2.4.1 Overview of Instructional Design

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Instructional design is the determination and specification of the content, methodologies, activities, sequencing, evaluation, and assessment of the learning experience. The process of instructional design follows an iterative cycle which analyzes what the learner is to learn, designs and develops learning events to activate learning, implements the design, and assesses the process that leads to constant improvement of the instructional design. Learning outcomes drive the design process. These outcomes are derived from long-term behaviors that are assessed with measures that align with performance criteria. This structure operates at three hierarchical levels: programs, courses, and activities.

The Three Levels of Instructional Design

Program design involves facilitating the fulfillment of program goals by laying out curricular and co-curricular learning experiences (***2.4.6 Methodology for Program Design***). Course design involves the planning of learning activities to meet the course outcomes (***2.4.8 Methodology for Course Design***). Learning activities are designed to meet specific learning objectives (***2.4.14 Designing Process-Oriented Guided-Inquiry Activities***). In a coherent instructional design, learning activity objectives are derived from the course learning outcomes which support program objectives.

Table 1 **Principles of Quality Instructional Design**

1. Quality instructional design must be outcome-centered.
2. Quality instructional design must be student-centered.
3. Quality instructional design is refined through a continuous assessment and improvement process.
4. Quality instructional design integrates the assessment and evaluation of learning outcomes into the instructional design.
5. Quality instructional design is flexible to allow the teacher to adjust the design to meet student needs and individual teaching styles.
6. Quality instructional design includes opportunities for student reflection and critical thinking.
7. Quality instructional design provides a learning road map for both teachers and students.
8. Quality instructional design blends formal and informal learning experiences.
9. Quality instructional design follows a well-defined methodology.
10. Quality instructional design is holistic.

Discussion of Principles

1. **Quality instructional design must be outcome-centered.**

Instructional design begins with the end in mind. Student learning outcomes serve as the basis for the design and assessment of the learning experience, whether it is an activity, a course, or a program (Mager, 1997).

2. **Quality instructional design must be student-centered.**

Weimer (2002) describes student-centered instruction as characterized by teachers doing less telling and students doing more discovering. Quality instructional design leads to learning environments in which students are active participants in their own learning rather than passive listeners.

3. **Quality instructional design is refined through a continuous assessment and improvement process.**

The instructional design process is never truly complete. As the design is implemented, it should be assessed for opportunities for improvement and refinement (***1.5.2 Methodology for Designing a Program Assessment System***).

4. **Quality instructional design integrates the assessment and evaluation of learning outcomes into the instructional design.**

Quality instructional design embeds both formative and summative assessment. Instructional design should incorporate both formal and informal techniques for assessing student understanding throughout the learning process (Angelo & Cross, 1993) (***4.1.4 Assessment Methodology*** and ***1.4.7 Evaluation Methodology***).

5. **Quality instructional design allows flexibility to meet student needs and individual teaching styles.**

Every learner is unique with a different set of knowledge, learning styles, and past experiences. Every group of learners multiplies this uniqueness, not just by the diversity of the individuals, but also by the diversity of relationships contained within the group. Instructional design must provide the flexibility to adapt to the unique needs of each learning situation.

6. **Quality instructional design includes opportunities for student reflection and critical thinking.**

Without reflection, students will not learn from experience (Kolb, 1984). Critical reflection and thinking should be integrated into the instructional design to promote student learning and development (***2.2.5 Overview of Critical Thinking***).

7. **Quality instructional design provides a learning road map for both teachers and students.**

Instructional design fosters intentional learning and provides a road map for both learners and teachers of not only the final learning outcomes but the intermediate objectives and experiences along the way.

8. **Quality instructional design blends formal and informal learning experiences.**

Not all learning occurs in the classroom. Course-level instructional design should utilize both in-class and out-of-class activities Program-level design should include curricular, co-curricular, and extracurricular experiences (Davis, 2004).

9. **Quality instructional design follows a well-defined methodology.**

Quality instructional design does not happen by chance. It should follow a proven methodology that guides and supports the designer (Dick, Carey, and Carey, 2004). The design process should follow a sequence of analysis, design, development, implementation, and evaluation (***2.4.2 Instructional Systems Design Model, History, and Application***; ***2.4.8 Methodology for Course Design***; ***2.4.6 Methodology for Program Design***; *and* ***2.4.14 Designing Process-Oriented Guided-Inquiry Activities***).

10. **Quality instructional design is holistic.**

Instructional design must addresses all types of knowledge (***2.3.9 Forms of Knowledge and Knowledge Tables***) and learning skills (***2.4.5 Learning Outcomes***). Unless a learning outcome is at a very low level on Bloom's taxonomy, the instructional design must address more than just the communication of information (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956).

Implementation Issues

1. **Outcomes must map from program to course to activity.**

Learning that is not related to a learning outcome is learning without a purpose. Learning that has no purpose is rarely retained and is likely to be resisted by adult learners. Program outcomes will not be achieved if they are not supported by course outcomes, and course outcomes will not be achieved if they are not supported by learning activity (Davis, 2004).

2. **Assessment tools must match the level of intended learning outcomes.**

The purpose of assessment is to improve the level of student learning. Thus, it is essential that assessment tools are appropriate for the desired level of student learning. If a learning outcome is at the level of "application," then the assessment tool must be able to determine if the student can apply the knowledge to a new context rather than simply recall information (***2.2.1 Bloom's Taxonomy—Expanding its Meaning***).

Concluding Thoughts

Instructional design is a catalyst for learning, providing structure for the learning process, and for connecting all levels of instruction. Effective instructional design can create environments that lead to deep learning and provide students with opportunities to reflect, discuss, and learn actively. An essential characteristic of this design process is that it is never finished. Because only by continuously improving and assessing the instructional design and its implementation will learning experiences become stronger and more effective over time.

References

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