources of data. Often, test score data is used for this information. This data supports the need for instruction. If you do not have access to computerized sources, then you must write why you do not have computerized sources. If you are not using a computerized source of data, you will need a second qualitative source such as a survey, questionnaire, interview, or focus group.

3. Select instruments for gathering data to answer your questions.

**Types of Data Gathering Instruments:**
- open-ended questions and written comments on questionnaires
- testimonials
- individual interview
- discussion group
- focus group
- observations
• field notes
• documents
• stories
• cases
• Likert scales

4. Create your needs analysis data gathering instruments.
5. Check the schedule for phone conferences in the Instructional Design Message Board.
   Every four to eight weeks there will be a conference call on the needs analysis process.
6. Receive feedback on your work by submitting your needs analysis research questions and the data gathering instrument questions to the Instructional Design Message Board area for feedback on your needs analysis work.

Examples: Needs Analysis

This case study provides an example of how an instructional problem was chosen and how a needs analysis was conducted to validate the need for instruction. This is not the same task you are required to complete for JNT2 Task 1, but simply illustrates how a needs analysis can be written. It also contains a learner analysis (which you will write in JNT2 Task 2) and a task analysis (that you will create in JPT2). You will not be conducting a literature review in the Instructional Design Domain. Please refer to TaskStream for complete task requirements.

These examples of needs analysis instruments have been provided to help you better understand qualitative data gathering instruments.

Each month there will be a phone conference or graduate seminar that will discuss the case study and identification of a problem for work in the Instructional Design domain. Please go to the Instructional Design Message Board to find the times of the calls.

Summary: Needs Analysis

You were asked to select a problem that you believe instruction will help to improve or solve. You have also been introduced to a systematic process for helping to create an effective, well-articulated, and efficient unit of instruction that will help to improve the problem. In this unit of instruction, you learned about the importance of collecting data to learn more about the problem and about how to bridge the gap between the current state and the desired state.

In this subject you began the process of analyzing your problem by learning about the needs analysis.

• The needs analysis is done to learn more about how to bridge the gap between the current state (the problem) and the desired state (your goal of instruction).

In this subject you were asked to do the following:

• Have your problem approved for work in the Instructional Design domain.
• Identify questions you would like to have answered by other sources to learn more about how to solve the problem with an instructional unit.
• Identify sources of data to help answer your questions.
- Create data gathering instruments.

**Analyzing the Problem, Part II**

This course provides a required sequence of learning steps and activities to help you develop and demonstrate competence in the subject area of instructional design analysis.

In the "Analyzing the Problem, Part I" subject of this course, you began to analyze your instructional problem to learn more about how to bridge the gap between the current state and the desired state.

You were asked to do the following:

- Have your problem approved for work in the Instructional Design domain.
- Identify questions you would like to have answered by other sources to learn more about how to solve the problem with an instructional unit.
- Identify sources of data to help answer your questions.
- Create data gathering instruments.

Competencies covered by this subject

505.1.1 - Needs Analysis
The graduate conducts a needs analysis to determine needs and interests of learners.

**Needs Analysis: Data Analysis**
The topic of needs analysis is continued in this section.

This topic addresses the following competency:

- **Competency 505.1.1: Needs Analysis**
  The graduate conducts a needs analysis to determine needs and interests of learners.

**Pre-Instructional Activity: Data Analysis**

Review the following case study in *The Systematic Design of Instruction*:

- "Group Leadership Training" in chapter 2 ("Identifying Instructional Goals Using Front-End Analysis")

Define performance analysis, needs analysis, and instructional goal. What is the purpose of your needs analysis? Record your response in your notebook.

**Content Presentation: Data Analysis**

Review the following chapter in *The Systematic Design of Instruction*:

- chapter 2 ("Identifying Instructional Goals Using Front-End Analysis")

**Learning Activities: Data Analysis**

For this activity, complete the following:
1. Conduct your needs analysis.

To help get a good survey return rate, you could offer to send the respondent a copy of the survey results, or make it clear in the introduction just how worthwhile your project is and that the respondent may benefit from it at some stage. Give them a time to have the results back to you.

Do not make people pay for stamps or phone calls. Use follow-up reminders.

2. Make a rubric that will be used to evaluate your goal of instruction in the performance assessment. When your needs analysis data has been returned and analyzed, you will be writing your goal of instruction.

Note: Depending on how your data will be gathered, the data gathering process could take 7-10 days. If you are sending out questionnaires, it is recommended that you put a timeline on them for returns. Also, you may want to begin work on the next subject, "Analyzing the Problem Part III: Learner Analysis" while waiting for your data to be returned.

3. Analyze your data.

This article provides an excellent discussion on how to analyze qualitative data.

This website provides excellent information on how to analyze qualitative data. (teacher researcher data analysis from George Mason University)

Guidelines for Qualitative Data Analysis: Narrative Data Analysis

Step 1: Get to know your data.

- Read and reread your data.
- Write down any impressions you have.
- Consider the quality of the data.

Step 2: Focus the analysis.

- What key questions did you want answered from the data?
- What was the purpose of your evaluation?

Step 3: Categorize the information (This step is often referred to as "coding the data.").

- Identify themes or patterns (e.g., ideas, concepts, behaviors, interactions, incidents, terminology, phrases used).
- Organize the information into coherent categories that summarize and help to answer your question(s).
- Identify other themes that occur.

Step 4: Identify patterns and connections within the categories.
- Summarize the information related to one theme.
- Identify key ideas being expressed in each category.
- List the similarities and/or differences being expressed by respondents.
- Determine which categories are more important. Count the number of times a particular theme comes up or the number of unique responses. These counts provide a rough estimate of relative importance.
- Decide if two or more themes occur together consistently in the data.
- Decide if some of these connections suggest a cause/effect relationship.

**Step 5: Interpret the data. Attach meaning and significance to the analysis.**

- Use your themes and connections to explain your finding.

**Quantitative Data: Likert Scales**

Likert scales are considered to be ordinal data. The numbers in Likert scales are not real numerical values, but values that indicate a rank order. This means that, while the difference between 1 and 2 is the same as the difference between 2 and 3, the difference between "Strongly Disagree" and "Disagree" is not necessarily the same as the difference between "Disagree" and "Neutral." ([Scoring and analysis of Likert Scales](#))

Report your data through the use of APA-style tables and discussion. In a report of the needs analysis, you should complete the following:

- Introduce why the needs analysis was done.
- Briefly discuss the population used and what data gathering instruments were used.
- Include a table presenting the data gathered from each data gathering source.

**Note:** Refer to the APA manual on how to present your data gathered from each data gathering instrument in a table. Tables allow the researcher to present a large amount of data gathered in the research in a small amount of space.

- Discuss what the data revealed to you in terms of the instructional problem or need.

**Using Tables for Displaying Data**

Place tables close to where they are first mentioned in your text, but do not split a table across pages. If the data in your table requires more than two pages, then put the entire table in your appendix and a shorter version of the table in your text. Be sure to reference your table with all of the data in your text. The appendix should also have a copy of each instrument used.

**Note:** Please refer to the APA manual and the "APA Style Essentials" for the correct way to use tables to report your data.

Based on what you learned about the creation of instructional goals, use the rubric you created to write your instructional goal. The instructional goal describes what the learners will be able to do when they complete the instructional unit. It describes how the learners will use and apply the knowledge and skills in the real world. The goal statement should describe (Dick, Carey,
and Carey)

- the learners,
- what the learners will be able to do in the performance context (in the real world),
- the performance context in which the skills will be applied (i.e., the real world), and
- the tools that will be available to the learners in the performance context.

The goal of instruction should be to foster meaningful learning and to help the learner transfer the new information to other learning experiences and problem solving.

Submit your instructional goal to the Instructional Design Message Boards for feedback.

**Complete Task 1**

Complete the following task in TaskStream:

- JNT: Task 1

For details about this performance assessment, see the "Assessment" tab in this course.

**Examples: Data Analysis**

This excellent example provides you with an overview of how the problem statement is analyzed to learn more about the problem. The goal statement is written based on what was learned about the problem.

**Examples of Well-Written Goal Statements**

**Goal Statement Example 1: Hillary Mays**

- In response to the needs analysis, two instructional goals have been identified and may be defined as the following: Given a problem or performance task, eighth grade students at Dawson-Bryant Middle School will be able to independently select the appropriate piece of technology to complete a given assignment. While completing the assignment, these students will create a basic presentation using multimedia presentation software (i.e., Microsoft PowerPoint) that demonstrates the principles of good presentation design, and they will use Microsoft Excel to create tables and spreadsheets that aid in the organization and analysis of data.

**Goal Statement Example 2: Catherine Richards**

- Given an inclusive classroom setting, teachers will understand the underlying causes of the behaviors displayed by special needs students and will apply collaborative team-teaching techniques to successfully modify curriculum to ensure an optimal learning environment.

**Goal Statement Example 3: Natalie Raymundo**

- At the end of the training, teachers will analyze benchmark assessment data from at
least two different perspectives (using two or more reports) and utilize the analysis of the data to modify instruction to meet the needs of students; subsequently, students will achieve 80% of the goal set by the teacher in the modification of instruction.

**Summary: Data Analysis**

The needs analysis is the first process in the systematic design model used by instructional teachers when creating effective instruction. The purpose of the needs analysis is to

- determine if instruction is a possible solution to the problem (rationale for instruction), and
- provide more in-depth insight into the problem and instructional solution by gathering data from sources knowledgeable about the topic.

The needs analysis is the first research that students conduct. Research is defined as having a question, creating data gathering instruments to answer the question, analyzing the data, and reporting the data in terms of what was learned about helping to improve the problem.

After the need for instruction has been analyzed, then the goal of instruction can be written. The goal should

- be linked to the identified problem,
- be linked to the gap between the current state and the desired state,
- express a solution to the problem,
- include measurable actions or performance of the learners,
- name the intended learners,
- identify the performance context, and
- identify tools available to the learners in the performance context.

**Analyzing the Problem, Part III**

You have learned about the processes for gathering information about the problem and how to determine what content must be taught to accomplish the goal of instruction.

The educator must determine not only what must be taught, but also how the instruction will be taught and what instructional strategies to use. In order to determine what instructional strategies to build into your lessons, it is important to identify unique characteristics of your learners. Therefore, an important part of the analysis process is gathering information about the learners. Assumptions about the learners may be inaccurate and lead to problems when the instruction is delivered. It is important to obtain the following information to identify learner deficiencies and the most appropriate instructional strategies:

- demographics
- entry behaviors
- prior knowledge of the topic area
- attitudes toward the content and potential delivery system
- academic motivation
Learner Analysis

Learner analysis is a crucial factor in the overall analyzing of a problem. Consider this as you go through the activities and the differences between learner and teacher analysis.

This topic addresses the following competency:

- **Competency 505.1.2: Learner Analysis**
  The graduate analyzes the population for whom the education program will be created to identify general characteristics that are important when developing instruction.

**Pre-Instructional Activity: Learner Analysis**

Think about the target population of students you will be designing your instructional unit for. Do they have any unique characteristics that will influence their learning? How have you addressed these characteristics in the past?

**Content Presentation: Learner Analysis**

Read the following chapter in *The Systematic Design of Instruction*:

- **chapter 5 ("Analyzing Learners and Contexts")**

**Learning Activities: Learner Analysis**

Analyze and describe in writing the general characteristics of your target population of students. Refer to the eight characteristics discussed in chapter 5 ("Analyzing Learners and Contexts") in *The Systematic Design of Instruction*. Use the rubric for evaluating analysis of the learners on page 107.

- Describe, in writing, the demographic information of your target population.
- Describe, in writing, entry-level skills required for using your instructional unit.
- Describe, in writing, the target populations' prior knowledge of the topic you will be teaching.
- Describe, in writing, the target populations' attitudes and motivation toward the topic you will be teaching.
- Describe any additional information on your target populations' education level and learning styles.
- Describe, in writing, any other unique characteristics of the target population that needs to be taken into account when designing the instructional unit.

**Examples: Learner Analysis**

Learner Analysis Example: Karen Strain

**Demographics**
The instructional setting included three seventh grade math classrooms in a small rural school in Washington State. The population is just over 50% low socioeconomic, the majority Caucasian, with 33% Hispanic (primarily native Mexicans) out of a total of 95 students. Class sizes range from 25 to 27 students. The students in this grouping are tracked, with the top 20% pulled out for advanced placement pre-algebra.

There are 15 special education students, including one child with cerebral palsy who functions four to five years below grade level, and two at-risk autistic boys. Of the 23 Hispanic students, all are bilingual, with one that is at tier one, and are classified as emerging English. This means that Spanish is the native language for all these students, but the tier one student is not yet able to converse in English, even socially. These students are the focus of the research study. Five of the Hispanic students are also classified as special education students.

The content is general math with an emphasis on problem solving. The curriculum has been carefully aligned with Washington State and National Council of Teachers of Mathematics standards. However, this group of students has scores well below grade level on standardized tests. Only a few of the Caucasian students have passed the prior year's state test. Classes are held every other day for the entire year on a modified block schedule with 90 minute periods. There are multiple support personnel in the classroom, including a special education teacher who team teaches the class with the mainstreamed students and helps with modifications. There is also a part-time English language learner (ELL) aide who works with the emerging English students. In addition there is a full-time learning assistance program aide for helping students who are functioning below grade level, but who do not qualify for special education.

Prior Knowledge of Topic
Over 50% of the students have had no instruction in probabilities. The topic is often at the back of the traditional math textbook and is not a topic that most teachers feel comfortable teaching. The students who have had instruction in probabilities are familiar with the idea of chance and can find probabilities of simple events like the probability of flipping heads on a coin or rolling a five on a standard number cube. In addition, many of the low socioeconomic students have never played card games and board games at home. These students do not know the number of cards in a deck, the suits, or cards such as queen, king, and jack. They have not developed an intuitive understanding of chance that students who have played games seem to develop.

These students have had some instruction in prerequisite skills. They have worked extensively with fractions and are fairly fluent in converting fractions to decimals to percents. They have also worked with ratios and have some understanding of the difference between a part-part ratio and a part-whole ratio.

Attitudes and Motivation
The high number of special education students in this group contributes to an overall atmosphere of defeat. Many of these students believe they cannot succeed or do well in math. They expect to fail or do poorly on tests. Like others in their age group, they are very social. They would rather talk than wrestle with a difficult problem. They do not have the strategies or the mental attitudes to persevere with challenging problems.
Homework is a difficult issue, and the staff has discussed the value of homework with this rural population of seventh graders. Eighty percent of these students are participating in school sports for the first time. They have two-hour practices after school every night and, and they are often on the road until 10:00pm or 11:00pm on game nights. Many of the students have a number of responsibilities outside of school, including babysitting younger siblings, translating for parents at appointments, or cleaning the house.

All of these seventh grade students want to be successful. However, they are easily defeated and do not have the confidence to stick with a topic that they find challenging. They are also reticent about asking questions. They do not want to be seen as stupid. Consequently, many of these students do not have the coping skills that seem inherent in their academically successful peers.

Learning Styles/Orientation
The majority of these students are visual learners, while the Hispanic students are holistic in their thinking and approach to learning (Curtin, 2005). This population struggles with math because they have not yet developed their abstracting ability. They need concrete, visual examples that relate to their lives and frames of reference. This dependence on visual learning is compounded for ELL students since they rely heavily on the visual to make up for language deficiencies. Several of the special education students are identified attention deficit or hyperactive, which means that kinesthetic, active learning is beneficial for them.

Cultural Characteristics
Some Hispanic students are holistic in their thinking (but not all). Holistic learners tend to think in terms of the whole picture, not the details. Thematic units that relate concepts and new learning to their lives and personal background are most beneficial. Graphic organizers, overviews, and closures that generalize the context are helpful to these students.

The Hispanic students that are observed in this analysis tend to be reserved in public situations, particularly when conversing with adults. As a result, they appear to be reticent to ask questions in class or seek help outside of class. Absences are often an issue with the students in this school. Students often have to stay home to take care of siblings while parents work. In winter, many students leave for a month or two to visit Mexico.

Summary: Learner Analysis

The purpose of the learner analysis is to identify unique characteristics of your learner population to be addressed when designing the instructional unit. Instructional strategies are selected based on the learner analysis. The identification of entry-level skills is also important: if the learner does not have those skills he or she will not be successful with the instructional materials. Therefore, consideration needs to be given to the evaluation of entry skills in order to make necessary instructional changes if needed.

Analyzing the Problem, Part IV

A fourth subject is provided in this course to allow more time to complete the learner analysis presented in the "Analyzing the Problem, Part III" subject.
Complete Learner Analysis

In the previous topic, the learner analysis was thoroughly presented. In this topic, you will complete a learner analysis.

This topic addresses the following competency:

- **Competency 505.1.2: Learner Analysis**
  The graduate analyzes the population for whom the education program will be created to identify general characteristics that are important when developing instruction.

**Complete Task 2**

Complete the following task in TaskStream:

- JNT: Task 2

For details about this performance assessment, see the "Assessment" tab in this course.

**Final Steps**

Congratulations on completing the activities in this course! This course has prepared you to complete the assessment associated with this course. If you have not already been directed to complete the assessment, schedule and complete your assessment now.