

Effectiveness of Web-based Instruction

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Is Web-based or Classroom Instruction More Effective?

Organizations are increasing their use of Web-based instruction to leverage the potential benefits delivering training to geographically dispersed trainees or to provide just-in-time access to aid job performance. Despite these advantages, if the ultimate goal of training is to teach new knowledge and skills, it is important to consider if Web-based instruction is as effective as classroom instruction.

To address this question, ADL analyzed data from 208 training courses that examined trainee satisfaction or learning in both classroom courses and Web-based courses (Sitzmann, Kraiger, Stewart, & Wisher, 2006). A statistical summary of the data from 26,460 trainees revealed that when the Web-based and classroom version of the course used the same instructional methods (e.g., lecture, discussion), there was no significant difference in trainee satisfaction or learning across the two media.

Lessons From the Analysis: Looking across these reports also provided insight as to the characteristics of effective Web-based instruction. The Web-based courses where trainees learned the most, relative to classroom instruction, were courses in which:

- Trainees had control over the content, sequence, and pace of instruction;
- Trainees were provided with opportunities for practice and feedback;
- Trainees were active throughout training.

Additionally, the more effective courses tended to include a variety of instructional methods and utilize synchronous (rather than asynchronous) online communication.

Increasing the Effectiveness of Web-based Instruction

In addition to examining the effectiveness of Web-based instruction, ADL conducts original research examining the effectiveness of training interventions designed to increase learning from Web-based instruction.

One of the disadvantages of Web-based instruction is that trainees must regulate their own behavior rather than relying on an instructor to regulate for them. This research examined if prompting trainees to focus their attention on learning the material and to self-evaluate their understanding of the training content would improve learning outcomes from Web-based instruction (Sitzmann, Bell, Kraiger, & Kanar, in press). The prompts were designed as a series of questions about where trainees were directing their mental resources and if they were making progress toward learning the training material.

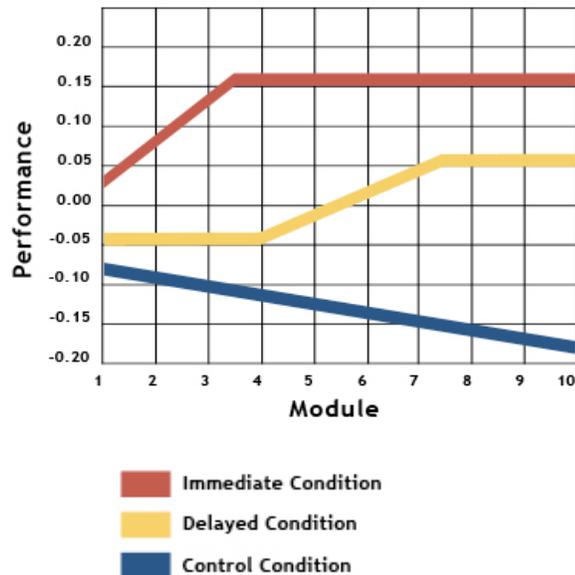
Sample Prompt Questions

- Am I concentrating on learning the training material?
- Do I understand all the key points of the training material?

Two courses were used to test this intervention: an online course on how to use a Learning Management System and a PC-based radar tracking simulation. Trainees were randomly assigned to three conditions. Trainees in the immediate condition received two prompt questions during each of the ten training modules. Trainees in the delayed condition received two prompt questions only in modules five through ten. Trainees in the control condition did not receive any prompt questions.

As shown in Figure 1, trainees who received the prompts throughout training (immediate condition) outperformed trainees in the delayed and control conditions. Additionally, trainees in the delayed condition began to outperform those in the control condition after they began receiving the prompts (modules five through ten).

Figure 1. Performance across the three conditions.



References

- Sitzmann, T., Bell, B. S., Kraiger, K., & Kanar, A. (in press). A multilevel analysis of the effect of prompting self-regulation in technology-delivered instruction, *Personnel Psychology*.
- Sitzmann, T., Kraiger, K., Stewart, D., & Wisher, R. (2006). The comparative effectiveness of Web-based and classroom instruction: A meta-analysis, *Personnel Psychology*, 59, 623-664.