



Speech-language therapy in Europe:
sharing good clinical practice

Logical reasoning in the education of evidence-based speech-language therapy


Karin Neijenhuis, Ph.D.
Rotterdam University of Applied Sciences
Health Care Studies
Speech-Language Therapy
c.a.m.neijenhuis@hro.nl



Session 6: Quality of education
Fri 15 May 2009
06.04


exceed expectations

Outline



- EBP and logical reasoning
- EBP and logical reasoning in student competence profile (COMPASS)
- EBP and logical reasoning in the Rotterdam curriculum
- Assessing EBP and reasoning skills
- Results
- Tools to overcome barriers

exceed expectations




Decision making in SLT practice

- What would you do?

Example 1: A child starts crying during a difficult task of a diagnostic test.

Example 2: A bilingual child scores well below his age on a diagnostic test in his second language.

exceed expectations



Logical (clinical) reasoning


The process of systematical decision making, involving:

- Subjective data
- Objective data
- Reflections on interventions
- Professional's experience
- Client's experience

The reasoning process is invisible, but forms the underlying basis of the visible practice.

(Houweling, Neijenhuis & Lipke-Steenbeek, 2008)

exceed expectations




EBP and logical reasoning

1. convert information need into answerable questions.
2. track down the best evidence to answer the question (with maximum efficiency).
3. critically appraise the *external* evidence for its validity and usefulness.
4. *evaluate the internal evidence related to student-parent factors*
5. *evaluate the internal evidence related to clinician-agency factors*
6. *make a decision by integrating the evidence*
7. evaluate outcomes.

(Sackett et al., 2000; Gillam & Gillam, 2006)

exceed expectations




Attitudes, Utilization and Barriers to EBP

- Attitudes: predicted by exposure to research and EBP during education (i.e. graduate training and clinical fellowship year)
- Utilization: clinical experience & opinions of colleagues most frequently used information sources, low rate of respondents using research evidence
- Barriers: lack of time, not lack of knowledge and skills

(Zipoli & Kennedy, 2005)

exceed expectations



Critical appraisal

‘The process of assessing and interpreting evidence by systematically considering its validity, results and relevance to the individual’s work.’

(Last, 1988 in: Parkes et al, 2001)

exceed expectations



EBP in COMPASS: ‘the SLT practises evidence-based’

1. Compose learning questions, use information sources effectively
2. Compose questions and find relevant researches following a case
3. Appraise (research) evidence, link to own practical experience
4. Make evidence-based decisions with regard to individual clients, also justify and evaluate
5. Integrate evidence-based practice in professional functioning

(SRO, 2005)

exceed expectations



EBP and logical reasoning in the Rotterdam curriculum

- 1st year: problem-oriented learning and introduction to information sources
- 2nd year: course ‘EBP’
- 3rd year: course ‘log(oped)ical reasoning, EBP and reflection’, bachelor thesis
- 4th year: course ‘case studies’

exceed expectations



Year 1

- Knowledge on SLT
- Problem-solving skills (with given cases)
- Information skills



exceed expectations



Year 2

- Course ‘science and EBP’
 - EBP introduction : 5 steps-method, PICO
 - Search strategies
 - Research methodology
 - Appraisal of intervention study and diagnostic study
 - Framing questions for clinical research



exceed expectations



Year 3


- Course ‘logical reasoning, EBP and reflection’
 - Linking EBP-theory to practice by including logical reasoning
 - Assignment: 3 cases with clinical questions
 - Presentation during lessons
 - Critical questions towards other students
 - Demonstration lesson: search strategies



exceed expectations




Year 4



→ Course 'case studies'


- Focus on application of theory to practice
- Presentation of case study with clinical question (on process and/or product)
- Students advise each other
- Tools:
 - EBP
 - Logical reasoning
 - Reflection

exceed expectations 

Results: example EBP-assignment 3rd year


Background: SLT-practice with young children, long therapy duration, small improvements

1. Clinical question: Is SLT (I) more effective for young children (2-5 yr) (P) than watchful waiting (C)?
2. Search strategy: Pubmed search using Mesh: Child, pre-school AND language therapy AND speech therapy. Limits: free full text, RCT
Result: RCT of community based SLT in pre-school children (Glogowska et al, 2000)
3. Critical appraisal: appraisal form 'RCT'
4. Clinical decision making: only 1 study, context very important
5. Evaluation: frequency of therapy important, more evidence needed

exceed expectations 

Results: acquired skills

- Logical (clinical) reasoning on relevance
- Logical (clinical) reasoning on applicability of evidence
- Reflection on process and product
 - Process has to be repeated several times for trial-and-error learning
 - Search strategy: Awareness, but no professional practice (yet)

exceed expectations 


Results: Common 'mistakes'

Search Strategies

- Could not find right keywords (wrong terminology)
- Free text search in stead of 'Mesh' and 'Cinahl headings'
- No optimal use of available databases (e.g. only Pubmed)
- Focus on 'free full text'
- Focus on RCT's


Critical Appraisal

- If evidence is weak; utility also weak?
- Methodology-knowledge

exceed expectations 


Tools to overcome barriers (1)


- From 1st year on:
 - More experience in reading English publications on speech-language pathology (terminology)
 - Teaching search strategies
- Teachers should also be evidence-based practitioners!

exceed expectations 

Tools to overcome barriers (2)

- More research methodology in curriculum?
- Alternatives:
 - Critical appraised topics (e.g. journal 'Evidence-based communication assessment and intervention')
 - systematic reviews and guidelines (e.g. Cochrane database, ASHA EBP compendium, RCSLT, What works Clearinghouse etc.)



exceed expectations 

Conclusions

- EBP and logical reasoning cannot be separated from each other and are highly interdependent
- The quality of initial education in EBP predicts attitudes as clinical practitioner
- In the Rotterdam curriculum, EBP and logical reasoning are gradually integrated
- After initial education, follow-up courses could help sustain positive attitudes towards research and EBP (see also Zipoli & Kennedy, 2005)

exceed expectations



references

- Gillam, S & Gillam R (2006) Making evidence-based decisions about child language interventions in schools. *Language, speech and hearing services in schools*. Vol. 37, p. 304-315.
- Houweling L, Neijenhuis K, Lipke-Steenbeek W (2008). *Log(oped)istisch redeneren, evidence-based practice en reflecteren*. In: *Dialoog, een praktisch en theoretisch perspectief op de beroepsrollen van de logopedist* (Meulenberg-Brouwer, van der Pol-Top, eds.), p. 179-208. Utrecht: Lemma.
- Parkes J, Hyde C, Deeks JJ, Milde R (2001) teaching critical appraisal skills in health care settings. *Cochrane database of systematic reviews* 2001, Issue 3.
- Zipoli R. & Kennedy, M. (2005) Evidence-based practice among speech-language pathologists: Attitudes, Utilization and barriers. *American Journal of speech-language pathology*, vol. 14, p. 208-220.

exceed expectations

