The Essential Elements of Assistive Technology Assessments and Assessment Reports

A Modified Delphi Study

Project Manager
Deborah Ann Case

National Assistive Technology Research Institute
University of Kentucky

• Deb Case, Project Manager
• Elizabeth A. Lahm, Co-Principal Investigator

Project Goals

• To examine factors related to the planning, development, implementation, and evaluation of AT services in schools
• To disseminate the findings of the research in ways that will assist school personnel to develop or improve AT policies and practices for students with disabilities

7 Proposed Research Areas

1. Status of AT use in schools and the role it provides in education
2. Policies & procedures in the development and delivery of AT services
3. AT decision-making by IEP teams
4. Integration of AT use in learning environments (facilitate instruction, access to curriculum)
5. Effects of AT use on academic, social, functional performance of students
6. Training and technical support needed by persons implementing AT
7. Extent to which IHEs are developing AT knowledge and skills

Target Audience

• Researchers
• Policy Makers
• Administrators
• Teacher Trainers
• AT Service Providers
• Families
• Students with Disabilities
The National Assistive Technology Research Institute at the University of Kentucky

NATRI Studies by Research Area

<table>
<thead>
<tr>
<th>Research Areas</th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1. History of AT</td>
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<td>2. AT Products</td>
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<td>3. AT Policies</td>
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<td>4. AT Personnel</td>
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<td>5. AT Procedures</td>
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Essential Elements Delphi Study

- Need for essential elements
- The Delphi technique
- Preliminary elements
- Study participants
- The modified Delphi study
  - Study demonstration
  - Round activity
  - Research questions
  - Assessment issues
  - Further research

Need for Essential Elements

- Diversity and inconsistency in current AT assessment practices
  - Definition of AT assessment
    - Multiplicity of disciplines
    - Evolving nature of technology
  - IDEA legislation
    - Consideration
    - Access to general education curriculum
  - No Child Left Behind
  - President’s Commission on Excellence in Special Education
  - Need for accountability

Delphi Technique

- Modified - elements established prior to study implementation
- Systematic solicitation of expert opinion (remote)
- Used to gain consensus
- 3 rounds of input from expert panel
  - Rating(s)
  - Commentary
  - Anonymous
  - Shared with all - qualitative & quantitative
- Analysis of prior round establishes subsequent round

Delphi Technique

(Content analysis to determine elements)

1) Identification of panel of experts
2) Willingness to participate
3) Gathering individual input (R1)
4) Analysis of initial data
5) Distribution of results/input (R2)
6) Analysis of input and return results
7) Solicitation of input (R3)
  - Analysis and sharing of results
  (Brooks, 1979)

Preliminary Elements

- A content analysis to establish 142 preliminary elements for use in modified Delphi study
- AT assessment and reporting instruments for children birth through age 21
- Highly visible and commonly used tools and materials

Handout available on NATRI Web site
Study Participants

Expert criteria - at least 4 of 5 for invitation:
- 5 years of experience in AT;
- Performed, taught, or conducted AT assessment(s);
- Published in a referred journal or text, or had published software with regard to assistive technology;
- National or international presenter;
- RESNA certified AT practitioner (ATP)

21 participants accepted invitations, 18 participated/completed the study
An honorarium was provided

5 to 28 years of experience in AT
An average of 15 years

Assessment Services

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<tr>
<th>Assessment Services</th>
<th>Number</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Performs AT Assessment</td>
<td>13</td>
<td>68%</td>
</tr>
<tr>
<td>Teaches AT Assessment</td>
<td>17</td>
<td>89%</td>
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<tr>
<td>Other</td>
<td>11</td>
<td>61%</td>
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Publications

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<td>Published in Referred Journals</td>
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<tr>
<td>Published in Texts/Chapters</td>
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<tr>
<td>Developed Software</td>
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<td>26%</td>
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<td>Other</td>
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Presentations

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<td>Regional</td>
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<tr>
<td>National</td>
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</tr>
<tr>
<td>International</td>
<td>12</td>
<td>65%</td>
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RESNA Certification
5* 26%
*NOTE: one member indicated that until recently she was not eligible to sit for the test because she was chair of the RESNA professional standard board, overseeing the credentialing program

Study Participants

Assistive technology (AT) - 5
Physical therapy (PT) - 3
Occupational therapy (OT) - 2
Rehabilitation engineering (RE) - 1
School psychology (SPsy) - 2
Special education (SE) - 3
Speech/language pathology (SLP) - 2

The Delphi Study

[Image of Delphi Study presentation slide]
The Delphi Study

Demonstration

http://edsrc.coe.uky.edu/elements/

Essential Elements Delphi

- 3 rounds of Delphi study
  - Validation of essential elements of assessment
- 4th round of Delphi study
  - Essential elements of reports
**Round Activity**

**Round One**
Began with 192 elements
- 27 elements were added by participants
- 635 comments were provided by participants
- 2 elements were added through analysis

**Round Two**
Began with 221 elements
- 11 elements were added by participants
- 722 comments were provided by participants
- 4 elements were added through analysis

**Round Three**
Began with 236 elements
- 5 elements were added by participants
- 375 comments were provided by participants
- 4 elements were added through analysis

**Round Four**
Began with 62 elements - validated
- No elements were added per design
- 906 comments were provided by participants
  - 503 under assessments
  - 408 under reports
  - 49 under other feedback

**Summary**
- 241 elements were the result of three rounds of Delphi study
- 43 elements were added by participants
- 6 elements were added through analysis

**Research Question One**

What are the essential elements of an assistive technology assessment?
- 63 elements were agreed upon as essential to AT assessments by 80 percent or greater of participants
  - 10 added by participants
    - 6 questions
    - 13 element categories

*Handout*
Research Question Two

What differences in opinion with regard to the essential elements of an AT assessment exist between individuals of differing disciplines?

Essentially no differences between disciplines.

Research Question Three

To what degree are the identified essential elements of AT assessment practiced?

- 24 of the elements were always practiced by 80 percent or greater of the participants.
- Of those, 5 elements were practiced by all participants.

Research Question Three

To what degree are the identified essential elements of AT assessment practiced? Why?

- Affects the assessment process
- Impacts planning and development of implementation plans
- Enhances potential appropriate and effective AT recommendations
- Affects decisions and decision-making
- Provides insight into the individual being assessed (level of functioning, abilities, experiential-base, etc.),
- Legal compliance (IDEA)

Research Question Five

What differences in opinion with regard to AT assessment reporting exist between individuals of differing disciplines?

Essentially no differences between disciplines.
Research Question Six

To what degree are the identified essential elements of AT assessment reporting practiced? Why?

- 21 of the elements are always practiced by 80 percent or greater of the participants
- 6 of those elements were practiced by all participants

/ rhombus 4
21 of the elements are always practiced by 80 percent or greater of the participants
/ rhombus 4
6 of those elements were practiced by all participants

Research Question Six

To what degree are the identified essential elements of AT assessment reporting practiced? Why?

- Applicable to assessment conducted
- To facilitate follow-up and follow through
- Impacts recommendations
- A factor in decision-making
- Validate needs and/or plan for meeting needs
- To provide clarity and understanding for reader and referral source
- Impacts training, helps with training of others
- To provide a synthesis of information

Research Question Six

To what degree are the identified essential elements of AT assessment reporting practiced? Why Not?

- Information was available/well-documented elsewhere
- Dependent upon the nature of the assessment, the situation, and/or the referral source
- Confidentiality
- Commonality (e.g., English language)
- Not critical to recommendations
- Not required to be part of assessment report (e.g., part of comprehensive assessment or IEP)

Uses of the Essential Elements

- Guide for conducting AT assessments
- A single page checklist for easy reference without descriptions
- Educational tool for workshops, in-services, and graduate coursework
- Dissemination for increasing professional awareness

Assessment Issues

Diversity & inconsistency of AT practices
- Definition of AT assessment/assessment process
- Evolving nature of field & technology
- Multiplicity of disciplines

Expert versus novice
- Move from expert model
- Training and support

Philosophy
- Whole individual/child approach

Driven by the system
- Source of referral
- Reason for referral - areas of concern

Further Research

- Expansion of the validated essential elements
- Return to the 241 elements at conclusion of round three
  - To develop a comprehensive set of elements
  - To apply an alternative approach and validate an essential set of elements
- Conduct a new study using a bottom up approach to create and validate elements
Dissemination

- Conference presentations
  - TAM
  - CSUN
- Publications

Closing Thoughts

- Identification of specific critical elements
- Education of novice assessors
- Growing need for accountability

Questions……..

- Deb Case
  - dcase@cinci.rr.com
  - 513.533.0941
- Elizabeth A. Lahm
  - ealahm1@uky.edu
  - 859/257-7672 ext. 80252

NATRI Website: http://natri.uky.edu
Email: natri@coe.uky.edu

Handouts:
http://natri.uky.edu/resources/presentations/csun2003/delphi/delphi.html