

INDICATORS OF DIMENSIONS IN ADULT LEARNING AS MEASURES OF LIFELONG LEARNING VISION IMPLEMENTATION

(working title)

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Some conceptual considerations

A picture of the world is constructed by many sciences with the help of dimensions they put forward a proof of material existence of a certain phenomenon. To mention but a few: Euclidean dimensions, fractal dimensions, Hausdorff's dimension, simplex dimension etc. Geometry uses the concept of dimension longest and in the broadest sense. Whenever a new phenomenon appears there is a need to develop a measurement in relations to already existing understanding of the world. As for example The United Nations Industrial Development Organization UNIDO brought up a three – dimension (environmental dimension, economic dimension and social dimension) approach in the attempt to explain sustainable development, i.e.:" There is no formal definition of sustainable development, even ten years after publication of the report of the World Commission on Environment and Development (better known as the Brundtland Commission). A clear definition may be unnecessary to design action programmes; however, basic conceptual guidelines must be drawn (or rather re-drawn), to set sustainability goals." (UNIDO, 2005)

Further interest in the meaning and need of dimension in the world of education may settle with the Merriem Webster dictionary (MWD) list of five meanings of the dimension of which one is obsolete and one is a definition of a concrete object from stone or wood, therefore the field of use and understanding of the concept could be derived from the remaining three, e.g.:" 1 a (1) : measure in one direction; specifically : one of three coordinates determining a position in space or four coordinates determining a position in space and time (2) : one of a group of properties whose number is necessary and sufficient to determine uniquely each element of a system of usually mathematical entities (as an aggregate of points in real or abstract space) <the surface of a sphere has two dimensions>; also : a parameter or coordinate variable assigned to such a property <the three dimensions of momentum> (3) : the number of elements in a basis of a vector space b : the quality of spatial extension : MAGNITUDE, SIZE c : a lifelike or realistic quality d : the range over which or the degree to which something extends : SCOPE -- usually used in plural e : one of the elements or factors making up a complete personality or entity : ASPECT; [...] 3 : any of the fundamental units (as of mass, length, or time) on which a derived unit is based; also : the power of such a unit; [...] 5 : a level of existence or consciousness" (MWD, 2005)

The above definition on the one hand suggests understanding of "dimension" through semantically comparative concepts : "Measure", "Property", "Parameter or Variable assigned to property" "Quality", "Lifelike quality" "Fundamental units" and "Level of existence". Conceptually the simple synonymic identification of "dimension "

with “measure” narrows down its broadest interpretation as “Level of existence”. Therefore, conceptually there is a perspective in the use of the term that leads to interpreting “dimension” as a condition of existence in reality. Besides, the concept of dimension is revealed through such terms as “unit” and “property”.

While the first can be seen as a more discreet identity the second is often a matter of consensus. Therefore there is a fairly broad perspective in approaching the understanding of dimension as a concept: 1) from the narrow and context specific “measure” to the global “level of existence”; 2) from discreet identity to a matter that may be revised on the grounds of consensus.

The MWD definition also indicates the order in which the concept is organised: “measure in one of four coordinates”; “(one of) a group of properties, necessary to determine the uniqueness of a system”; “the number of elements in vector space”; “(any of) the fundamental units on which derived units are based”. The main emphasis is on static arrangement of a certain number of elements appropriating certain space.

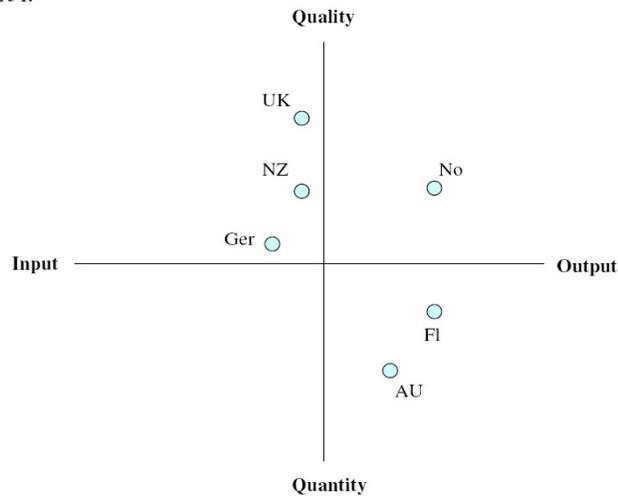
A more discreet definition of “dimension” is given in OECD Glossary of Statistical Terms (GST). Here “dimension” is listed as: “An equivalence class of semantically similar units of measure” (OECD GST, 2005). In the supplied context of use the following is explained: “The equivalence between two units of measure is determined by the existence of an invertible transformation of one set of units to the other. This means that two units of measure have the same dimensionality if there exists a function that maps values in one unit of measure to values in the other and the inverse of the function maps values in the second units back to values in the first.” (OECD GST, 2005).

Comparing the definition in the MWD and OEC glossary of statistical terms “dimension” is given a broader perspective of interpretation in MWD: “equivalence class” can be positioned in the middle between understanding dimension as “a measure” and “a level of existence”; however OECD glossary structured and dynamic definition: when two units of measure are invertibly transformed through a function. Invertible transformation is very important for cyclical or spiral vision of development of events and the function as precondition of the development.

Another source of understanding the meaning of dimension in social sciences is the study of use dimension in literature.

An example of a two dimensional comparison of R&D situation in 6 European countries presented in the 2005 Research Prestatiemeting: Een Internationale Vergelijking. Jongbloed, B., Salerno, C., Huisman, J., en Vossensteyn, H. Zoetermeer, Ministerie van Onderwijs, Cultuur en Wetenschap, 2004 Serie: Beleidsgerichte studies Hoger onderwijs en Wetenschappelijk onderzoek (p.69-70):

Figure 1.



In the preamble to the report the analysed reality is described as follows:

“All data is purported to possess three attributes: 1) subject area, 2) time, and 3) location. The three primary categories are inputs, activities and outputs. Secondary indicators are meant to describe the relationships between primary category indicators. Where possible, attention is given to outputs resulting in identifiable outcomes or impacts”. (p.22). The whole situation is approached through internally (subject area) and externally (time and location). Further internal situation is measured by primary indicators are those of a process- inputs, activities and outputs. Secondary indicators describe relations between primary indicators – secondary indicators may be held identical to functions and to identifiable impacts (identifiable outcome is invertible to input).

Another example is taken from “On Phases, Levels and Circles in Policy Development “Paper for the CHER 14th Annual Conference. Higher Education and its Clients: Institutional Responses to Changes in Demand and in Environment. Dijon, 2.4 September, 2001. Here the author distinguishes two dimensions speaking about the type of institutional responses to recommendation (actions): external dimension- time (long-term and short-term), and causality- internal dimension measured through values (instrumental and conceptual) and supplemented by the types of actions accompanying the process as indicators (Jeliazkova, 2001) (Figure 1).

conceptual	
<ul style="list-style-type: none"> • Discussion on report findings and conclusions at various levels • Dissemination of report findings and conclusions • Apparent interest in visitation outcomes • Considering visitation procedure/outcomes important • Use of concepts/argumentation from the report for short term decision making 	<ul style="list-style-type: none"> • Judgment on (purpose of) the visitation procedure/report • Judgment on quality assurance/ quality improvement/ aspects of quality • Judgment on the relative importance of education as a component of performance at individual/disciplinary/ departmental level • Use of concepts/argumentation from report for strategic decision making
short-term	long-term
<ul style="list-style-type: none"> • Actions taken to immediately improve/adjust/legitimize quality assurance policy 	<ul style="list-style-type: none"> • Direct use of recommendations from visitation reports for long term decision making • Use of visitation report's structure/ indicators/criteria for quality testing (op various levels) • Reorganizations of disciplines/sections/ departments
instrumental	

Figure 1. Types of action in response to reports

It is important that the key element, to quote Jeliaskova, is learning function on the vertical axis.

H.J.J.G..Beerens in his book *Global Opportunities and Institutional Embeddedness* (2004) defines institutional consortia as a *status quo* object on horizontal axis through mostly internal qualities and their indicators dimensions: Members(multiple-limited); Membership(restricted ; based on agreement of partners); Interests (individual interest of participating institutions), Time –span activities (Time –span is not defined in advance), Integrations (simultaneously covering multiple disciplines and themes); Relations (relations based on equal say and equal contribution); Intensity(collaboration based on coordination).(p.50) The dimensions are identified and their indicators listed as based “on insights from organisational and management studies”(Jeliaskova), or to identify the object characteristics (Beerens).Sometimes the measure is defined as criteria: “To measure the relative performance of the scientific field / discipline and the individual research units and institutions, the following criteria are used: International publication in best journals; International front position; Originality of research; Conceptualisation of own research within framework of public health research; Total publication activity; Success in academic training; Relevance and influence of research – internationally, nationally; Overall impression of research group/institute (42 p.)(R&D).

The interest with which the measuring of the situation takes place determines in large part the indicators/criteria chosen for a certain dimensional analysis: organisational, management etc The interest determines in large part selection of the indicators It must be also noted that certain dimensions are used in identifying processes and others in identifying objects of reality.

From an educational point of view the interest there has been addressed adult education and vocational education by Lithuanian scholars M. Tereseviciene (adult education) and R.Lauzackas (vocational education). M.Tereseviciene distinguishes the following educational dimensions for internal to adult learning: communicative learning; secure learning environment; individual differences of the students, experiential learning and their indicators. She also adds external dimension of time.

R. Lauzackas treats dimensions as a condition for the existence of the situation and in addressing vocational training he distinguishes the dimension of the content and of the educator. The conceptual framework of dimension

A dimension may be interpreted: 1) from the narrow and context specific “measure” to the global “level of existence” ; 2)from discreet identity to a matter that may be revised on the grounds of consensus 3) dimension is further subdivided into measurements (invertible)proved by presence of indicators both internal and external 4) indicators of dimensions are selected in accordance with the study interest: managerial, educational , psychological etc.

Dimensions measure reality which is understood as consisting of processes or objects. The study of my paper is the learning reality which is understood as consisting of the following tiers: policy forming, social-pedagogical, institutional, interpersonal, and intrapersonal (V.Targamadze,1999).Each of the tier has a set of functions in the learning reality. The policy forming tier is understood as national (supranational) identity forming tier – occasionally may function as philosophical, ethical, language identity forming tier. Social-pedagogical – systemic tier embraces the structure of all institutions related to the implementation of tasks and goals set on the policy forming tier. Institutional tier is the school (university, home) tier whose function is to provide optimal participation of all the education process actors. Interpersonal tier is the pedagogical tier which embraces purposeful relations of educators and the learners through sharing information flows – instructions and feedback. Intrapersonal tier is the domain of the phenomenon of individuality. On this tier the results of education tasks and goals are internalised or externalised.

The focus of my research are the institutional and the interpersonal tiers. The selection of these two tiers of learning reality is determined by the distinction between education (represented by the top three tiers- policy making, social-pedagogical, institutional) and learning (represented by interpersonal and intrapersonal tiers). The distinction is highlighted by P.Jarvis (2004) : “Fine but not insignificant distinction. : education is a social institutionalized phenomenon whereas learning is an individual one. The emphasis is now on the individual and not the providers of education [...]lifelong learning systems still function in the same manner as education in assisting individuals to fit into this liquid modern society and to reproduce its dominant culture.”

Further theoretical part reviews the understanding of learning as a process . Also the adult pedagogies and the life-long learning pedagogies are reviewed.

Research assumptions:

1. Dimension in education as in social science is a matter of consensus and is measured by indicators.

2. Dimensions provide measurement of adult learning in a lifelong learning environment.
3. Adult learning is a process taking place along the tiers of learning reality: policy forming, social-pedagogical, institutional, interpersonal, and intrapersonal.
4. Dimensions are measured by sets of indicators specific to separate tiers of learning reality
5. Dimensions on policy forming, social-pedagogical and institutional tiers are mostly characterised by theoretical indicators
6. Dimensions on institutional and interpersonal tiers are characterised by practical indicators
7. Institutional tier amalgamates both theoretical and practical indicators of the same dimensions
8. Addressing the content of the dimension indicators we can realise the degree to which goals set at the policy forming tier are realised at the interpersonal tier

Research design

For the purposes of research the dimensions are selected from the policy forming documents: e.g. competence:” Key competences represent a transferable, multifunctional package of knowledge, skills and attitudes that all individuals need for personal fulfilment and development, inclusion and employment. These should have been developed by the end of compulsory schooling or training, and should act as a foundation for further learning as part of lifelong learning. (DeSeCo) “A specific competency in UNIDO is described with key behaviours representative of a proficient application. They are grouped in three main categories; managerial, generic or technical/functional. Their application is subdivided in three levels: advanced, proficient, and knowledgeable. Benchmark jobs or functions in the in the Organization will be defined with a set of around 15 essential competencies.” (UNIDO), and fro Lithuanian basic documents on economic development and education. The indicators of a dimension measurement on all tiers of learning reality traced.

For the policy forming and social-pedagogical tiers document analysis will be carried out to identify the measurements and indicators of competency dimension. Since the tiers set the goals and distribute responsibilities for the learning reality indicators of dimensions should be listed.

On Institutional level case study will be carried out to trace the educational measurements and indicators of competence. A case study may have limitations of availability. Formal (universities, colleges – day time and extra-mural , distance courses) and non-formal (course providers, continuous studies) will be approached to review their mission statements and codes of function and other relevant documents. Interpersonal level will be research by means of standard questionnaire survey to identify the prioritisation of competency indicators in adult learning.