

DLConnect: Instructional Architect (IA) Workshops

Instrument Development and Research Questions

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Instrument Development

To better understand and foster increased use of online resources for education, data has been collected from users via hard-copy and electronic survey instruments. The design has been single group, with pre-survey and post-survey, but it is important to note that data has also been collected via group interviews and key-informant interviews, as well as via artifact analysis and participant observation by DLConnect team members who attended the workshops.

The instrument itself consists of a basic user profile and background information, and then open-ended and Likert-type items to answer the research questions. The instrument began use in hard-copy format, and was subsequently migrated to electronic format. The design process for the instrument itself began with an explication of the research questions (see below), and then proceeded through many phases:

- Literature review to define constructs of interest, including looking at other similar instruments (Becker, 1998) from which many items were adopted
- Item creation and testing included choices about item format (frequency, agreement, and evaluation), as well as item wording (use of negatives)
- Validation studies: reliability analysis and factor analysis of the instrument
- Use of the instrument in educational settings and analysis of data gained from the instrument in research

Future Development

To date, each version of the instrument used has been adopted for the specific audience (e.g., in-service teachers, pre-service teachers). As the DLConnect curriculum is developed for Internet distribution, the instrument will be used in environments over which DLConnect has no control, and with audiences beyond the scope of its use to date. The online version of the instrument will allow users to input a description of their environment as well as their audience, and receive a version of the instrument (constructed in real-time from an item pool) which is best suited for their needs.

Ongoing efforts include development of a separate instrument to measure user perceptions of "quality" in online resources for education.



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Research Questions

Research questions are centered in the following areas:

1. How can IA and NSDL be improved?
 - a. Functionality and ergonomics of IA
 - b. Integration of IA and NSDL
2. How best to extend the awareness and use of NSDL and IA
3. What is the impact of NSDL, IA, and online resources for education on teacher practice and educational environments?
 - a. Can teacher practice affect school community? The goal is to foster “change agents” who participate in the workshops and then inspire use of NSDL and IA by other teachers in their schools.
 - b. Document and understand the educational impact of the different types of online resources for education:
 - What kinds of resources are useful, how are they used in instructional activity?
 - What constitutes “quality” in online resources?
 - c. Impact on student use of online resources (IA, NSDL).
4. What is the impact of workshops on knowledge about, competency using, and attitudes about online resources and IA?
5. How can the IA workshops be improved?
6. How can the evaluation of the IA workshops be improved?
7. Additional questions will be chosen from Becker (1998):
 - a. Value of computers to education
 - b. Advantages and disadvantages of computers
8. Background questions will help the IA team better interpret data from the study:
 - a. Why are participants taking the workshop (interest, requirements)?
 - b. How did the participants hear about the workshop?
 - c. Who is paying for participation?
 - d. Demographics
 - Age and gender
 - Current position and years in position (e.g., teacher, administrator)
 - Current school, grade, subject(s) taught
 - Technology savvy
 - Current use of technology in their school