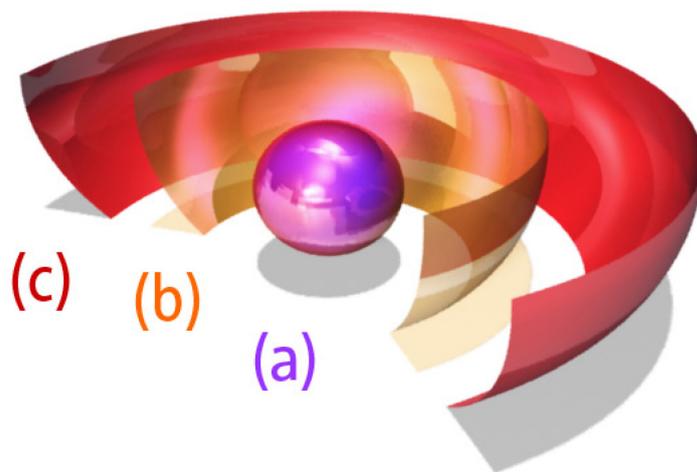


# Value Definition of Learning Outcomes

## as a Prerequisite for Responsible Academic Quality Control

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### *Value dimensions*

- (a) *human skills*
- (b) *general professional skills*
- (c) *specialized vocational skills*

### **Abstract**

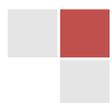
Systems cannot simply produce outcomes without investigating their value. Certain value dimensions cannot be accessed without changing the curriculum delivery model. Quality control is not possible without having created quality in the first place. But how can we define value and quality?

### ***Issue of Academic Quality in Different Systems***

Academic quality control depends on the structured balance between the course curriculum, its delivery in terms of teaching methodology and the subsequently available assessment tools.

However, all of these parameters differ greatly when comparing traditional, teacher- and syllabus centered versus student-centered and student-empowering learning programs.

The quality of a program is not measured by the formal consistency of curriculum, delivery and assessment tools, but by the question if students are empowered to take responsibility for their learning, if they become reflective practitioners in the process and if they internalize essential lifelong learning skills. The desired **student profile model** is more than the sum of arbitrarily assembled learning outcomes, both in skills and knowledge.



Looking from the outside, both systems compete in terms of offering learning outcomes that reflect 'industry practice' and applicable real-world skills. The internal structure could however not be more different for both scenarios.

I would like to highlight the dilemma of traditional teaching in terms of attaching an additional **value function** to the desired learning outcomes in the style of David Kahneman's *Prospect Theory*<sup>1</sup> where people's actual decision making processes are defined by some additional parameters such as  $x_1, x_2, \dots, x_n$  for the **potential outcomes**,  $p_1, p_2, \dots, p_n$  for their **respective probabilities** and the value function **v** that **assigns a value to an outcome**.

$$U = \sum_{i=1}^n w(p_i)v(x_i) = w(p_1)v(x_1) + w(p_2)v(x_2) + \dots + w(p_n)v(x_n)$$

Gains and losses are put up as stakes on all sides, here the academic institution's performance being reflected in the student's acquisition rate of valuable knowledge and skills.

So which parameters create the biggest value? How can we determine 'value' in the first place?

Most vocational institutes in tertiary education emphasize specific learning outcomes such as software- and programming skills. Most universities and Institutions of Higher Learning by contrast emphasize meta-cognitive, research- and methodology- skills and Know-How. Can we establish a reliable philosophical model that can serve as a rational guide?

## **Value Dimensions**

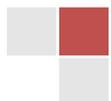
A comprehensive pedagogical model differentiates in the style of onion-layered competencies from the inside out:

- a.) Human skills start at the core (Self-confidence, notion of Self-Worth, sincerity, trust, internal motivation, ability to enjoy life, teamwork competency, problem-solving and research skills, conflict resolution competency, forthcoming in helping others, building on prior knowledge, cultural context, ability to discuss arguments in a group and to formulate complex questions etc.). Most of these skills are meta-cognitive (and thus meta-contextual) in nature<sup>2</sup>
- b.) General professional skills such as e.g., design-skills or the skills of a general practitioner (General Learning Outcomes, in the following *GNOs*) develop second as foundation skills and
- c.) Highly specialized vocational skills (Specialized Learning Outcomes, in the following *SLOs*) form the final layer

**Value is addressed at all three levels** and needs to be defined in terms of a *desired student profile*. Learning outcomes make little sense *per se* if they are not being researched and peer-reviewed.

Needless to mention that in a teacher- and syllabus-centered teaching environment value dimension (a) plays little or no role, whereby (b) and (c) are externally superimposed onto the students.

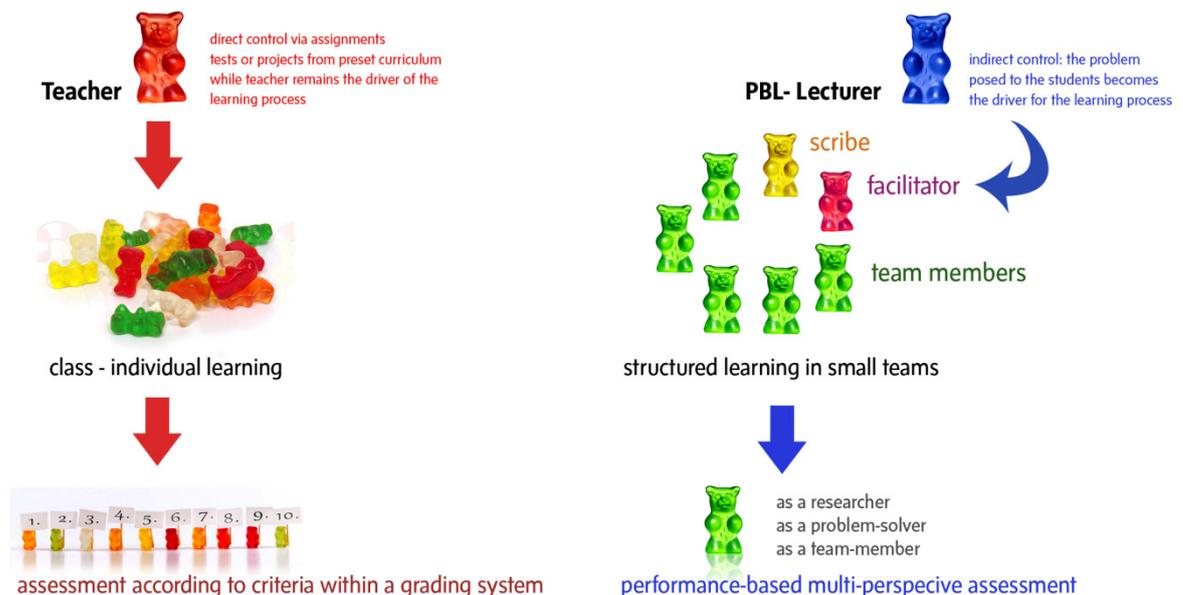
The ownership of learning lies by the institution, not the students.



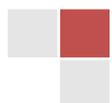
A teacher-centered learning environment has logically no assessment tools for (a): student feedback of all kinds remains an artificial placebo since it serves as a conscience-pacifier for the institution ( verifying that students ‘have been heard’ ) whereby in reality they had no real say and stake in the preset learning process. We could also translate the value of learning outcomes under subjective, inter-subjective and objectified general perspectives:

- (a) **Subjective value** is created when the student feels that the learning process itself help him/ her to master essential life-skills that relate directly to their personal development and growth. The world-famous *Visual Literacy*<sup>3</sup> exercises by Richard Wilde serve as a brilliant example. These objectives relate to the educational goals of the affective domain in Bloom’s Taxonomy.<sup>4</sup>
- (b) **Inter-subjective value** is created by students relating and working with others, to share and develop solutions within a team. The classroom is more than merely an opportunity for individuals to meet and present their ideas and concepts, but to develop them together in a structured social setting in class.
- (c) **Objectified value** is created by the syllabus reflecting the most typical real-world issues encountered within a profession. These GLOs/ SLOs need to be under constant research and critique and the discussion needs to be open to all academic decision-makers within an academic institution. Ideally they should include a panel of outside parties such as industry representatives, active practitioners and academics from other institutions: *Who is teaching the teachers?* A well-researched program can answer to the questions of students, parents and local communities.

## Teacher-Centered versus Learner-Centered System



Above: Illustration of differences between traditional education and PBL. See Howard Barrows book ‘The Tutorial Process’ as a good introduction.



It becomes obvious that in a Learner-Centered system students develop cognitive as well as emotional qualities from the **inside out** actively: the learning environment stimulates internal growth by interaction and challenge. By contrast, in a teacher-centered system - starting from basic motivation - students do not develop any of these qualities and merely try to pass and fulfill the benchmarks set out by the system. Their *modus operandi* remains one of a passive and non-reflective learner and worse; learning itself turns into an unpleasant task. Traditional education systems, schools and colleges, condition students how to stop learning instead of enjoying it.

Even if Problem-Based Learning (PBL) is only available at some of the most advanced Institutions of Higher Learning<sup>5</sup>, traditionally oriented colleges and universities can still start making their academic quality control systems more effective by defining openly the value-creation of their proposed learning outcomes on all three levels. Critical Self-awareness on value creation is a prerequisite to providing quality education beyond the Bell-Curve. The employment of active teaching methods would be the first strategic step for improvement.

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