

Evaluating EBP competencies of students, lecturers and professionals of allied health and nursing professions

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7th International Conference for EBHC Teachers and Developers

Evidence for sustainability of healthcare
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Taormina (Italy), 28th - 31st October 2015

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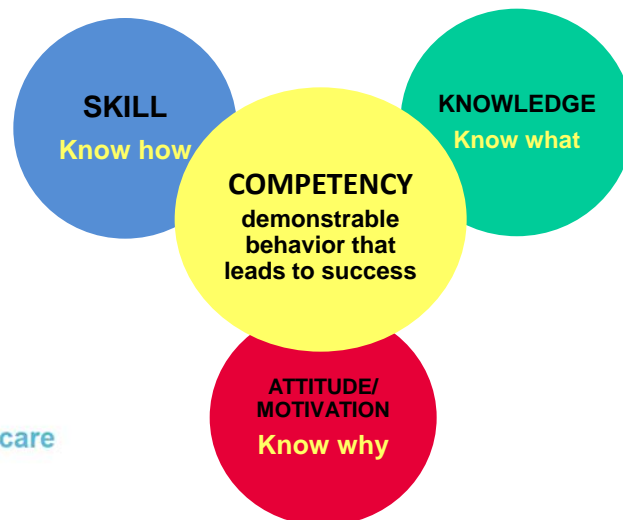
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BACKGROUND

- ▶ To improve evidence-based health care we have to educate future health care professionals with increasing knowledge, skills and a positive attitude towards evidence-based practice.
- ▶ To be able to evaluate EBP competencies of students as well as educational outcomes of changed curricula, EBP knowledge and skills and attitude of students, lecturers and professionals are measured.



Evidence-based Practice in the curricula

EBP Aims (Educational outcomes)	Year	General/ In common	Specific/ Differentiated
1 Formulating answerable questions	1, 2, 3, 4	1 Introduction EBP, Information skills 2 Research skills, project 3-4 Internship, Thesis	PT: Research skills yr 1-4
2 Searching for evidence	1, 2, 3, 4	1 Introduction EBP 2 Research skills, project 3-4 Internship, Project, Thesis	PT: Research skills yr 1-4
3 Critical appraisal of evidence	(2), 3, 4	2 EBP: Journal club; 3 Internship: Case study; Clinical (OT: professional) reasoning 4 Project, Thesis	OT, SLT, PT: year 2, 3, 4. Nursing: yr 3-4. Midw: yr 1-4 2 EBP: Journal club: OT, SLT, PT 3 CAT: OT, SLT, PT 3 or 4: Clinical reasoning (3: OT, Nursing; 4 SLT, PT) 3-4 Reflective case study: Nursing (internship)
4 Application of evidence in practice	3-4	Internship: Case study, Clinical reasoning, Project, Thesis	2-4 Midwifery (Internship) Clinical/professional reasoning: OT, Nursing: yr 3; SLT, PT: yr 4
5 Evaluation	3-4	Year 3-4 Internship, Project, Thesis	2-4: Midwifery (Internship)

OT: Occupational Therapy; SLT: Speech-Language Therapy; PT: Physical Therapy

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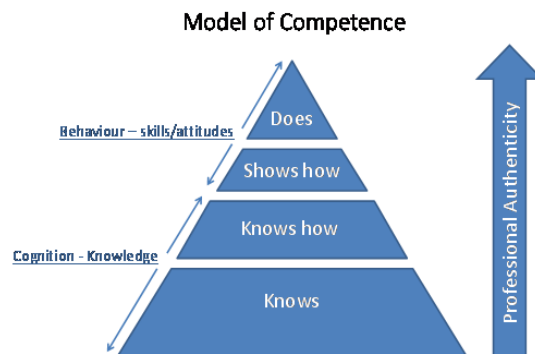
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AIMS

To identify the current level of EBP competency and motivational beliefs of health care students and lecturers.

- ▶ To evaluate differences in EBP competency and motivational beliefs between students and lecturers within health care professions.
- ▶ To evaluate differences in EBP competency and motivational beliefs between different health care professions
- ▶ To examine associations of EBP competency and motivational beliefs



Miller GE: The assessment of clinical skills/performance
Academic Medicine (Supplement) 1990, 65: S63-S7

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METHODS

- ▶ **Design:** Cross-sectional study
- ▶ **Participants:** students (2nd- and 4th-year), lecturers and professionals of different allied health care professions (OT, PT, SLT), nursing, midwifery
- ▶ **Measurements:**
 - ▶ The Dutch Modified FRESNO test (DMF), measuring EBP competency
 - ▶ Questionnaire on motivational beliefs towards EBP (Spek et al., 2013).
- ▶ **Statistical analysis:**
 - ▶ Differences between groups were tested with Kruskal Wallis and Mann Whitney U test; Spearman correlation was calculated for associations.

Ethical approval by NVMO-Ethical Review Board (Dutch Association for Medical Education)



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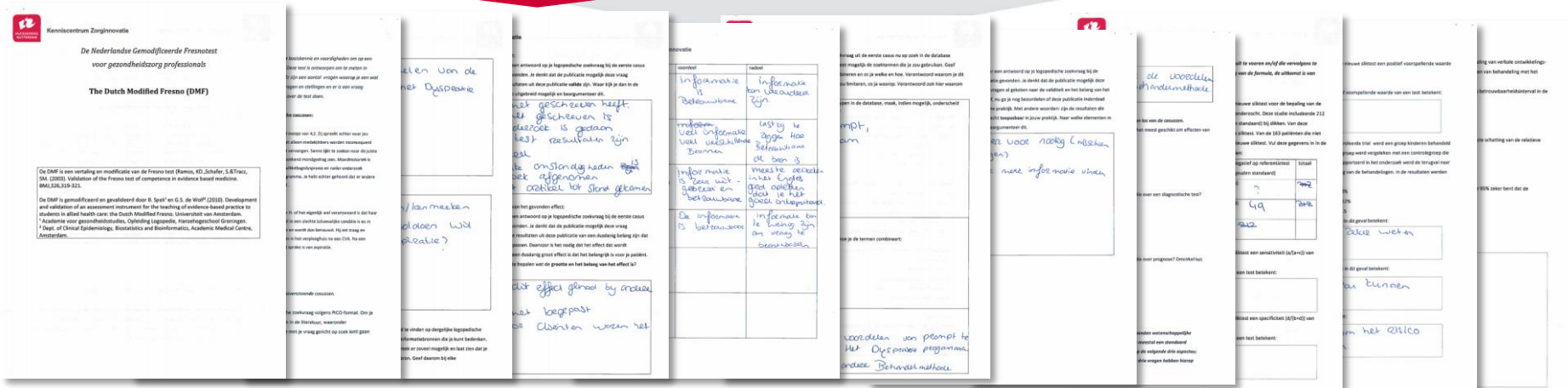
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DUTCH MODIFIED FRESNO TEST



Dutch Modified Fresno test (DMF) consists of 12 items:

- ▶ 8 open answer questions, 3 multiple choice, 1 yes/no item.
- ▶ First 3 items are based on 2 clinical scenarios.
- ▶ Standardized rating system, maximum score 220 points
- ▶ Rating of Dutch version validated by Spek et al. (2012).

Questionnaire on motivational beliefs (Spek et al., 2013):

- ▶ Self-efficacy: the person's belief in his capacities to perform a task
- ▶ Task value: personal perception of the importance of the task
- ▶ 7-point Likert Scale, ranging from totally disagree to totally agree.



RESULTS - Characteristics of participants

	N	Age Mean (SD) (range)	Gender % female	Education (%, (n))		EBP tasks % yes (n)
				Bachelor/ General	Master/ High	
LECTURERS						
Occupational Therapy	18	44.8 (13.8) (24-61)	89	67 (12)	33 (6)	28 (5)
Speech-Language Therapy	13	43.8 (8.1) (31-53)	92	69 (9)	31 (4)	39 (5)
Physical Therapy	22/7	37.1 (8.4) (25-58)	59;43	18 (4)	82 (18;7)	77 (17;5)
Nursing	14	51.5 (8.8) (29-61)	67	14 (2)	86 (12)	79 (11)
STUDENTS 4th year						
Occupational therapy	30	22.0 (1.6)	97	70 (21)	30 (9)	
Speech-Language Therapy	27	22.2 (1.9)	100	70 (19)	30 (8)	
Midwifery	13	25.2 (6.6)	100	69 (11)	31 (4)	
STUDENTS 2nd year						
Occupational Therapy	13	20.2 (1.7)	100	61 (8)	39 (5)	
Speech-Language Therapy	17	22.6 (8.7)	100	76 (13)	24 (4)	
Physical Therapy	32	22.2 (2.8)	50	84 (27)	16 (5)	
Nursing	10	19.8 (1.0)	70	90 (9)	10 (1)	
PROFESSIONALS						
Speech-Language Therapy	17	35.0 (7.4)	100	82 (14)	18 (3)	

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RESULTS – EBP COMPETENCY

Study group	Prof	Year	N	Pico (max. 24) Mean (SD)	Sources (max. 24) Mean (SD)	Searching (max. 24) Mean (SD)	Appraisal (max. 72) Mean (SD)	Other (max. 76) Mean (SD)	Total scores (max. 220) Mean (SD)	Motivation Mean (SD)	
										Taskvalue	Self-efficacy
Lecturers	OT	2013	18	18.5 (2.8)	10.9 (7.4)	13.3 (10.1)	24.2 (13.7)	14.1 (12.3)	81.1 (32.6)	46.0 (9.0)	27.2 (11.1)
	SLT	2013	13	10.9 (5.6)	13.5 (4.9)	14.8 (5.9)	21.0 (8.9)	23.7 (14.4)	83.9 (24.8)	46.9 (4.2)	25.7 (7.5)
	PT	2015	22	11.9 (3.3)	13.3 (5.6)	19.6 (8.8)	28.9 (19.3)	38.9 (21.4)	112.4(48.4)*	43.9 (5.6)	20.7 (9.7)
	Nursing	2014	14	10.9 (4.0)	17.9 (6.5)	18.2 (5.3)	24.4 (10.1)	16.6 (11.9)	88.0 (24.3)	47.9 (5.2)	24.2 (9.9)
Student 4 th yr	OT	2014	30	15.9 (6.1)	16.4 (5.6)	16.8 (5.8)	15.1 (12.5)	13.1 (11.0)	77.4 (29.0)*	44.9 (5.8)	29.0 (9.7)
	SLT	2014	27	15.7 (2.8)	14.7 (6.4)	18.6 (4.2)	23.8 (10.5)	20.1 (14.4)	93.0 (18.9)*	44.9 (3.7)	25.7 (7.0)
	MidW	2015	13	15.4 (4.5)	14.5 (3.3)	17.7 (7.9)	27.2 (10.5)	21.1 (7.0)	95.9 (17.9)	51.6 (3.4)	18.3 (7.1)
Student 2 nd yr	OT	2013	13	18.5 (2.7)	14.4 (5.6)	14.1 (3.5)	19.2 (13.4)	10.0 (9.7)	76.1 (14.9)	41.9 (4.1)	29.7 (6.6)
	SLT	2013	17	13.3 (4.8)	12.1 (5.3)	14.1 (5.4)	17.6 (9.0)	15.4 (10.2)	72.4 (17.4)	44.6 (4.9)	34.3 (8.1)
	PT	2015	32	8.9 (3.9)	10.5 (5.2)	14.0 (6.1)	14.5 (10.2)	16.0 (10.6)	63.8 (23.9)	42.3 (6.0)	37.2 (8.6)
	Nursing	2015	10	9.7 (3.3)	16.2 (5.4)	16.8 (4.5)	18.5 (13.0)	16.4 (9.5)	77.6 (23.3)	48.3 (5.2)	28.3 (6.6)
Professionals	SLT	2015	11	2.6 (4.7)	16.6 (4.9)	10.5 (6.8)	14.8 (10.9)	11.5 (9.2)	55.9 (26.1)		

RESULTS – DIFFERENCES

Differences within professions (groups of 2nd, 4th yr students and lecturers) and between professions (OT, SLT, PT, Nursing, Midwifery) were tested.

WITHIN PROFESSIONS:

- ▶ **OT, Nursing:** **No differences** between lecturers and 2nd and 4thyr (OT) students;
- ▶ **SLT:** **Significant differences** in EBP competency; Post-hoc: higher EBP in 4th yr students compared to 2nd yr students;
- ▶ **PT:** **Higher** EBP competency in lecturers than 2nd yr students.

BETWEEN PROFESSIONS:

- ▶ **Lecturers:** **No differences** in EBP competency;
- ▶ **4th yr students:** **Lower** EBP competency for OT than Midwifery and SLT;
- ▶ **2nd yr students:** **No differences** in EBP competency.

RESULTS – MOTIVATIONAL BELIEFS

	TOTAL (N=192)	OT (N=61)	SLT (N=55)	PT (N=39)	Nursing (N=24)	Midwifery (N=13)
FRESNO total score	80.6 (26.9)	78.2 (27.5)	84.8 (21.5)	72.5 (34.6)	88.7 (26.4)	95.9 (17.9)
Motivation Task value	45.3 (6.0)**	44.6 (6.7)	45.3 (4.2)*	43.2 (6.1)*	48.0 (5.1)	51.6 (3.4)
Motivation Self-efficacy	28.1 (10.0)**	28.6 (9.5)**	28.2 (8.3)**	31.0 (12.0)**	25.9 (8.8)*	18.3 (7.1)

For the total group, SLT and PT, EBP competency (Fresno) is significantly associated with both Motivation Self-efficacy and Task value towards EBP.

OT and Nursing: EBP competency is associated with Motivation Self-efficacy.

(* p<0.05; ** p<0.01)

LIMITS

- ▶ Selection bias
 - ▶ small (sub)samples; volunteers.
- ▶ Rating the Fresno test is time-consuming and complicated; this might affect reliability.
- ▶ Not all items are relevant for all disciplines.
- ▶ Interpretation of results: criteria for levels of EBP competencies are lacking.



BOTTOM LINE

- ▶ The Fresno test seems to reflect EBP in the curriculum and shows differences between and within different health care professions.
- ▶ Overviews of the curricula and the Fresno scores creates opportunities to learn from each other and to set common goals for improving EBP competency in students and lecturers.
- ▶ The Fresno test can be used to evaluate EBP competency in students and lecturers, but also as a tool to change motivational beliefs towards EBP.



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THANK YOU FOR YOUR ATTENTION

QUESTIONS?

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