



***Evidence-based decision making
for Leaders in Human Services***

COURSE CONTEXT

Over the past decade the responsibilities of leaders and managers of not-for-profit organisations and the public sector have changed significantly. Leaders are now required to take a seat at the executive table and participate in solving complex organisational problems and deliver services that improve outcomes for a range of clients. Evidence-Based Programs (EBPs) and evidence-based practices¹ are a growing part of the current requirement for innovation in service programs and increasingly considered strategies for Human Service Organisations to weather turbulent fiscal and policy environments (Carnochan et al. 2017). EBPs are based upon an understanding of how programs and practices work on the ground to deliver outcomes. They involve gathering research evidence to inform decision-making about interventions, programs and practice principles delivered by individual practitioners, teams and whole organisations (Plath 2012b). An EBP is a dynamic process of critical reflection that involves a combination of well-researched interventions with the on-the-ground experience of both practitioners and service users, with solutions being evaluated for their effectiveness (Plath 2012b; Social Work Policy Institute 2017). At the same time, most traditional models and new 'cutting edge' solutions often fail to deliver on what they promise. This leaves leaders with a profound challenge: how can we stay away from trends and quick fixes, and instead use valid and reliable evidence to support the organisation and selection of the best interventions for our clients?

In response to this problem the idea of evidence-based decision-making has evolved, with the goal of improving the quality of decision making by using critically evaluated evidence from multiple sources - organisational data, professional expertise, stakeholder values and the scientific research literature. While this sounds sensible and straightforward, gathering, understanding and using evidence is challenging in many ways and requires a set of specific skills. This executive course will develop your evidence-based skills and enhance your understanding of how an evidence-based approach can be used to support organisational decision-making.

COURSE DESIGN

This advanced course uses a blended learning approach that integrates e-learning modules that can be completed online with workshops that can be attended in person. In addition, this course takes a problem-based approach: starting point are the practical issues (problems/opportunities) typically encountered by not-for-profit managers rather than the body of knowledge produced by academics.

COURSE INTRODUCTION

The specific skills this course aims to develop are: (1) critical thinking and reasoning; (2) identifying and gathering of the best available evidence; (3) critical appraisal of evidence; and, (4) applying evidence of different forms to decision-making. In the process of developing these skills the focus will be on evidence from scientific research.

LEARNING OUTCOMES

On completion of this course, participants should be able to:

¹ A similar term is evidence-informed practice (EIP).

- Assess the extent to which claims (made by managers, leaders, departments or consulting firms) are supported by evidence
- Acquire, critically appraise and apply evidence from multiple sources to support organisational decision-making
- Conduct a CAT (optional)

CERTIFICATE

Upon completion of the course, each participant will receive an executive education certificate from Carnegie Mellon University and the Center for Evidence Based Management (CEBMA).

OVERVIEW OF COURSE SESSIONS

<i>Session</i>	<i>Form</i>	<i>Duration</i>	<i>Topic</i>
1	E-learning	60 min	Module 1: Evidence-based decision-making, the basic principles
2	E-learning	90 min	Module 2: Asking critical questions
check-in 1	E-session	120 min	- Official welcome of participants, introduction to the course - Introduction to evidence-based decision making - Reflection on learning, questions, translation to practice
3	E-learning	90 min	Module 3: Acquire, evidence from practitioners
4	E-learning	90 min	Module 4: Appraise, evidence from practitioners
check-in 2	E-session	90 min	Reflection on learning outcomes, questions, translation to practice
5	E-learning	120 min	Module 6: A short introduction to science
6	E-learning	150 min	Module 7: Appraise, evidence from the scientific literature
check-in 3	E-session	90 min	Reflection on learning outcomes, questions, translation to practice
7	E-learning	120 min	Module 9: Appraise, evidence from the organisation
8	E-learning	90 min	Module 13: Apply: Incorporate the evidence into practice
9	E-learning	90 min	Module 14: Assess: evaluate the outcome of the decision taken
check-in 4	E-session	90 min	Reflection on learning outcomes, questions, translation to practice
optional 1	E-session	120 min	CATs and REAs: question formulation, search strategy, critical appraisal
optional 2	E-learning	120 min	Module 5: Acquire, evidence from the scientific literature
optional 3	E-Presentation	120 min	Presentation of your CAT

E-learning 1**Module 1: Evidence-based decision-making, the basic principles**

Learning objectives	Summarise the basic principles of evidence-based management; Explain why we need evidence-based management; Explain what counts as evidence; Determine which sources of evidence were consulted; Assess (in general terms) the quality of evidence; Determine whether the 'best available' evidence was used in a decision-making process; Correct common misconceptions about evidence-based management.
Assessment	After completing the module, take the assessment quiz

E-learning 2**Module 2: Asking critical questions**

Learning objectives	Identify (hidden) claims/assumptions regarding a practical issue; Determine whether an (assumed) problem is sufficiently clear; Determining whether there is sufficient evidence to support the (assumed) problem; Determine whether the preferred solution is sufficiently clear; Determine whether there is sufficient evidence (from multiple sources) to support the preferred solution.
Assessment	After completing the module, take the assessment quiz

Check-in 1**Official welcome, Reflection on learning outcomes, questions, translation to practice**

Description	<p>During this session the participants will be welcomed by the lecturers - course objectives, modules, sessions and the optional CAT assignment will be discussed, and a general introduction to evidence-based decision making will be provided. In addition, we will discuss: How do you make decisions? How do managers, leaders and policy makers typically make decisions? How are decisions made within your organisation? How can evidence-based decision making be applied within your daily practice? What are the limitations of evidence-based decision making?</p> <p>Finally, we will discuss the learning outcomes of modules 1 and 2 and answer questions.</p>
Assignment 1	<p>Please think about your answers to the following questions:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Think about a management- or policy decision that was made within your organisation, preferably one you were involved in making (or observed closely). What was the decision-making process? What evidence was available?
Assignment 2	<ul style="list-style-type: none"> <input type="checkbox"/> Take a policy paper, project proposal, strategy document or change plan from your organisation - read the paper and determine the three most critical assumptions. <input type="checkbox"/> Suggest ways to evaluate these assumptions.

E-learning 3**Module 3: Acquire, evidence from practitioners**

Learning objectives	Determine the evidence to be acquired from practitioners; Determine how to prevent selection bias when acquiring evidence from practitioners; Determine the best method(s) to acquire evidence from practitioners; Determine whether bias could have affected evidence from practitioners; Formulate clear, unambiguous, and unbiased questions.
Assessment	After completing the module, take the assessment quiz

E-Learning 4**Module 4: Appraise, evidence from practitioners**

Learning objectives	Assess whether a given person’s professional experience is valid and reliable; Grade the trustworthiness of a person’s professional experience; Recognise how system 1 thinking influences valid and reliable professional expertise; Determine whether a decision is based on system 1 or system 2 thinking; Recognise common cognitive biases; Identify ways cognitive biases can be overcome; Critically appraise evidence from practitioners.
Assessment	After completing the module, take the assessment quiz

Check-in 2**Reflection on learning outcomes, questions, translation to practice**

Description	During this session we will discuss the learning outcomes of modules 3 and 4 and answer questions.
-------------	--

E-Learning 5**Module 6: A short introduction to science**

Learning objectives	Assess whether a study has been conducted according to the scientific method; Recognise pseudo-science; Assess whether a statistically significant finding is of practical relevance; Assess whether methodological bias may have affected the results; Determine whether confounders may have affected the results; Assess whether a placebo effect may have affected the results; Identify moderators or mediators that may have affected the results; Distinguish quantitative research methods from qualitative research methods; Determine a study's research design; Efficiently read a research paper.
Assessment	After completing the module, take the assessment quiz

E-Learning 6**Module 7: Appraise, evidence from the scientific literature**

Learning objectives	Assess the impact of an effect size; Assess whether a statistically significant finding is of practical relevance; Assess whether a confidence interval is sufficiently narrow; Assess whether an outcome was measured in a reliable way; Distinguish cause-and-effect questions from non-effect questions; Determine a study's research design; Assessing whether a study's research design is appropriate given the research question (methodological appropriateness); Summarizing a study's main findings, weaknesses, and overall trustworthiness.
Assessment	After completing the module, take the assessment quiz

Check-in 3**Reflection on learning outcomes, questions, translation to practice**

Description	During this session we will discuss the learning outcomes of modules 6 and 7 and answer questions.
-------------	--

E-Learning 7**Module 9: Appraise, evidence from the organisation**

Learning objectives	Determine whether a logic model was used to collect and analyse evidence from the organisation; Assess whether organisational data are relevant; Identify steps in the collection and processing of data that could introduce risk of inaccurate data; Determine whether contextual information is missing; Determine whether there could be measurement error; Assess whether there could be a small number problem; Determine whether a metric is a good representation of the data; Interpret a metric's standard deviation; Assess whether a graph represents the data in a valid and reliable way; Interpret a correlation or regression coefficient; Determine whether a correlation- or regression coefficient is practically relevant; Assess whether there are outliers that may distort the evidence; Assessing whether range restriction may have affected the evidence; Assess whether a confidence interval is sufficiently narrow.
Assessment	After completing the module, take the assessment quiz

E-Learning 8**Module 13: Apply, Incorporate the evidence into practice**

Learning objectives	Use the PICOC method to determine whether the evidence applies to the organisational context; Determine whether a decision/intervention gives you the biggest bang for your buck; Assess the level of risk inherent in a decision/intervention; Identify ethical issues that need to be considered; Determine whether (and if so, how) the evidence is actionable; Determine whether moderators need to be taken into account; Determine, given the type of decision at hand, how and in what form the evidence can be applied.
Assessment	After completing the module, take the assessment quiz

E-Learning 9**Module 14: Assess, Evaluate the outcome of the decision taken**

Learning objectives	Identify the type of decision (to be) made (routine, non-routine, or novel/hyper complex); Determine whether a decision was executed as planned; Assess an outcome using the “gold standard” method; Assessing an outcome using quasi- or non-experimental methods; Suggest ways to improve the validity and reliability of an outcome assessment; Assess whether an outcome was measured in a reliable way; Assess whether indirect and intangible costs were taken into account; Assess the (unintended) consequences of a decision on stakeholders.
Assessment	After completing the module, take the assessment quiz

Check-in 4**Reflection on learning outcomes, questions, translation to practice**

Description	<p>During this session we will discuss the learning outcomes of modules 9, 13 and 14, and answer questions.</p> <p>In addition, we will discuss: Based on what you have learned, how will you now make decisions within your organisation? How can you apply evidence-based decision making within your daily practice? What are the limitations of evidence-based decision making within your organisations? What do you need from your organisation to make better (evidence-based) decisions? What could you do to support evidence-based decision-making within your organisation?</p> <p>Finally, we will discuss the requirements (and time investment) for the optional modules.</p>
-------------	---

Optional 1 **E-session: CATs and REAs- question formulation, search strategy, critical appraisal**

Description	During this session we will discuss the added value of CATs and REAs, and discuss the stages of both.
Assignment 1	Read the McKinsey case and answer the questions
Assignment 2	Conduct a CAT on a topic relevant to your organisation and present your findings in a short report. More detailed instructions will be provided during the session along with examples of CATs and REAs

Optional 2 **E-Learning – Module 5: Acquire, evidence from the scientific literature**

Learning objectives	Determine the most relevant online research database(s) given the question; Determine whether a journal is peer reviewed; Determine the most important PICOC terms; Search the Internet for relevant alternative and/or related terms; Search Google Scholar for related or broader academic terms; Test search terms to identify terms that yield the most relevant results; Apply Boolean operators to specify a search query; Use the history function to combine search queries; Apply methodological filters to identify meta-analyses and/or longitudinal/controlled studies; Narrowing search results by adding additional PICOC terms; Limit a search result by limiting the date range.
Assessment	After completing the module, take the assessment quiz

Optional 3 **E-session: Presentation of your CAT**

Description	<p>Each participant gives a 10-minute presentation of the outcome of his/her CAT; official hand-out of certificates</p> <p>This is also an opportunity for you to draw up an action plan to apply & implement the learned principles to an issue/problem relevant to your own organisation. During the session, you will receive feedback and support from the course leaders.</p>
-------------	--