The development and evaluation of a postgraduate programme in Evidence Based Practice for librarians

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http://www.irisdesign.no/SHdir/html/sample-1b.htm

# Outline of presentation

- Introduction
- Programme development
- Content and delivery
- Evaluation
- Lessons learnt
- Future developments

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# Introduction





# National strategies

"Every student of health and social work programmes should learn to practice as a member of a multidisciplinary team, focusing on evidence based practice, quality improvement and information technology"

> - National Strategy for Quality Improvement in Health and Social Services, 2005

"Research is important for professional and methodological development. Knowledge from research is necessary to develop good practice"

- Library Reform 2014, 2007

## What does this mean for librarians?

• Supporting evidence based practice in other professional areas

• Practising evidence based practice





### Evidence Based Library and Information practice

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"Evidence Based Library and Information Practice (EBLIP) seeks to improve library and information services and practice by bringing together the best available evidence and insights derived from working experience, moderated by user needs and preferences. EBLIP involves asking answerable questions, finding, critically appraising and then utilising research evidence from relevant disciplines in daily practice. It thus attempts to integrate user-reported, practitioner-observed and research-derived evidence as an explicit basis for decision-making"

- Booth 2006





# Programme development



# Programme rationale (1)

#### Information literacy

"To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information"

American Library Association, 1989





# Programme rationale (2)

- Information literacy is a prerequisite to EBP (Shorten 2001, Kaplan Jacobs 2003)
- Knowledge and skills in research methods essential
- Norrwegian Library Association's Section for Medicine and Health
- EBP a popular course theme among Norwegian health librarians
- Accredited programme → document skills formally



## Programme establishment

- Bergen University College:
  - Strategic commitment to EBP
- Centre for Evidence Based Practice (2005)
- Accredited postgraduate course in EBP (2004)
  - Health and social faculty teachers
  - Health and social care practitioners
- Librarians' postgraduate course approved December 2006
- Launch planned Spring 2007

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## Target group

• Primarily health and social care librarians

• Librarians from other sectors with an interest in evidence based practice



# Main learning objectives

- Understand the different research methods in health and social sciences
- Understand the principles of systematic literature searching and be able to perform such searches
- Collect skills and resources supporting critical appraisal of research
- Integrate the steps of evidence based practice into user education and reference services
- Appraise and use research evidence to inform library and information practice

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# Educational theory

- Educational theory should be used explicitly to plan, implement and evaluate educational interventions (Bradley 2005)
- Adult learning theory (Knowles 1984)
- Social learning theory (Bandura 1986)



# Applying theory in practice...

- Draft programme curricula sent to target group representatives:
  - Section for Medicine and Health, Norwegian Library Association
- Participants formulated their own learning objectives
- Self-selected reading materials
- Course content revisited and repeated when needed
- Worked examples
- Learning action plans

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# Course content and delivery



# Organisation

One semester

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- Two sessions, 3 + 4 days (March and April 2007)
- Three alternative courses of study:
  - 1. Participation, preparations, and a final exam comprising a project work based on the course content (15 ECTS)
  - 2. Participation, preparations, and a two-hour written exam at the end of the second session (6 ECTS)
  - 3. Participation and preparations only (no credits)



# Programme schedule

#### Session 1

- Day 1: Introduction to EBP. Question formulation. Question types and study designs
- Day 2: Study designs (cont.). Systematic reviews, incl. critical appraisal session
- Day 3: Selection of information sources, literature searching

#### Session 2

- Day 4: Qualitative research, incl. critical appraisal and literature searching
- Day 5: EPLIP. Short introduction. Critical appraisal of different studies
- Day 6: EBLIP. Question types and study designs. Using research in practice
- Day 7: EBP in user education and training

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EBP step	Topics	Day (n°)
Step 1: Recognise an information need	<ul> <li>Why research is important for practice</li> <li>The principles of EBP</li> <li>EBP and lifelong learning</li> </ul>	1
Step 2: Formulate an answerable question	<ul> <li>Using PICO and SPICE to formulate questions</li> <li>Defining question types</li> <li>Question types and study designs</li> </ul>	1, 2, 5, 6
Step 3: Find the best available evidence	<ul> <li>Question type/study designs and source selection</li> <li>Content and fuctionality of different databases/sources (Cochrane Library etc)</li> <li>Search filters</li> </ul>	3, 4
Step 4: Appraise the evidence for quality and usability	<ul> <li>Critical appraisal of different types of research: Systematic review; Library research studies (information needs assessment, educational intervention, user study)</li> <li>Statistics</li> </ul>	2, 4, 5
Step 5: Apply results in practice	<ul> <li>Barriers and motivators to using research in practice</li> <li>Case: integrating research evidence when planning user education activities</li> <li>Case: Journal clubs as a tool for assisting evidence based library and information practice</li> </ul>	5, 6, 7

# Educational methods - what works?

• Interactive teaching methods (Thomson O'Brien 2001)

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- A hierarchy of methods for teaching EBP: (Khan & Coomarasamy 2006)
  - 1. Interactive and workplace integrated activities
  - 2. A) Interactive but classroom based activitiesB) Didactic but workplace integrated activities
  - 3. Didactic, classroom or standalone teaching



## Educational methods

 Interactive, classroom based activities (Level 2A)

- Lectures, small-group work, case discussions and practical sessions (handson)
- Workplace related project work

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# **Evaluation**





## Participants

- 18 attending participants:
  - Educational settings (n=12)
  - Clinical (n=3)
  - Mix of above (n=3)
- Course of study selected:
  - Attendance + project work, 15 ECTS (n=9)
  - Attendance + two-hour exam, 6 ECTS (n=2)
  - Attendance, course diploma only (n=7)



### **Evaluation methods**

- Evaluation forms
- Interviews

• Students' assignments (project work)





## **Evaluation form**

• Overall usefulness, course organisation and learning environments

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- Content and presentation of each day
- From 1 (= very poor) to 6 (=very good)
- Open-ended questions:
  - What was good?
  - What was not so good?

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- March (15 out of 18 responded)
- April (16 out of 18 responded)



#### Evaluation forms - summary

	March	April
Overall usefulness	5.3	5.3
Course organisation and learning environments		5.0
	Content	Presentation
Day 1: Introduction to EBP. Question formulation. Question types and study designs	5.3	5.3
Day 2: Study designs (cont.). Systematic reviews, incl. critical appraisal session	5.1	5.3
Day 3: Selection of information sources, literature searching	4.9	4.8
Day 4: Qualitative methods, incl. critical appraisal and literature searching	5.0	4.9
Day 5: EPLIP. Short introduction. Critical appraisal of different studies	5.1	4.8
Day 6: EBLIP. Question types and study designs. Using research in practice	5.2	5.1
Day 7: EBP in user education and training	5.1	5.1

## What was good?

- Interesting, engaging and worthy course
- The pedagogic methods: the mixture of lectures, small-group work, games, and discussions
- Competent and engaging lecturers
- Course material and hand-outs

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## What was not so good?

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- Too much content. Some topics were very briefly covered.
- Too little time to digest content between the two sessions.
- Critical appraisal of research was challenging, could have spent more time on group work.



#### Interviews

- Learning action plan
- "Commitment to change" (Dolcourt 2003, Wakefield 2003, Lockyer 2001)
- 13 participants consented to take part in the evaluation
- June October 2007

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# Learning action plans - examples

Use library and information research to inform practice (9 out of 13)

"Draw on research when introducing or evaluating procedures in our library"

" Discuss with colleagues how we can use research with regard to decisions made for our library services"

#### Education and training (7 out of 13)

"Improve my training for the nursing students and integrate it within the overall training in EBP provided by the Faculty" (university college librarian)

"Establish a mini-course in EBP targeted at nurses in my organisation" (hospital librarian)



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## Learning action plans - examples

#### Reference enquiries - PICO/SPICE (8 of 13)

"Use PICO/SPICE when providing 'Order a librarian'-services or similiar reference enquiry situations"

"Use PICO/SPICE to more easily identify question types and study designs"

#### Pass on experience and knowledge to colleagues (4 of 13)

"Tell my colleagues about EBP and find ways to use the principles in our work"

"Disseminate the course content to my colleagues"



#### Students' assignments (project work)

- Plan and develop a training session for a specific user group (6)
- Compare different "evidence based resources" with regard to content and quality (2)
- Using research to inform methods of teaching information literacy to students (1)

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# Lessons learnt



## Organisational issues

- No substantial changes, but:
- Earlier start
- Allow more time between 1st and 2nd session



### Content issues

- Ambitious agenda
- Optional exercises between sessions to meet different learning needs
- Mandatory presentation of project works to peer students or colleagues



### Future developments

- Evaluation results will be used to inform further developments of the postgraduate programme
- New course will be offered Spring 2008
- E-learning modules

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# Contributors

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# References (1)

American Library Association (1989). "Presidential Committee on Information Literacy." http://www.ala.org/acrl/legalis.html

**Booth A (2006).** Counting what counts: Performance Measurement and Evidence Based Practice. *Performance Measurement and Metrics* 7(2): 63-74

**Bradley P et al (2005).** A systematic review of qualitative literature on educational interventions for evidence-based practice. *Learning in Health and Social Care*; 4(2): 89-109.

**Dolocourt J, Zuckerman G (2003).** Unanticipated learning outcomes associated with commitment to change in continuing medical education. *Journal of Continuing Education in the Health Professions*; 23: 173-81.

COLLEGE

Khan & Coomarasamy (2006). A hierarchy of effective teaching and learning to acquire competence in evidenced-based medicine. BMC Medical Education; 6:59.

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# References (2)

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Library Reform 2014. Oslo: The Norwegian Archive, Library and Museum Authority

Lockyer J et al. (2001). Commitment to change statements: a way of understanding how participants use information skills taught in an educational setting. *Journal of Continuing Education in the Health Professions*; 21: 82-9.

National Strategy for Quality Improvement in Health and Social Services (2005-2015). Oslo: Directorate for Health and Social Affairs.

Sackett D et al (1996). Evidence-based medicine: how to practice and teach EBM. New York: Churchill Livingstone.

Thompson O'Brien (2001). Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*, Issue 2.

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# References (3)

Wakefield J et al. (2003). Commitment to change statements can predict actual change in practice. *Journal of Continuing Education in the Health Professions*; 23: 81-93.

