R620: INSTRUCTIONAL TASK ANALYSIS

[WORKPLACE EXPERTISE]

[The current report is a documentation of the workplace expertise of an instructional designer in an e-learning environment.]

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PURPOSE

This paper is meant to document the workplace expertise of an e-learning instructional designer (ID) who works within an organization.

DOCUMENT OVERVIEW

The documentation is separated into five categories: job description, task inventory, knowledge tasks, system tasks, and procedural tasks.

DATA COLLECTION METHODOLOGY

The current documentation on workplace expertise of an ID in e-learning has been compiled after:

- A content review of:
  - competencies outlined by the International Board of Standards for Training, Performance and Instruction
  - several job descriptions posted on job sites and by the U.S. Department of Education
  - literature search in journals
  - various blogs and forums
- Interviews of four e-learning ID practitioners from both corporate and education sectors.
  - Corporate
    - Option Six, a division of General Physics Corporation
  - Education
    - Harrison College, Indianapolis, IN
    - Indiana University, Bloomington, IN

DEFINITION: INSTRUCTIONAL DESIGNER

In our literature review, according to Morrison, Ross and Kemp (2004), "the instructional designer has the primary responsibility of ensuring that the instruction is designed, developed, and produced in a systematic manner that will consistently produce efficient and effective learning" (p. 298).

From our interviews, an ID was described as:

- Someone who largely plays the role of a project manager and a team manager wherein the key responsibility is communication, it also includes some aspect of instructional design and client management (Option Six, 2011).
- An ID knows the systems way of thinking and fully understands Bloom's revised taxonomy. They need to have skills in the areas of critical thinking, good time management and organization (Harrison College, 2011).
- An ID who can work iteratively and skills in the areas of production and web development. According to this interviewee, proficiency in Adobe CS5 tools is a must. Some of the deliverables expected from an ID are instructional guides, job aids, infomercials, brochures and e-learning videos (Indiana University, 2011)

Note:

The e-learning industry uses various titles that are synonymous to an ID such as: Director of Instructional Material, Educational Consultant, Specialists, Technologists, and Instructional Coordinators.

JOB DESCRIPTION

The following job description was drafted after reviewing current job descriptions of Instructional Designers from the U.S. Department of Labor (Occupational Outlook Handbook, 2010 - 2011), job postings for an ID across several organizations such as Adecco Engineering, Alpine Access, Sylvan Learning, Global Institute of Sustainability and Education Management Corporation to name a few.

Primary Role

Assesses client needs and develops, designs, and implements training programs and/or materials, using online technologies and applying industry best practices in teaching and learning.

Secondary Roles

- Responds to clients' requirements, proposes solutions that are in line with clients' business objectives.
- Develops rapport with clients and leverages experience and knowledge when proposing instructional solutions.
- Participates in every aspect of the ID process.
- Manages multiple projects at any given time.

Scope and Impact

The e-learning ID will manage projects of varying scopes, from designing e-learning solutions for small businesses or departments to larger organizations to be implemented on a national level. Clients may include, but are not limited to, those of K-12 education systems and/or private business entities.

Qualifications

- Must have a bachelor's degree in instructional design or related field, and 2-4 years of e-learning instructional design experience. Master's degree in instructional design or related field is preferred.
- Must be able to demonstrate understanding of industry models and theories such as ADDIE
- Must provide samples of functioning online courses.
- Must possess mastery of Microsoft Office, Adobe CS5 and Captivate software applications, as well as video, image and audio editing.

TASK INVENTORY

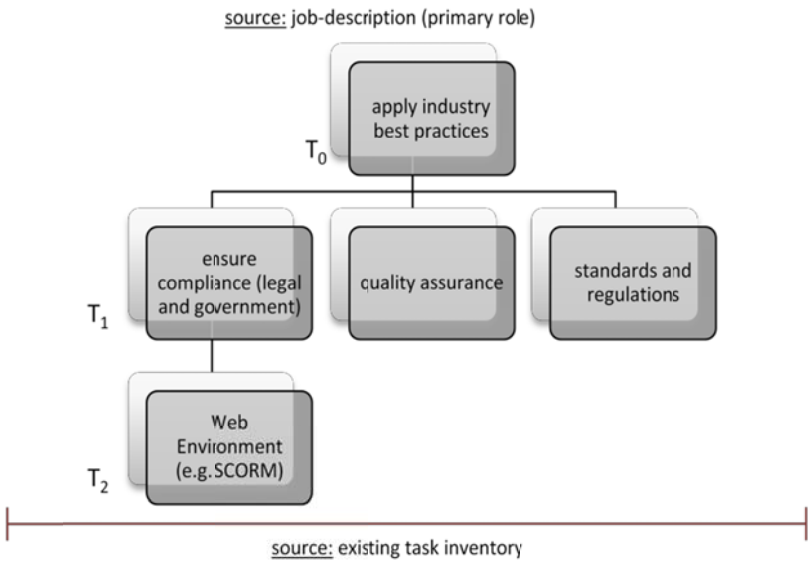
Existing Task Inventories

A review of various job-descriptions from several sources led to the compilation of the existing task inventories, which are as follows:

- Designs and develops instructionally sound curricula and course materials, including facilitator guides, flowcharts, storyboards, participant workshops, and job aids.
- Works on multiple assignments/projects simultaneously.
- Works independently or collaborates with an internal team.
- Ensures compliance with legal and governmental requirements, regulations and standards, as well as assuring quality.
- Assesses and evaluates programs including content and tools.
- Leads change initiatives when needed.
- Demonstrates thorough knowledge of the ID process in paper and web-based courseware development.
- Works with subject matter experts (SMEs).
- Effectively communicates when working with clients.
- Demonstrates strong organizational skills.
- Works on the design of online and/or blended learning courses

For instance, figure 1, illustrates how an ID task of "apply industry best practices" can be broken down into further sub-tasks. T_0 indicates task at the macro level, whereas, T_1 is the sub-task of T_0 and T_2 is the sub-task of T_1. This is a visual depiction of inventory from the existing list of tasks.

Figure 1



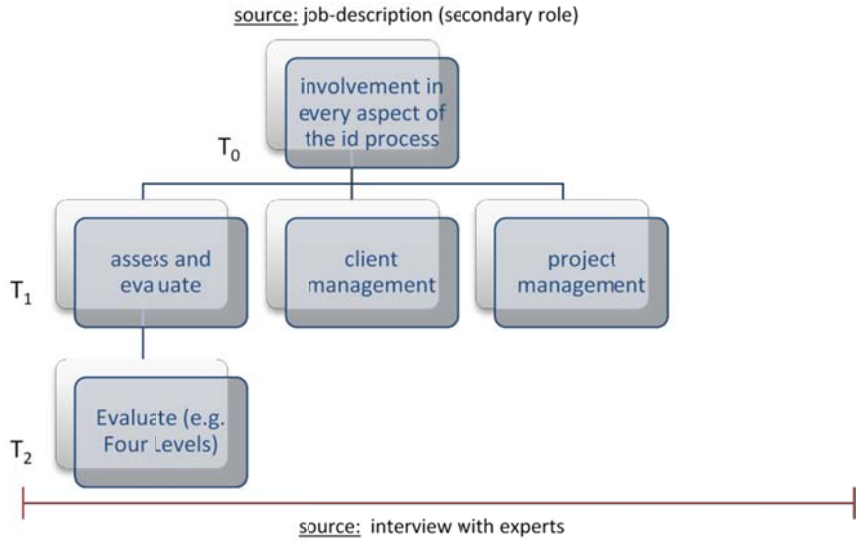
Interview of Experts

The experience of IDs interviewed ranged from 0.5 years to 12 years with an average experience of 7.6 years. Our interviews with the experts suggested the following list of tasks that contributes to the repertoire of an ID in an e-learning industry.

- Demonstrates strong presentation skills.
- Applies ID theories/models such as ADDIE, Bloom's taxonomy, Kirkpatrick's 4 Levels, and adult learning theory.
- When appropriate, uses audio/video design and development tools such as Captivate, Premiere, Soundbooth, etc.
- Demonstrate competence in client management and project management
- Ability to collaborate with not only SMEs but also clients, staff and sub-contracted vendors

Figure 2, depicts the task of an ID based on our interview of experts. The hierarchy of this graphic mimics our earlier (discussion) rationale of task inventory. T_0 outlines that the major task of an ID is to be involved in every aspect of the ID process whereas T_1 the sub-task of T_0 indicates that in order to do so one of sub-tasks of an ID is to assess and evaluate.

Figure 2


source: job-description (secondary role)
involvement in every aspect of the id process
T0
assess and evaluate
client management
project management
T1
Evaluate (e.g. Four Levels)
T2
source: interview with experts

KNOWLEDGE TASKS

This section was developed by synthesizing content gathered from interviewing IDs with experience ranging from 0.5 years – 12 years in industries such as elearning and education, literature search in journals, review of job descriptions posted on job-sites and by the U.S. Department of Education; competencies outlined by the International Board of Standards for Training, Performance and Instruction (ibstpi®) and on various blogs and forums.

The following knowledge description reflects a complete outline that captures information from various sources:

Performance Standard:

To ensure that the training solution is delivered based on the needs, budget and time constraints of the client.

1. Instructional designer can be defined as someone who:

- Continuously improves different programs (instructor led and e-learning), courses, and lessons that the organization has to offer.
- Ensures tight and effective coupling between the curriculum being developed and the technologies and delivery environment supporting that curriculum.
- Demonstrates knowledge of contemporary adult learning theories, instructional design and theory, online and instructor-led, software packages.
- Plays the role of an analyst, evaluator, e-learning specialist and project manager
    - Wherein the analyst specializes in performance analysis and training needs assessment
    - Wherein the evaluator specializes in various forms of evaluation and assessment with a particular emphasis on transfer and impact evaluation
    - Wherein the e-learning specialist specializes in development of multimedia and electronic learning products
    - Wherein the project manager specializes in managing internal or external designers on one or several projects
- Communicates effectively in visual, oral and written form

- Wherein communication skills extends to asynchronous and synchronous interactions with an ability to present instructional information integrating key factors pertinent to the virtual environment

- Plans and analyzes
  - Analyzes the characteristics of the environment
  - Reflect upon the elements of a situation before finalizing design solutions and strategies
- Designs and develops
  - Designs instruction that reflects the diverse group of learners
- Implements and manages
  - Design instruction that reflects an understanding of the diversity of learners and groups of learners

2. According to the competency defined by ibstpi®, the instructional designer needs to be able "to update and improve knowledge, skills and attitudes pertaining to instructional design and related fields" manager (Sims & Koszalka, 2008, p.572). The instructional designer should demonstrate knowledge in:

a. Instructional theories (e.g. ADDIE, revised Bloom's taxonomy, Gagne's Nine Events of Instruction)
b. Learning theories (e.g. behaviorism, cognitivism, constructivism, social constructivism and its related approaches such as problem-based learning, goal-based scenarios, situated learning, cognitive apprenticeship)
c. Adult Learning Theories
d. Pedagogical Approaches
e. SCORM for the eLearning Environment

The instructional designer should demonstrate skills in the areas of:

General skills:

a. Problem analysis and problem solving skills
b. Ability to step back from a problem and reframe it multiple ways

c. Ability to facilitate groups (even remotely)
d. Ability to think across multiple dimensions (behaviorist, cognitive, constructivist etc.)
e. Client Management

Technical skills:

a. Course Management Systems (e.g. Blackboard, Angel)
b. Database Management Systems
c. Publishing Tools
d. Course Authoring and Delivery Tools (e.g. Lectora, Captivate, Adobe E-Learning Suite)
e. Information Mapping Tools
f. Screen Capture Tools (e.g. SnagIt, Photoshop or Illustrator)
g. Presentation Tools
h. Web Conferencing

The instructional designer should be able to demonstrate the following attitudes:

a. service centric
b. dedication
c. open to feedback
d. comfortable with the notion of iteration in course development
e. flexibility

3. The instructional designer will have to collaborate with the following stakeholders but it is not limited to:

Internal Stakeholders

a. Internal content developers
b. Media developers
c. Course Directors
d. Support Staff
e. Project Managers
f. Integration Team
g. Programmers

h. Management

External Stakeholders

a. Client
b. Subject Matter Experts (also known as SMEs
c. Technical Staff
d. Sub-Contracted Vendors

4. The instructional designer will have to participate in the following work process but it is not confined to:

a. Understand and confirm client's expectations of the deliverables
b. Analyze the needs of the target group of learners
c. Ensure that a project plan is in place, which includes the project interdependencies
d. Design (prototype) to ensure that it reflects client's needs
e. Develop the product
f. Test the (beta) product
g. Incorporate feedback, remove bugs etc.
h. Implement the product across the organization (Note: Only if this is within the ID's scope of work)
i. Evaluate the product organization (Note: Only if this is within the ID's scope of work)
j. Handoff the deliverable to the client
k. Project post-mortem

5. Resource List

Print Materials

Competencies Instructional Design. (2010). Retrieved April 20, 2011, from International Board of Standards for Training, Performance and Instruction: http://www.ibstpi.org/Competencies/instruct_design_competencies.htm

Frost, A. (2010). The Different Types of Knowledge. Retrieved 2011 йил 21-April from http://www.knowledge-management-tools.net/different-types-of-knowledge.html

Sims, R. C., & Koszalka, T. A. (2008). Competencies for the new-age instructional designer. In J. M. Spector, M. D. Merrill, J. V. Merrienboer, & M. P. Driscoll, Handbook of Research on Educational Communications and Technology (Third Edition) (pp. 569-575). NY: Taylor and Francis.

Swanson, R. A. (1999). The Foundations of Performance Improvement and Implications for Practice. In R. Torraco, The Theory and Practice of Performance Improvement (pp. 1-25). San Francisco: Berrett-Koehler.

Interviews

Harrison College, Columbus, Indiana (2011)

Indiana University, Bloomington, Indiana (2011)

Option Six, Bloomington, Indiana (2011)

In order to visually depict the encapsulation of knowledge description of an ID in an e-learning environment, the graphic adopts a layered approach to show the qualities and interactions of an ID and his environment.

Figure 3: Roles Played by an ID

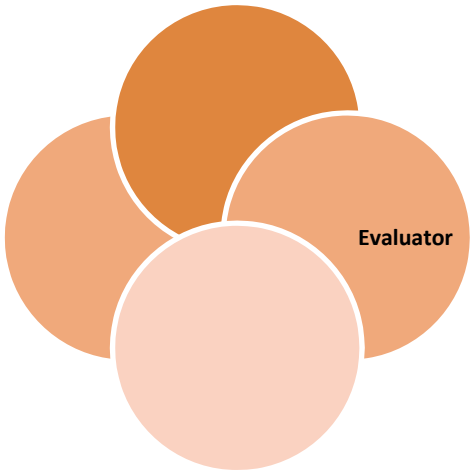


Figure 3, reflects Richey, Fields and Foxon's (2001) view of the critical role played by an ID (as cited in Sims & Koszalka, 2008, p.570)

Figure 4: Roles Played by an ID

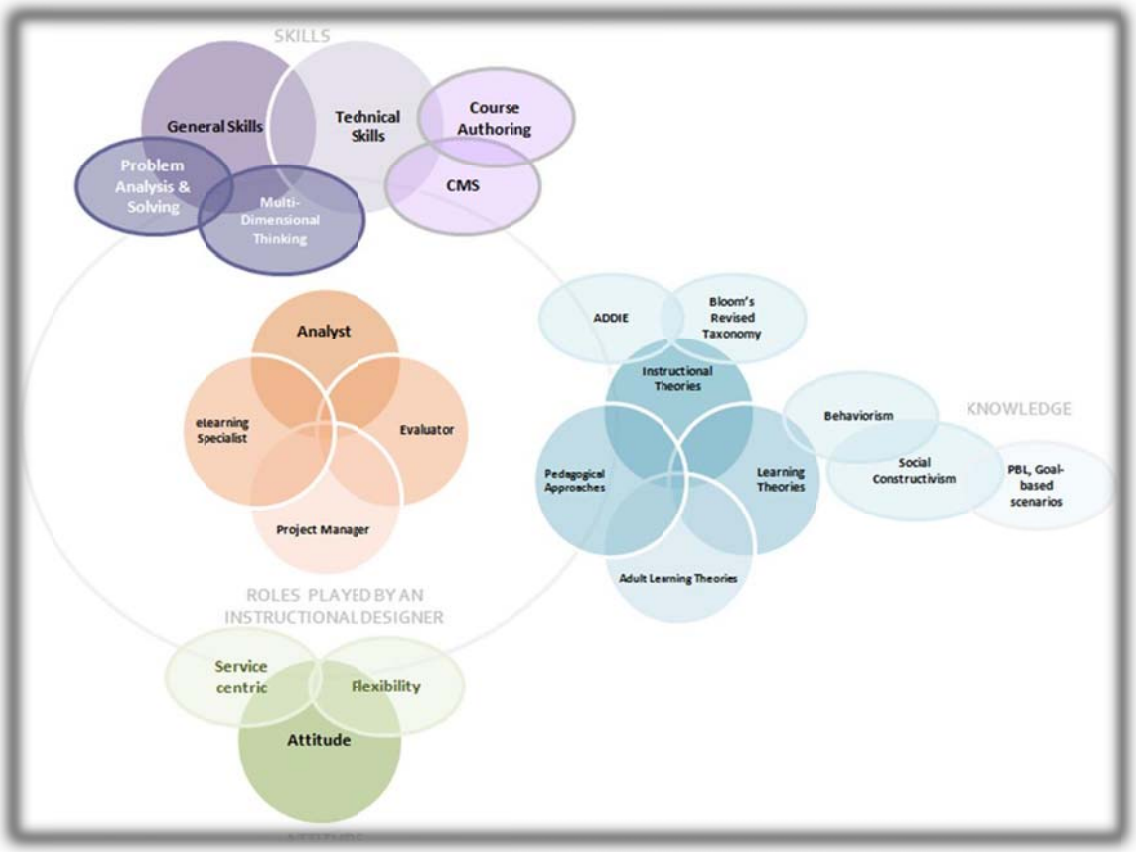


Figure 4, illustrates the knowledge, skills and attitudes (KSAs) compiled after a review of literature, job-postings and expert interviews.

Figure 5: ID's Knowledge of Work Processes

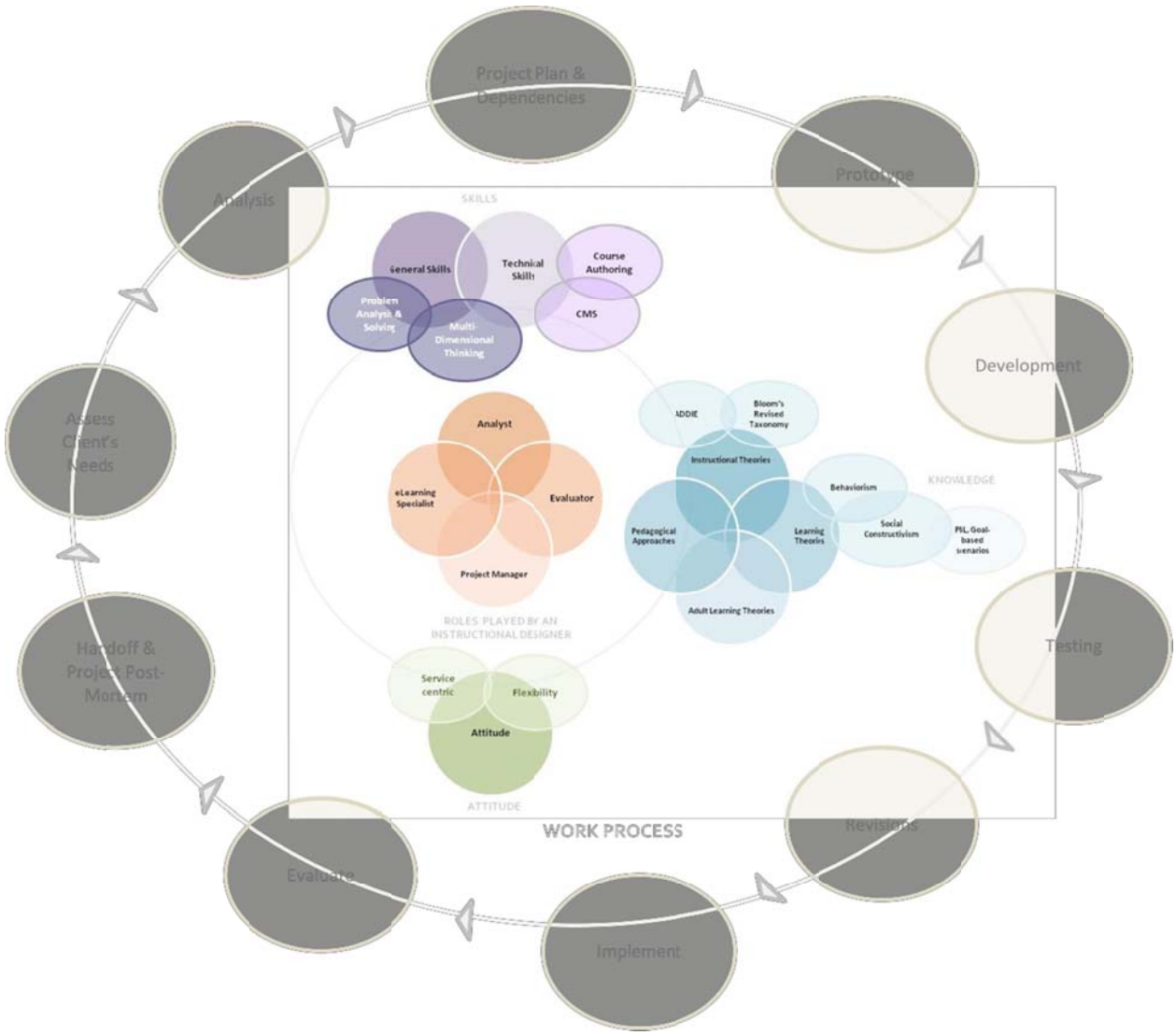


Figure 5, aggregates the various steps within an organization's work process that an ID needs to be involved in. It is important to note that the above depiction of what the ID needs to know about work processes is subject to operating environment of the organization (e.g. O6 process, Capability Maturity Model etc.).

Figure 6: ID's Knowledge of Work Processes

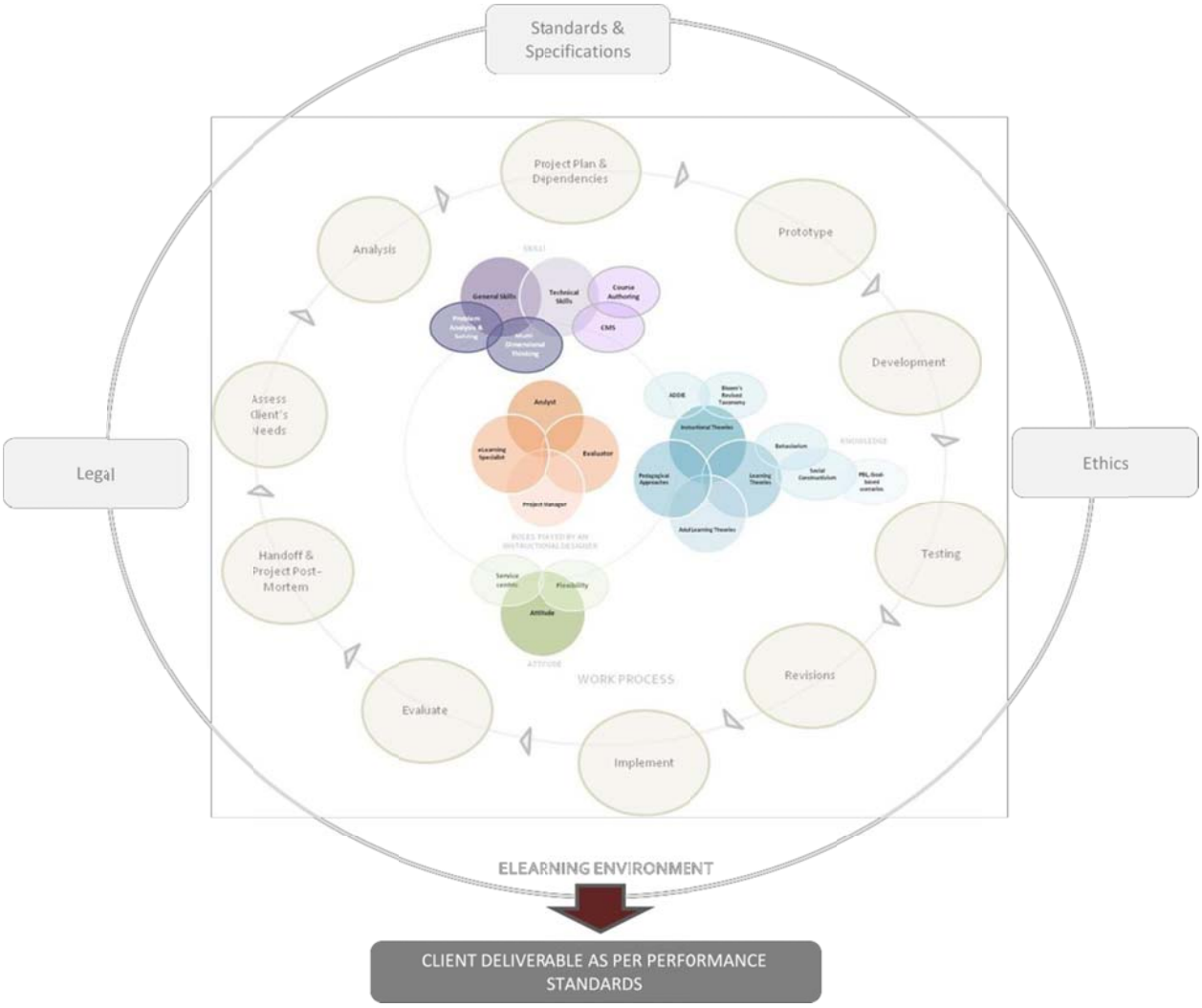


Figure 6, is the last layer of the visual synthesis of the knowledge description of an ID. It illustrates the (macro/external) environment (such as standards and specifications as outlined by ibstpi® etc.) that an ID operates within. The ID functions within these various layers to deliver training solution to the client as per his needs, budgets and time constraints.

SYSTEM TASKS

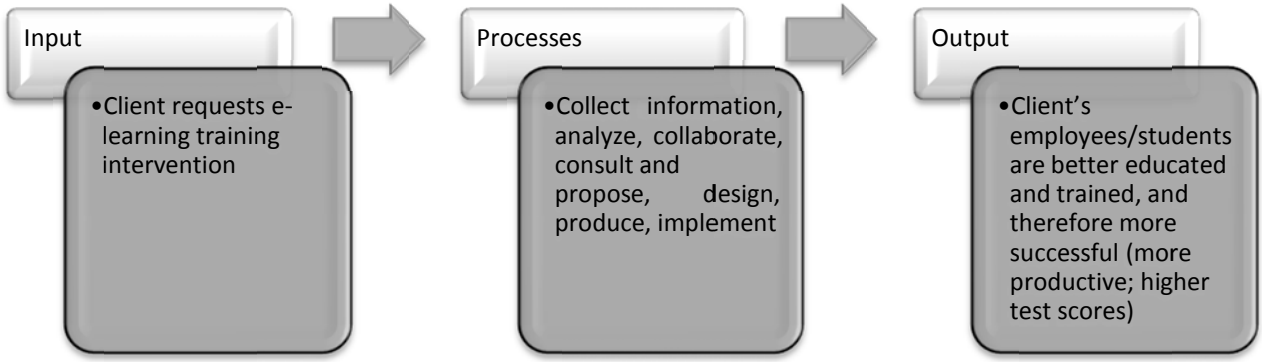
The system tasks involved in this job are under the umbrella of the instructional design process:

- Identify client – internal or external
- Identify client's needs (including who the audience is)
- Establish project timeline and budget (Note: Only if within ID's scope of work)
- Work with client to design content of instruction
- Create/select an e-learning interface independently, or work with a team
- Create/select – independently or with a team – supporting materials for instruction (simulations, scenarios, assessment interfaces, job aids, etc.)
- Assemble the e-learning package – independently or with a team
- Put the instruction through at least one round of client testing
- Apply the results of the testing
- Help make the instruction available to learners
- Evaluate the course (Note: Only if within ID's scope of work; level of evaluation may vary)

The purpose of this system is to design effective instruction. The tasks provide the ability for the ID to identify the need and design instruction accordingly. Specifically for the e-learning ID, the process includes making sure the content of the instruction is written specifically for e-learning, and that the supporting materials are appropriate for e-learning.

This process also functions in a system. The spine of the system is illustrated in Figure 7.

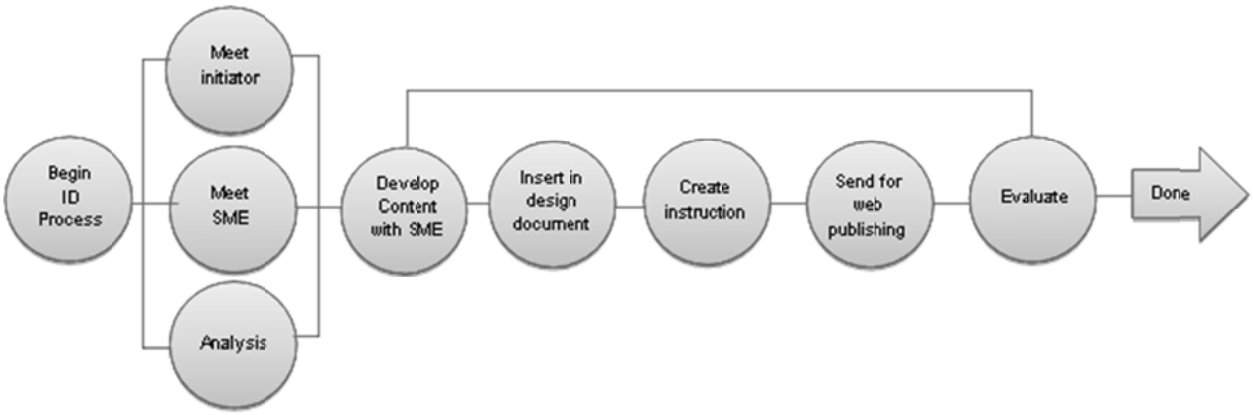
Figure 7: System Spine of an ID in an e-learning environment



PROCEDURAL TASKS

The ID process usually takes around 20 weeks. During this timeframe, IDs are working closely with their SMEs and, possibly, a client. The SMEs/clients provide the content that will go into each design document later to be translated to online courses. Part of the ID's job is to help the SME/client articulate exactly what they want the learner to know. At times, the SME/client may already have polished content, ready to be turned into instruction; other times, the ID will have to work with the SME/client to either create content for instruction, or edit and revise the content for the specific audience to be incorporated within a delivery platform. Once the course is designed, it is then ready for web-publishing and launch. After the course is completed, it is evaluated regularly so the content is current. Please see Figure 8 for a visual representation of this process.

Figure 8: Instructional Design Process in an e-Learning Environment



Because an ID is in an evolving technology field it is necessary that they remain current on the latest trends. The ID must find some sort of training or a conference. They then attend the training or conference. Then they go back to work and share findings and implement related findings in their everyday design. This is a cyclical process. Please refer to Figure 9 for a visual representation of this process.

Figure 9: Professional Development for an ID in e-Learning

AREAS TO CONSIDER FOR IMPROVEMENT

This section addresses some of the areas to consider for improvement for the next iteration of the workplace expertise documentation of an ID in an e-learning environment.

- Data Collection Methodology
  - Conduct observations of an ID to capture unobservable workplace behaviors
  - Conduct interviews across organizations that are represented within e-learning
- Knowledge Description
  - Has not undergone a validation and an approval process
    - This can be done with the assistance of professors of Instructional Technology in universities
  - The job description, task inventory and knowledge description can be detailed by years of experience and industry (if applicable).
- Knowledge description and task inventory reflects a subset of our findings

REFERENCES

Frost, A. (2010). *The Different Types of Knowledg*
http://www.knowledge-management-tools.net/differer

Morrison, G., Ross, S., & Kemp, J. (2001). *Desig*
Massachusetts: John Wiley & Sons, Inc.

Sims, R. C., & Koszalka, T. A. (2008). Competenc
designer. In J. M. Spector, M. D. Merrill, J. V.
Research on Educational Communications and
and Francis.

Swanson, R. A. (1999). The Foundati
for Practice. In R. Torraco, *The Theory and P*
Francisco: Berrett-Koehler.