

Topic: The Use of Training Models to Improve Training Practices

Course: MSD 198B, The Seven Habits of Highly Effective People

“Sharpen the Saw” Research Paper

By Holly Justice

Contents

Introduction	2
The ADDIE Model	2
Integrating Reviewing	3
ADDIE in Action.....	3
ADDIE Evaluation Phase.....	4
The Kirkpatrick Model	5
Kirkpatrick on the Job	5
Kirkpatrick and the Big Business Model.....	6
Time Spent Equates to Value	6
Backwards Kirkpatrick	8
Summary	9
Sources and Figures.....	9

Introduction

Recently I came upon the subject of the ADDIE and Kirkpatrick models listed in instructional designer jobs for large corporations. Although I have been working in instructional design for many years for both small and large companies, I could not recall officially learning either of these models. From my own large company experience I wondered “Will these models push trainers who are stuck in ineffective training out of the rut?” Is there something about these models that forces the large corporation trainers to “Sharpen Their Saw?”

The ADDIE Model

I began my research with the ADDIE model. I found the origin of the model elusive as did Michael Molenda who wrote an entire paper titled “In Search of the Elusive ADDIE Model.”ⁱ

Both Michael Molenda and I found Don Clark’sⁱⁱ explanation helpful. Don Clark, a retired military trainer, has published a great deal about Kirkpatrick and ADDIE on his website. ADDIE evolved in an informal fashion from the Information Systems Development (ISD) models of the military.

The name ADDIE refers to the five stages of the model:

1. **A**nalyze
2. **D**esign
3. **D**evelop
4. **I**mplement
5. **E**valuate

Integrating Reviewing

Using the ADDIE process training development occurs in small segments. The trainer develops a segment or module of training, then evaluates the results with others. The trainer then adjusts the training before developing another module. This process is referred to as *integrated reviewing*.

In other words, we work to change the direction our course is taking early in the process so we build useful materials for the participants.

To demonstrate this point I found this flowchart from the Intologyⁱⁱⁱ training services company. The yellow diamonds indicate the times when the training is being evaluated along the path. Since the design is open to feedback along the way, quality changes can be made early in the process when things are flexible without incurring too high a cost.

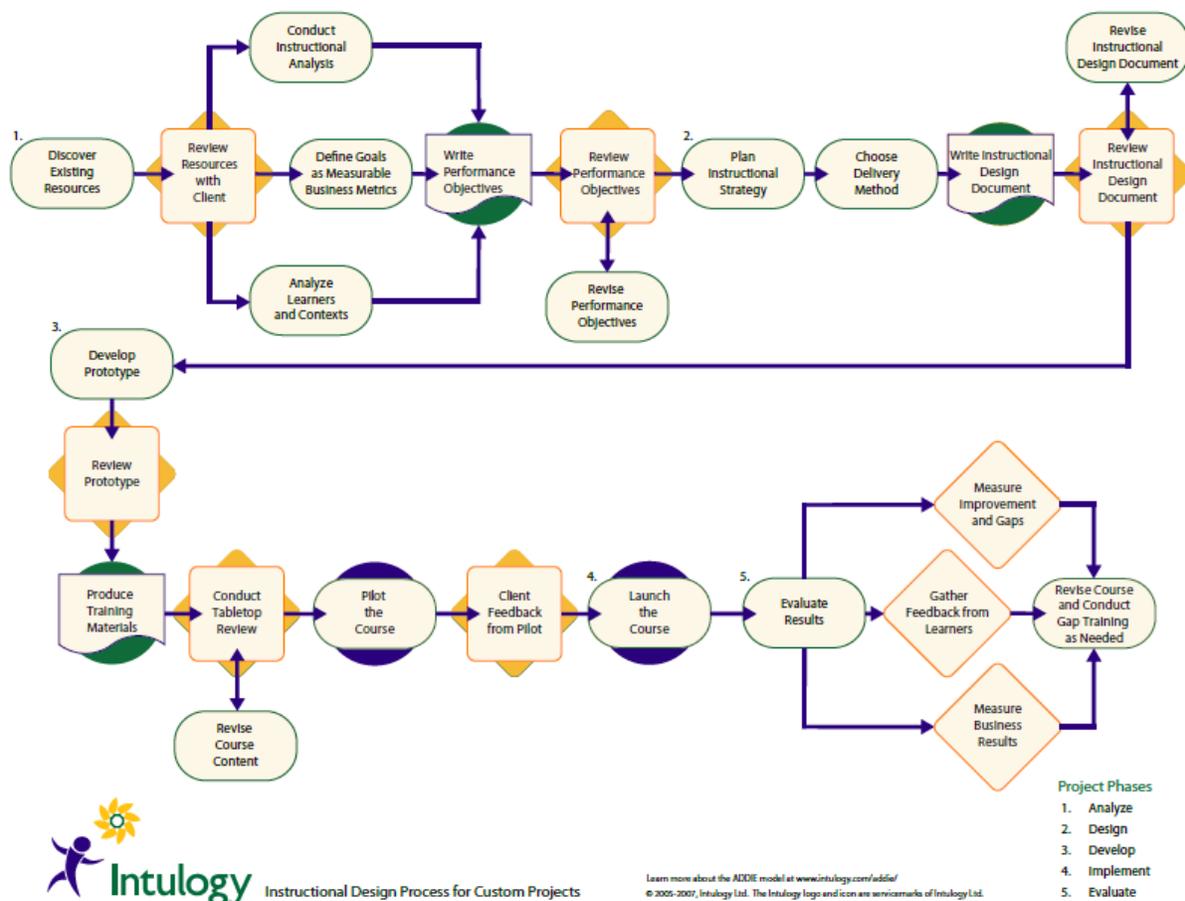


Figure 1

ADDIE in Action

I now recognize the integrated reviewing process in the ADDIE model in my past work. When developing training for a large audience, our instructor team would plan regular reviews as a team and with the client to create a better product.

The drawback with the ADDIE integrated review process is the time needed to do it right. Stopping design work to review together frequently uses the time of many resources which means increased costs.

Most of my jobs were at high-volume training companies that placed an emphasis on fast delivery with low costs. Short inflexible project timelines meant fewer reviews. We may or may not conduct a pilot class depending on the size of the project.

ADDIE Evaluation Phase

Evaluation in the ADDIE model is also an entire phase after training as shown in the Intulogy flow chart in Step 5. In my studies I learned there were two types of evaluations used in this phase: *formulative* and *summative*.

Summative evaluations measure whether or not the skills were actually learned by the student, for example, a skill-based exam at the end of a college course.

Formulative evaluations encourage ongoing feedback between the instructor and students, similar to the informal discussions I hold with students when teaching class live or in a webinar. I especially liked this definition of formulative evaluation from Wikipedia^{iv}, a quote from Nicol and Macfarlane-Dick's studies:

Feedback is the central function of formative assessment. It typically involves a focus on the detailed content of what is being learnt, rather than simply a test score or other measurement of how far a student is falling short of the expected standards. Nicol and Macfarlane-Dick, synthesizing from the literature, list seven principles of good feedback practice:

- 1. It clarifies what good performance is (goals, criteria, expected standards);*
- 2. It facilitates the development of self-assessment in learning;*
- 3. It provides high quality information to students about their learning;*
- 4. It encourages teacher and peer dialogue around learning;*
- 5. It encourages positive motivational beliefs and self-esteem;*
- 6. It provides opportunities to close the gap between current and desired performance;*
- 7. It provides information to teachers that can be used to help shape teaching.*

Personally I believe the summative evaluations do work well for motivating students to retain or memorize the facts. However, the summative evaluation could be a complete failure if a student is nervous in test-taking or has an unusual way of applying the material. The summative evaluations would have to be consistently poor for a long time to inspire an instructor to change their ways.

The formative evaluation seems far more useful as a tool to help the instructor make needed improvements. Open feedback and dialogue has always inspired me to adapt my techniques. Overall I now recognize the value of the ADDIE model. However I also see a potential failure in the entire ADDIE evaluation process to link training back to job performance.

The Kirkpatrick Model

Kirkpatrick's model has a clear origin from Donald Kirkpatrick. Donald first introduced his ideas in 1959 in a series of articles published in the Journal of the American Society of Training Directors. In 1994 Donald became famous through publishing the same ideas in his book, *Evaluating Training Programs*.

In the Kirkpatrick model the evaluation process is broken down into four levels. The Business Balls website^y had the most concise description:

Level	Description
1. The Student's Reaction	What they thought and felt about the training.
2. Learning	The resulting increase in knowledge or capability.
3. Behavior	The extent of behavior and capability improvement and implementation/application.
4. Results	The effects on the business or environment resulting from the trainee's performance.

The Kirkpatrick model quickly points out the flaw with most training evaluations. Most evaluations are written for measuring at Level One, the reaction or emotions of the student to the training.

I do agree that when selling training as a service, it is important to gauge the mood of the students. However Level One is shallow and subjective. Many of my peers make fun of these evaluations, referring to them as "happy sheets." Level One does not tell us if the student gained more knowledge. Level One fails to tell us if the person applied the knowledge in effective way on the job or saved their company time, materials or money as a result of the training. Level Two, Three and Four evaluations would answer those questions.

Kirkpatrick on the Job

I had actually seen the Kirkpatrick model adapted in public training in an interesting way. When training adults from different businesses, we used the technique to structure the questions we would ask participants in our one or two-day training sessions.

First we would ask Level One questions to determine the student's motivation toward the training or to adapt the pace of the training.

Then we would move to Level Two questions about the steps for using the software. Here we were checking for overall knowledge.

Moving to Level Three questions meant asking thought-provoking questions about how the students could apply the functions on the job or how a student might choose one tool over another for their particular job. I loved asking Level Three questions.

Unfortunately we seldom had any contact with students or their managers after training. This structure left a gap where we could not apply Kirkpatrick's model on an ongoing basis. Since there was no long term relationship with any of our students, we could not take advantage of the full Kirkpatrick model.

Kirkpatrick and the Big Business Model

The Kirkpatrick model does fit well with the idea of a dedicated trainer or training department for a large business.

For example, if I am doing customer service training, I would conduct Level One evaluations to find out how the students felt about the course. Since all the employees work for the company, it would be easy to require students pass a skills assessment as part of their training program, giving us a Level Two evaluation.

At a later point Level Three evaluations could be achieved by working directly with customer service supervisors. Together we could evaluate the training impact on job performance over a long period of time.

Once a quarter we could perform Level Four evaluations as a team, looking at the organizational impact. Did we increase our customer retention? Lower our employee turnover? Eliminate costly mistakes that can be reflected in a dollar value? Level Four evaluations help the internal training department prove the effectiveness in training as tied to organizational goals.

In a recent interview for a technical trainer job I asked the team directly about their use of the Kirkpatrick model. Lack of time was their main obstruction to using the model. They felt they had achieved Level Two evaluations, but no more. They believed there was too much work to do and too many fires to fight to take time to evaluate the results.

Time Spent Equates to Value

Don Clark^{vi} helps us understand the problem of the time verses value equation. Don points out each level of Kirkpatrick's evaluation requires more time to produce, however the value of the information increases correspondingly with each level of evaluation.

To illustrate Don's points about time versus value I created this graph of the value and estimated minutes invested in evaluation:

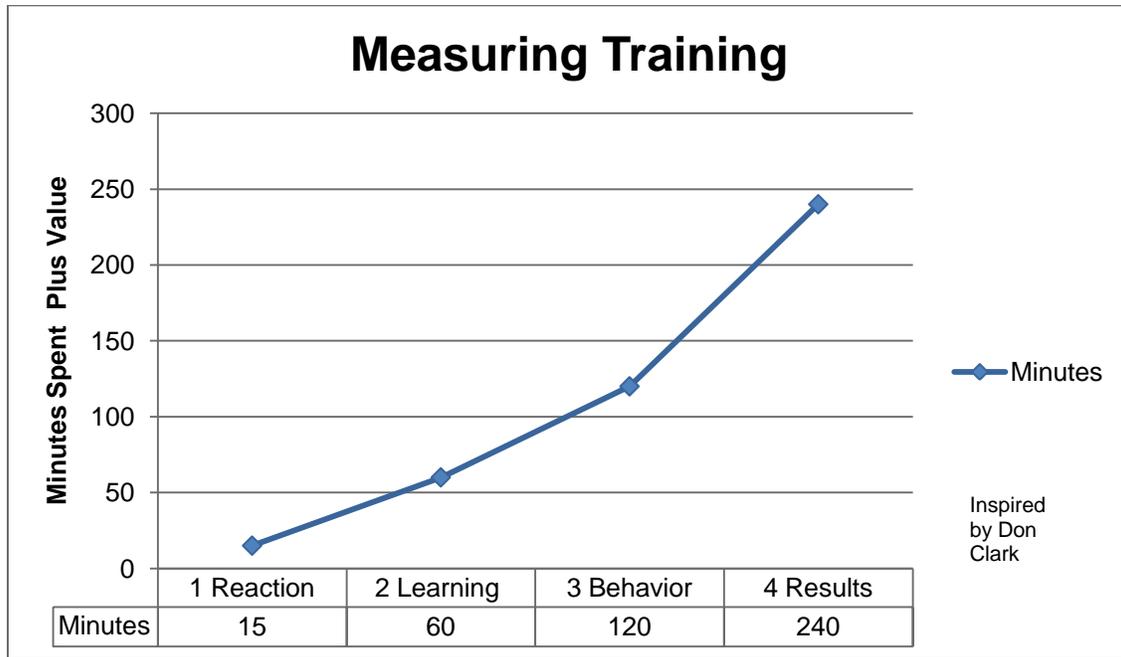


Figure 2

I agree with Don. It is easy to stop with the 15-minute Level One evaluation; however we gain very little value.

Level Two requires a much larger investment of time for instructor and student, but then we know at the end if knowledge and skills were transferred to the student.

Level Three requires a time investment from the trainer and the supervisor over a period of weeks, and Level Three yields the bigger picture of how training affects employee behavior on the job site.

Level Four evaluations require the most time, but yield the most valuable picture of organizational impact.

Backwards Kirkpatrick

Don Clark believes we can take an original approach to the four levels by reversing the Kirkpatrick model^{vii}. By looking at the desired end result, then the behavior, then what skills are needed, we can drive to effective training.

Backwards Planning



Figure 3

If this idea is too linear, Don also promotes thinking of Kirkpatrick in a circular fashion:

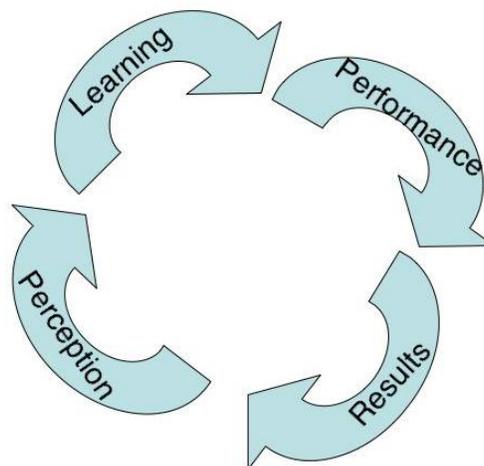


Figure 4

The circle frees one up to think about the process in a new way. Improving on one segment should impact the next segment.

Summary

It appears the ADDIE and Kirkpatrick theories are certainly useful in the training industry.

Will either theory help the trainer who is stuck in their training rut?

Yes, I think the secret ingredient for success is in the support given to the trainers. If the organization supports trainers taking the time to follow the theories, the model would work. The quality of training would improve through the ADDIE model. Training would become closely tied to each business unit trained through the Kirkpatrick model. A little of each one would be a good blend to keep trainers from being “stuck in a rut.”

After studying these two theories I started to wonder. What new theories are there beyond this research? That is a topic for the next “Sharpen the Saw” project.

Sources

-
- ⁱ Michael Molenda on “In search of the Addie Model.”
<http://www.comp.dit.ie/dgordon/Courses/ILT/ILT0004/InSearchofElusiveADDIE.pdf>
 - ⁱⁱ Don Clark explaining the history of the ADDIE model:
http://www.nwlink.com/~donclark/history_isd/addie.html
 - ⁱⁱⁱ The Intulogy training company’s website:
<http://intulogy.com/>
 - ^{iv} A Wikipedia entry on how the Addie Model uses Formative Assessment:
http://en.wikipedia.org/wiki/Formative_assessment
 - ^v The Business Balls website describing the Kirkpatrick model:
<http://www.businessballs.com/kirkpatricklearningevaluationmodel.htm>
 - ^{vi} Donald Clark explaining the time/value equation for the Kirkpatrick model in Phase Three:
<http://www.nwlink.com/~donclark/hrd/isd/kirkpatrick.html>.

Figures

Figure 1: The Intulogy training company’s flowchart on ADDIE model:
<http://intulogy.com/wp-content/uploads/2013/09/ADDIE-Flowchart-by-Intulogy.pdf>

Figure 2: Chart by Holly Justice

Figures 3 and 4: Donald Clark explaining his interpretation and suggestions for the Kirkpatrick model: <http://www.nwlink.com/~donclark/hrd/isd/kirkpatrick.html>