

A Comparison of Analysis Techniques for Systematic Instructional Design

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PRESENTED IN EME 7634: ADVANCED INSTRUCTIONAL DESIGN AT
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ASSIGNMENT 3: ANALYSIS PORTFOLIO PRESENTATION

Instructional Situation

Calculating your net worth

Part of a financial literacy course

Objective and subjective

Net Worth

Asset or Debt	Value	Comments
Savings	\$13,000	Liquid asset
401(k) + Roth IRA	\$37,000	Penalties for early withdraw
Value of home (house + land)	\$120,000	Be conservative
Owed on home	-\$85,000	Best type of debt
Student loan debt	-\$45,000	Pretty good debt
Value of car	\$3,000	Wow! No car / credit card debt!
Personal belongings	\$4,000	Illiquid, typically
Invested in index funds	\$10,000	Average return = 8% per year!
Total	\$57,000	Nice!

Instructional Situation

Learners should be able to calculate their net worth by estimating and tallying the values of their real assets and liabilities.

Procedural Analysis Overview

- **Overt steps**
- **Observable**
- **Measurable**
- **Antecedents?**
- **“Covert” tasks?**
- **Complexity?**

Case-Based Reasoning Overview

- **Stories**
- **Real-world (ideally)**
- **Captivating**
- **Biases?**
- **Inappropriate reuse?**
- **Novices pick inapplicable cases?**

Critical Incident Analysis Overview

- **Critical elements**
- **Real-world data**
- **Stories from SMEs** (subject matter experts)
- **Organization?**
- **Biases? Omissions?**
- **Importance?**

Net Worth: Procedural Analysis

- **Overt: Listing assets / debts**
- **Covert: Remembering them**
- **Overt: Appraisal of value**
- **Covert: Ideal conditions or fire sale?**
- **Overt: Data and formula entry in Excel**

Net Worth: Case-Based Reasoning

6/18 Fin Lit - Module 2.3: Calculating your net worth

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1:13 / 4:25

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Source: Jonassen, Tessmer, and Hannum (1999)

Net Worth: Case-Based Reasoning

- **Cases can work well**
- **Narratives + spreadsheets**
- **Engaging**
- **Need a good mix of cases**
- **Teaches what to include in spreadsheets**

Net Worth: Critical Incident Analysis

- **Stories show where people go wrong**
- **Addresses “what-ifs?”**
- **Information on *judgments* (e.g., car value)**
- **Elucidates consequences**

Net Worth: Comparison of Analyses

- **Procedural: Addresses overt steps; omits covert elements**
- **CBR: Humanizes; provides benchmarks; learners may misinterpret**
- **CIA: Provides deeper info from SMEs; may be incomplete or biased**

Net Worth: Comparison of Analyses

- **Net worth seems procedural at first**
- **But, subjectivity lurks below**
- **CBR and CIA may address this**
- **Procedural analysis appropriate too—
for the basic steps**