Sample Design

ADDIE Project

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ADDIE PROJECT

Overview

The purpose of this project is to produce a six (6) week, paper-based course of instruction on the ADDIE process that is completely self-directed. The course will utilize a survey approach that will be in sufficient depth to provide students with a practical working knowledge of the ADDIE process, but will not delve into the intricacies of theory. To this end the course will include a project-based component.

There are three initial issues that must be considered and accommodated in the overall design: 1) there are significant gaps in data relative to learner characteristics, 2) there are no plans to employ an instructor of record for the course, and 3) the clients goals are at odds with the design approach they desire. These issues present a considerable threat to outcomes; therefore, accommodating these issues must guide the overall design of the project.

To ameliorate negative outcomes, the following student supports will be put in place:

I. A simple, consistent layout that contains recognizable supports for the student will be adopted for each chapter. The student will be introduced to these supports in the first introductory chapter. This will reduce the student's cognitive load as they move through the instruction and give them a sense of control.

    a. I propose that the text be divided into Units rather than merely chapters. If we conceptualize Pre-instructional tasks; Instructional tasks and Post-instructional tasks it may help the learner become and stay oriented. While the Pre-instructional, Instructional, and Post-instructional division is not theoretically accurate, it will provide an organizational aid to the students for their initial instruction. This rationale can be explained to the student in the Unit of introduction so that they will be aware that while we are taking a linear approach in this course, in reality ADDIE is a recursive process.
    b. I propose the book contain the following:
        a. Introductory unit: a)overview of adult learning theory; b) a course overview; b) organization of book , and c) course expectations (syllabus of sorts)
        b. Pre-instructional Unit would include 1 chapter-- ANALYZE
        c. Instructional tasks Unit would include 3 chapters--DESIGN, DEVELOP, IMPLEMENT
        d. Post-instructional Unit would include 1 chapter EVALUATE
        e. Glossary
        f. APPENDICES (all forms and informational charts needed to complete assignments) It would be helpful to provide these forms for posting on the clients network or, if budget allows, include the forms digitally.

    c. Immediately below each Chapter/title will be a table that provides an overview of the ADDIE process with the current topic of discussion shaded. At the bottom of each item column the "deliverable" for that section is included. Each of the deliverables comprises a section of the student's final project.

	Analyze	**D**esign	**D**evelop	**I**mplement	**E**valute
Concept	Identify the probable causes for a performance gap.	Validate the desired performances & appropriate testing	Generate and validate the learning resources	Prepare the learning environment & deliver instruction	Assess the quality of the instructional products and processes, before, during & after implementation
Common Elements	1. Validate the performance gap 2. Determine instructional goals 3. Substantiate intended audience 4. Identify needed resources 5. Identify potential delivery systems	6. Conduct a task inventory 7. Compose performance objectives 8. Develop testing strategies	9. Develop content 10. Select/develop supporting media 11. Develop student guidance 12. Conduct formative revisions 13. Conduct pilot test	14. Prepare the trainer 15. Prepare the trainees	16. Determine evaluation criteria 17. Select evaluation tools 18. Conduct evaluation
Product	Analysis Summary	Design Brief	Learning Resources	Implementation Strategy	Evaluation Plan

d. Each chapter will begin with a brief introduction followed by three outlined boxes that will identify in bulleted format: 1) Key Chapter Concepts, 2) What the student will be able to do at the end of the chapter (i.e., objectives), and 3) How the student will know when he/she has achieved the objectives (i.e. assessment). Samples of assignments will be included in text along with practice opportunities for the student. These assignments will reflect the material on which the student will be assessed. Since student experience is unknown and there is no available instructor or mentor, it is crucial that the students be given explicit guides for self assessment. This approach will provide that guidance.

Key Chapter Topics

What You Will Be Able to Do

(stated as objectives)

Evaluation

e. Each phase of the ADDIE process contains a significant amount of information which presents a challenge to organizing the material for easy comprehension and overall concept development. I think the best approach is to devote a chapter to each of the elements to help establish and keep students oriented. Still, the chapters are quite information dense. To accommodate this I propose that we place each task required to

reach the chapter goal for a designated element into its own **section**. For instance, the chapter that would address ANALYZE would have the overall goal of "identifying probable causes for performance gap". To reach that goal the student would need to complete the tasks: 1. Validate performance gap; 2. Determine instructional goals; 3. Confirm audience ….etc. Each of these tasks would appear in the same chapter but would occupy its own **section** with its own instructional narrative, examples, case studies and evaluations. Key to this organization is embedding formative assessment by **section** which acts to cue the student for cognitive storage and chunks the material in cognitive friendly sizes. This will further provide a structure for benchmarking. Each chapter becomes a benchmark point. If a student encounters problems, it will be easy to backtrack and identify the area of difficulty as well as sub-skills deficit.

The subsections would be tied together with logical segue statements. Please refer to the sample instruction which represents one section under the ANALYZE component.

f. Key Terms will be distributed by section. Each key term will be bold italic whenever it is mentioned in a section in which it is introduced, and will be cross referenced in a glossary which will appear at the end of the book.

g. Case studies will be appropriately placed in the text. To accommodate the dearth of data on student characteristics and the absence of a forum for student discussion, the case studies will be progressive; beginning, middle and ending case studies will be utilized. Beginning cases will have evident solutions, and will present well-defined problems, simple situations, and familiar contexts that can be analyzed based on prior knowledge assumed of a high-school graduate. Middle case studies consist of somewhat well defined problems, a relatively simple solution and context with solutions that can be easily derived from readily available information with the assumption of skills of a high school graduate with some life experience or some post-secondary schooling. Ending case studies feature ill-defined problems, relatively complex situations that will require that the student have a grasp of the concepts presented in the chapter and will be based on the assumption of some college education and life experience. Beginning and middle case studies will provide practice while the ending case study will be used as an assessment/benchmark measure.

h. Completed samples of "deliverables" for each step of the ADDIE process will be presented to guide the student through the completion of their project. Each "deliverable" which appears in the bottom row of the ADDIE table that opens each chapter will comprise a major section of the final project. This approach will give the students a template for both guidance during the course and for post-course reference; thus providing a learning aid during the course and a heuristic for long-term learning retentiond.

i. Where appropriate, relevant websites and/or references will be presented at the end of each chapter.

II. Particular attention will be paid to verbiage. Since students will not have access to an instructor, it is important to engender a sense of human connection. This connection will help reduce cognitive dissonance and ease student engagement with the text. A familiar verbal style (e.g., the use of "we" as opposed to "you", the use of contractions etc.) will be used in lieu of the remote technical tone common to textbooks to promote this connection.

UNIT I PRE-INSTRUCTION

CHAPTER 1: ANALYZE

	Analyze	**D**esign	**D**evelop	**I**mplement	**E**valute
Concept	Identify the probable causes for a performance gap.	Validate the desired performances & appropriate testing	Generate and validate the learning resources	Prepare the learning environment & deliver instruction	Assess the quality of the instructional products and processes, before, during & after implementation
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INTRODUCTION

In this chapter we will focus on the Analyze phase of the ADDIE process. At the end of each phase of the ADDIE process we will develop a "product" which becomes a critical informational piece for of our final instructional plan. In this chapter we will learn what we do as designers during this phase and what is included in the product we will develop to complete this phase.

Commonly the **Analyze** phase concentrates on identifying the likely causes for a performance gap which is defined as the difference between the current situation and the desired situation. The procedures most often associated with this phase include validating the performance gap, ascertaining instructional goals, identifying audience characteristics, identifying required resources necessary to complete the ADDIE process, and determining potential delivery systems. Each component of this phase has its own distinct purpose which lends to a comprehensive analysis of what we need to know before we engage in developing instruction.

KEY WORDS

Analysis, Instruction, Instructional design (ID), Performance assessment, Performance gap, Purpose Statement [This reflects only the key words in the section of instruction addressing validation of performance gap. Key words will be distributed by section]

Key Chapter Topics

- Validate the performance gap
- Sample of Performance Assessment
- Determine Instructional Goals
- Confirm the Intended Audience
- Identify Required Resources
- Determine Potential Delivery Systems
- Sample of Analysis Summary

What You Will Be Able to Do

- Generate a purpose statement based on a defined performance gap.
- Generate goals that respond to performance gaps that are caused by lack of knowledge and skills
- Identify the abilities, experiences, preferences and motivation of the trainee.
- Identify resources that will be required to complete the ADDIE process.
- Determine the potential delivery system.
- Produce a comprehensive *Analysis Summary*.

Evaluation

Your final product must include the following components:

- Table 1.1 Performance Assessment
- Table 1.2 Instructional Goals guided by Bloom's Taxonomy [refer to Table 1.3 Bloom's Taxonomy]
- Table 1.4 Learner Analysis
- Table 1.5 Resource Audit for complete ADDIE process
- Table 1.6 Potential Delivery System
- Executive summary of Tables 1.1 through 1.6 and conclusions in narrative form. This should lead the Analysis Summary.

Validate the Need for Instruction

The ADDIE process supports us through the process of ***instructional design (ID). Instructional design*** is defined as a systematic and reflective process through which the principles of learning and instruction are translated into intentional plans for implementing instructional materials, activities, information resources and evaluationr. As the name suggests, ***instructional design*** is concerned with instruction/training. Instruction in this sense is not an informal, happenstance event, but rather an intentional support of learning toward identified objectives. To put it another way, instruction is a process of deliberately arranging learning conditions to support the attainment of an intended outcome. When we are engaged in the process of ***instructional design***, we are a bit like engineers in that our work is based on principles that have been successful in the past and we focus on designing solutions that are effective and attractive

Instruction/training is often used to rectify observed deficiencies in an individual's skill/ knowledge set. A ***performance gap*** or a *performance discrepancy* is defined as the difference that exists between the current situation and the desired situation. Yet, many observed skill/knowledge deficiencies originate in issues other than what *appears* to be a skill and/or knowledge deficiency. A good example of this is an airport slowdown that focused on one noted airline over the Christmas holidays a few years back. Flights were delayed or cancelled leaving people stranded in airports across the country. A major cause of these delays was baggage handling. The process of off-loading, transferring, and loading baggage was slow to the point of being inert. If you looked at the problem without context, you would probably be tempted to say, "Someone needs to train these people so that they can handle the extra baggage loads during busy times of the year." But with context, you would know that this was not an issue of employees not knowing what to do, or working inefficiently (which could respond to training), but rather an intentional action by the union in response to deadlocked contract negotiations. So our intial reaction that the baggage handlers needed training was incorrect.

This is a pretty obvious example, but you might be surprised at how often symptoms of an underlying problem, that has little or nothing to do with performance deficiencies, is targeted as "a problem needing instruction". Clearly, implementing instruction to correct a **performance gap** that is not caused by a skill/knowledge deficit is doomed to failure, and is simply a waste of time. Thus, your first job as an instructional designer is to validate that the observable ***performance gap*** is one that will respond to training/instruction. In plain-speak, if employees are performing at a level lower than the desired level, you

need to validate that the discrepancy can be resolved by providing training/instruction rather than by some other means.

There are many causes for ***performance gaps*** that do not require training/instruction; for instance, these gaps could be the result of communication voids, boundary spanning, or a even a need for reorganization. Let's assume for a moment that after a ***performance gap*** was observed in a team of employees, further investigation revealed that the team had received flawed documentation for the project; knowing this, the ***performance gap*** could be remedied by simply supplying the employees with the correct information. Training would have no effect. Another instance might occur when several departments (e.g., marketing, production, engineering) are all involved in the same project. If participating departments don't establish a common vision, standards and coordinated efforts at the outset of the project, employee output could easily be compromised by conflicting timelines, communications and mandates resulting in an observable ***performance gap***. The likely cause for the observable ***performance gap*** in this case is underlying organizational issues rather than a need for employee training/instruction. There are plenty of instances where training/instruction is NOT needed, but there are just as many instances where training/instruction is needed to remedy an observed ***performance gap.***

The message here is to look carefully at the context in which the ***performance gap*** is embedded so that we can determine whether training/instruction or some other solution is needed. When we do this we will be conducting an **analysis** that will help us to determine whether the ***performance gap*** that we have observed will be responsive to training/instruction. To do that, we will first validate the ***performance gap***. This involves the process of determining *what is* (actual performance) and *what should be* (desired performance) and then determining *why* the ***performance gap*** is occurring. This will then allow us to develop a purpose statement. A ***purpose statement*** is a succinct and explicit statement that defines the primary function of the instructional program and the context in which the instruction will occur.

There are three main steps involved in this process:

- Measure Actual Performance (the performance as it is currently observed)
- Confirm Desired Performance (the level of performance needs to be)
- Identify the causes for the ***performance gap***

Step 1: Measuring the Actual Performance

1. Observe the behaviors of focus
2. Document current performance levels
3. Investigate.
    a. Interview pertinent employees (e.g., top performers, novice performers, supervisors, subject matter experts
    b. Gather data using standards, surveys, occurrence reports, error reports, awards and recognition criteria

Step 2: Confirm Desired Performance

1. Establish criteria for desired performance levels
2. Observe employees functioning at and/or near desired performance levels
3. Investigate.
    a. Interview pertinent employees (e.g., top performers, novice performers, supervisors, subject matter experts
    b. Gather data using standards, surveys, occurrence reports, error reports, awards and recognition criteria

Step 3: Identify Causes for the Performance Gap

For all intents and purposes, performance gaps fall under one of the following three categories:

- **Lack of resources**

    e.g.

    - Limited technology capacity happens when technology needed is not available
    - Limited cognitive capacity happens when a person does not have the inherent intellectual capacity to perform a task no matter how much training he/she receives
    - Limited process capacity happens when an employee is made to follow a process that is flawed
- **Lack of motivation**
- **Lack of knowledge and/or skills**

❖ Life would be very simple if everything was black and white, but unfortunately, as in life, determining the causes of a ***performance gap*** may not be simple; often there is a need for multiple responses to a performance gap that may need to occur simultaneously. So keep in mind, that there can be a need for instruction/training even when other measures must also be taken.

Sample Performance Assessment

The Case

The headmaster of a private school requested that an instructional designer develop training for teachers in preparing students to take standardized tests. The school prided itself on presenting instruction in a manner that allowed for student engagement, concept development and hands-on learning. The school followed state standards, utilized a high-quality research-based curriculum, and was technology rich and well supported by all stakeholders. Yet, student scores on mandated state standardized tests were not consistent with the high grades students were achieving in school. When approached by the administration, teachers concluded that the problem was that they relied on multiple modes of assessment in the classroom and that the students were simply not familiar with the "tricks" of taking standardized tests.

Actual Performance	**Desired Performance**	**Primary Cause**
Most classroom instruction aligned with state standards	Instruction across the school align with the state standards	State standards are not being uniformly addressed across all grades
Content of curriculum is often not timed with the state testing dates.	Curriculum aligned with state standards and timed so that students are introduced to relevant topics prior to the testing dates	Curriculum is not adequately mapped. Lack of common benchmarks.
Homework is graded and "extra credit" work is given to students to inflate poor test scores.	Only specified criteria used to determine final grades. Homework should be considered practice and not factored into final grade. Extra credit should not factor into final grade.	Teachers masking actual test scores with invalid inclusions.

Purpose Statement:

Instruction is appropriate. The purpose of the instruction is to present teachers with strategies to plan, develop, and implement common curriculum benchmarks and to coordinate curriculum planning with state testing dates

An issue not amenable to instruction is the use of homework and extra credit to inflate student scores. This is an internal issue that needs to be addressed by the administration.

Practice Case Studies

Consider the following three case studies then develop a possible scenario. Record your "observations and findings" in the form that follows each case study. Develop a purpose statement based on your conclusions.

CASE STUDY # 1

A company has decided to replace all of their desktop PCs with Mac Book Pros. A department manager has reported a significant decrease in productivity since the new computers were delivered three months ago. This has created a ***performance gap.*** **Determine whether this performance gap should be addressed with training/instruction.**

Actual Performance	**Desired Performance**	**Primary Cause**
[Add additional rows as needed]		
Purpose Statement		

CASE STUDY # 2

The Human Resources Department has documented an increase in sexual harassment complaints. This increase was noticed 8 months after two offices merged. One office presented mandatory sexual harassment training for their employees two years prior to the merge and the other presented similar mandatory training 6 months prior to the merge. This has created a ***performance gap*** with serious legal ramifications for the company. **Determine whether this performance gap should be addressed with training/instruction.**

Actual Performance	**Desired Performance**	**Primary Cause**
[Add additional rows as needed]		
Purpose Statement		

CASE STUDY #3

A local high school purchased new iPads for all their teachers. Teachers were provided training in the basic use of the iPad, their use of the iPads in their classrooms is far below expectations. This has created a ***performance gap***. **Determine whether this performance gap should be addressed with training/instruction.**

Actual Performance	**Desired Performance**	**Primary Cause**
[Add additional rows as needed]		
Purpose Statement		

REFLECT and APPLY

Consider the problem that you have identified for your final project. Look carefully at your problem in the organizational context. Can you find other reasons that may be responsible for the ***performance gap*** that you have observed? What are the facts that make you conclude that this problem will be resolved with training/instruction? Complete Table 1.1 found at the end of the chapter.

- Generate a purpose statement based on a defined performance gap.

TEST YOURSELF

1. Explain the statement, "The ADDIE process is often an appropriate approach to reducing performance gaps."

2. In your own words, define the term **instruction** as it applies to the ADDIE process.

3. Describe a situation where the ADDIE process is only a part of reducing a performance gap.

[At this point the instruction would segue to determining the instructional goals which would start a new section and begin on a new page.]

Table 1.1 **PERFORMANCE ASSESSMENT**

Actual Performance	**Desired Performance**	**Primary Cause**
[Add as many boxes as you need]		
Purpose Statement:		

Table 1.2 **Instructional Goals based on Bloom's Taxonomy [Terminal Tasks]**

Instructional Goals	**Performance Gap Goals will fill**	**Bloom's Level**
[Add as many boxes as you need]		

Table 1.3 **Bloom's Taxonomy**

Competence	Skills Demonstrated
Knowledge	• Observation & recall of information • Knowledge of dates, events, places • Mastery of subject matter **Sample verbiage**: cite, choose, collect, define, describe, examine, identify, label, list, locate, match, name, quote, recall, recognize, record, repeat, show, select, state, tabulate, tell, write
Comprehension	• Understanding information • Grasp meaning • Translate knowledge into new context • Interpret facts, compare, contrast • Order, group, infer causes • Predict consequences **Sample verbiage:** associate, contrast, describe, distinguish, estimate, differentiate, discuss, extend, arrange, clarify, convert, diagram, draw, explain, express, interpret, outline, paraphrase, predict, report, restate, review, sort, summarize, transfer, translate
Application	• Use information • Use methods, concepts, theories in new situations • Solve problems using required skills or knowledge **Sample verbiage:** adapt, apply, calculate, catalogue, change, chart, classify, complete, compute, consolidate, demonstrate, develop, discover, employ, examine, experiment, extend, extrapolate, generalize, illustrate, manipulate, modify, order, predict, prepare, produce, relate, show, sketch, solve, submit, use, utilize
Analysis	• Seeing patterns • Organization of parts • Recognition of hidden meanings • Identification of components **Sample verbiage:** analyze, appraise, arrange, audit, break down, categorize, certify, classify ,compare, connect, contrast, correlate, criticize, deduce, defend, detect, diagram, differentiate, discriminate, divide, distinguish, examine, explain, infer, inspect, investigate, order, question, reason, separate, solve, survey, test, uncover, verify
Synthesis	Use old ideas to create new ones Generalize from given facts Relate knowledge from several areas Predict, draw conclusions **Sample verbiage:** arrange, assemble, build, combine, compile, compose, conceive, construct, create, design, devise, discover, draft, formulate, generalize, generate, integrate, invent, make, manage, modify, organize, plan, predict, prepare, propose, rearrange, reorder, reorganize, rewrite set up, structure, substitute, synthesize
Evaluation	• Compare and discriminate beteen ideas • Assess value of theories, presentations • Make choices based on reasoned argument • Verify value of evidence • Recognize bias/subjectivity **Sample verbiage:** appraise, approve, assess, choose, conclude, confirm, convince, criticize, critique, decide, diagnose, discriminate, evaluate, grade, judge, justify, measure, prioritize, prove, rank, rate, recommend, research, resolve, revise, rule on, select, support, test, validate

*****_Adapted from Bloom, B.S. (Ed.)(1956) Taxonomy of educational objectives: The classification of educational goals: Handbook I. cognitive domain. New York: Longmans Green._

Table 1.4 **Learner Analysis**

Description of primary trainee group	
General group characteristics	Gender Age range Language Culture Life phase Experience Attitudes Motivation Self-directedness
Size of group/class	
Skill sets related to training topic	
Skills that impact potential to succeed in the learning environment	
[add additional boxes as needed]	
General description of the trainees: [be sure to present this in terms of facts rather than opinion]	

Table 1.5 **Resource Audit for Complete ADDIE Process**

Content	Technology	Facilities	Human

Table 1.6 **Potential Delivery System**

Delivery System	**Pros**	**Cons**
[Add as many boxes as you need]		
Conclusion: [present this as a comparison of facts not opinions]		