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# **A relational approach to curriculum design**

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## **Abstract**

The complex mechanisms in corporate education, where cognitive operations of individual learning intertwine with social processes of an organisational context, demand an extended theory of curriculum design that seeks to explain the existing successes and failures of training systems. The author advocates integrated design procedures that combine a systematic and relational approach. Empirical research findings support this proposition and indicate that relational aspects in curriculum design predict most accurately programme effects.

## **Introduction**

This chapter addresses the question: What are the driving forces that make a curriculum design successful? The research study that offers the empirical evidence for the proposed answers to that question was carried out in the context of corporate education. Curriculum design focuses primarily on the acquisition of skills and competencies that are sustained by the day to day work environment of the participants in an educational programme. The complex mechanisms in corporate education, where cognitive operations of individual learning intertwine with social processes of an organisational context, demand an extended theory of curriculum design that seeks to explain the existing successes and failures of training systems and predicts the results of new actions.

Corporate education provides intentionally designed learning situations aiming at the mutual effects of individual and organisational behaviour. Therefore, the curriculum design theory needed should not only incorporate indicators for the development of curriculum materials, but also prescribe approaches that relate to the strategic issues of an organisation, to structural feedback mechanisms, as well as to the design of a work environment that inherently holds constructive educational values. The



traditional systematic approach to curriculum design, based on rational and logic step by step procedures by a curriculum designer that lead towards the selection and arrangement of content and the choice of learning experiences, needs to be integrated in a relational approach. A relational approach provides activities that encourage the various stakeholders to become involved in the design and implementation process of a programme. As corporate education does not solely focus on the acquisition of competencies of employees, but also on changes in performance and impact on the organisation, the curriculum design should support the social enterprise of the educational decision making process.

Currently, human resource developers as well as managers often regard corporate education as isolated training in a classroom or conference centre. Consequently, the impact of such isolated programmes is very poor. Latham and Crandall (1991), Broad and Newstrom (1992) estimate that only 10% of training resulted in observable behaviour change on the job. A more comprehensive approach to curriculum design, integrating systematic and relational aspects should lead to more successful educational programmes.

This chapter discusses the main characteristics of the systematic and relational approach. The main research question is: does the skilful application of an integrated systematic and relational approach, generate educational programmes that accomplish significantly better results than those programmes with weak design approaches?

The dynamics of the systematic and relational approach have been examined in the design of 31 corporate education programmes. Moreover, the application of these approaches were related to the perceived effects of these programmes. The study was conducted in several phases: On the basis of the review of the literature, first an operationalization of the systematic and the relational approach was drawn up. Propositions on the systematic and relational approach were first tested in an



exploratory research phase. Here, 17 programmes were investigated. The aim of the exploratory phase was to detect factors in the process of corporate curriculum design that affect the quality of the outcomes. For this purpose, two sets of contrasting cases were selected: nine successful and eight unsuccessful curricula.

In the second step the findings of the exploratory phase, combined with a literature review, resulted in a blueprint of the design standards that support the systematic and relational approach. The application of this set of design standards was tested against the empirical findings in 14 corporate curricula designed on the basis of the standards. Although the research basis is found in the domain of corporate education, the proposed integrated approach to curriculum design might also evoke a dialogue on improved design approaches in the domain of public education.

### **Curriculum consistency**

In the context of corporate education, we define the term curriculum as: 'the course of action open to an organisation, for influencing the necessary competencies of employees, that contribute to goal-oriented changes in their performance and in their work environment, thus striving for a desired impact on the organisation, by applying planned learning activities and the resulting learning processes' (Kessels, 1993, p. 4). The main concept of the theory presented is the concept of curriculum consistency here considered as one of the attributes that foremost determines the impact of educational programmes. The term 'consistency' serves to describe the contingencies between the constituting elements within a curriculum (the logic relationships between the needs analysis, objectives, learning environment and materials) and the congruencies among the various perceptions of a curriculum (the perceptions of managers, developer, trainers and participants of the main goal and how to achieve this goal). A distinction is made between internal and external curriculum consistency.



The concept of *internal consistency* applies to the logic contingencies between the changes that are needed in the work environment (by means of needs assessment), the necessary competencies of managers and employees to bring about these changes (job analysis and instructional objectives), and the learning situations that facilitate the acquisition of these competencies (instructional strategies, materials and learning environment). Similarly, internal consistency also implies that learning processes should enable employees to acquire competencies that influence their performance, so that the affected work environment has an impact on the organisation.

The concept of *external consistency* refers to the coherence between the perceptions of (senior) managers, developers, supervisors, trainers and trainees (the stakeholders) of what the problem is that has to be resolved and how this will be achieved. As well as being consistent in itself, a curriculum should show external consistency among the stakeholders' perceptions.

The concept of curriculum consistency - the contingencies between its elements and the congruencies between its appearances, as perceived by its stakeholders - is an elaboration of Stake's model for curriculum evaluation (Stake, 1973) and of Kirkpatrick's model for training evaluation (Kirkpatrick, 1975). Throughout this chapter, curriculum consistency, both internal and external, is used as a descriptive framework for quality in corporate education.

## **Design approaches**

The main purpose of developing and applying design standards is to improve curriculum consistency. The theory developed here advocates a systematic approach that leads to internal consistency and a relational approach that supports external consistency. The two approaches seem to trigger a powerful combination of systems thinking and social engineering. The integration of a systematic and relational approach in design standards is held responsible for curriculum consistency and



subsequently for corporate education of a high standard (Kessels and Harrison, 1998). Therefore, an integrated systematic and relational approach, is to generate educational programmes that accomplish significantly better results than those programmes with weak design approaches.

## **Systematic approach**

The systematic approach to curriculum design is well known in the literature and follows directly from the work of the prominent American curriculum scholar Ralph W. Tyler. What later became known as the 'Tyler Rationale' (Tyler, 1949), started as a framework to guide the efforts of participating schools in a large curriculum project. The four main questions to be answered are:

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organised?
4. How can we determine whether these purposes are being attained?

The systematic and analytical approach to curriculum design, as advocated by Tyler has led to design procedures that are still dominant and that heavily rely on needs assessment, task analysis, stating instructional objectives, matching assessment instruments and devising appropriate instructional strategies. Authoritative design procedures that stem from Tyler's rationale are amongst others: Taba's *Curriculum development: Theory and practice* (Taba, 1962), Briggs' *Instructional design: Principles and applications* (Briggs, 1977), Tracey's *Designing training and development systems* (Tracey, 1984), Dick and Carey's *The systematic design of instruction* (Dick and Carey, 1990), Branson and Grow's *Instructional systems development* (Branson and Grow, 1987), Plomp's *Onderwijskundige technologie: enige verkenningen* [Exploring educational technology] (Plomp, 1982), Romiszowski's *Designing instructional systems* (Romiszowski,



1981) and Rothwell and Kazanas's *Mastering the instructional design process. A systematic approach* (Rothwell and Kazanas, 1992). The logic and rational step by step approach, including the iterative use of feedback from formative evaluation, is characteristic of most of these systematic design procedures. The systematic approach implies the logical design sequence of orientation, design, development, evaluation and implementation. This approach, when skilfully applied, leads to a well structured and logically ordered curriculum design with a strong internal consistency. This design on paper is referred to as the formal curriculum.

### **Competencies for a systematic approach**

The skilful application of the systematic approach requires specific competencies of the curriculum designer. The American Society for Training and Development, ASTD (McLagan, 1989) and the International Board of Standards for Training, Performance and Instruction, IBSPI (Foshay, Silber, and Westgaard, 1986) conducted large-scale research projects on design and development competencies in corporate settings. A selection of competencies from the above mentioned sources has been made to accomplish a systematic approach in curriculum design in the context of corporate education, as advocated in the previous sections:

- ▼ Conduct *needs assessment*. Identify ideal and actual performance and performance conditions and determine causes of discrepancies. Employ strategies for analysing individual and organisation behaviour.
- ▼ Perform *job and task analysis*. Employ analysis strategies and reporting procedures. Investigate best practices, the inherent cognitive models and attitudinal aspects.
- ▼ State *instructional objectives*. Transform job requirements into objectives, so that performance measurement and selection of instructional strategies is facilitated.



- ▼ Develop *performance measurements*. Transform needs, performance requirements and objectives into evaluation criteria and appropriate assessment instruments.
- ▼ Sequence the performance objectives. Draw a blue-print for the desired *learning environment*, appropriate for achieving the desired changes of performance.
- ▼ Specify the *instructional strategies*. Devise instructional interventions to put the blue-print learning environment into action.
- ▼ Design *instructional material*. Develop print, audio-visual or electronic-based learner materials, job aids, simulation devices, trainer guides and plans to facilitate the instructional interventions.
- ▼ *Evaluate* the educational interventions. Appraise the instructional methods, sequences and materials, and improve.
- ▼ *Assess* results, performance improvement and the related impact on the organisation.

However, the systematic and analytical approach to curriculum design, and the resulting formal curriculum is not very often found in reality (Andrews and Goodson, 1980). Even when developers apply the prescribed systematic design procedures, programme implementation remains problematic (Kessels, 1993). Apparently, the unilateral, systematic approach does not guarantee success.

## **Relational Approach**

The relational approach provides activities that challenge stakeholders to become involved in the design and implementation process and that reveal their perceptions of what the central goal is and how it can be achieved. The assumption is that if the mutual perceptions are made explicit, they can be modified and slowly become compatible. When skilfully applied, the relational approach leads to a strong external consistency: consensus among parties involved on methods of solving the problem,



implementing the programme, and creating favourable transfer conditions in the day to day work environment.

It was Walker (1971) who studied the practice of many curriculum designers, and drew our attention to the fact that course design often does not show the step by step approach as advocated in the previous section. Walker identified three basic planning phases: platform, deliberation and design (Walker, 1971, 1990). On the basis of these findings he developed a framework for the process of curriculum planning for which he used the term 'Naturalistic Model'. This model is not a normative model of how curriculum design should take place, but a descriptive model of how it often occurs in reality. In the 'platform-phase' participants talk, discuss and argue about their beliefs, ideas, theories, aims, images and potential procedures concerning the curriculum. When a group achieves clarity and consensus about these constituent elements of the platform, they move into the phase of deliberation. Walker's model specifies that the process of deliberation includes exploring specific conditions, generating alternatives, examining costs and consequences, and selecting a feasible alternative. The platform and deliberative phase involve intensive exchange of ideas and beliefs. Reaching consensus is essential for moving into the 'design-phase'. This phase can become an extremely difficult task, especially when participants hold to their fixed perceptions, or when they feel uncomfortable when the chaos of conflicting ideas, and images can not be resolved in time. When the planning group does reach consensus about the basic principles of the curriculum, they move into the design activities, which include the decision making about specific content, instructional strategies and materials. In this process of curriculum design it is extremely important that participants make their individual beliefs and values explicit as well as their perceptions of the instructional task and their assertions about how to proceed. The importance of Walker's (1971, 1990) deliberative approach is that it recognises the variety of beliefs, aims and images that participants in a project on curriculum design adhere to. This variety of perspectives



may frustrate a rational, systematic and linear design process, as proposed by the various sets of design instructions that promote an unilateral internal consistency.

Several other authors have stressed the importance of deliberation in curriculum development. Banathy (1987, p. 93) states that "the process of arriving at better decisions is not a process of optimisation. It is rather, a process of negotiation among those with different points of view and value systems in order to find a satisfying solution." This calls for a participative design where major stakeholders are involved. Banathy (1987) emphasises an iterative and spiralistic design process where the designer may pass several times through the various phases of the design cycle. Recently, design approaches that combine participative deliberation and iterative procedures advocate prototyping as a vehicle for curriculum design. Gentry (1994, p. 160) defines a prototype as "a functional version of an instructional unit usually in an unfinished state, whose effectiveness and efficiency can be tested." It offers users an opportunity to find out what they do not like about the proposed unit, which is often easier than exactly indicating what is needed at an initial state. Prototyping can be regarded as a practical way of organising deliberation among relevant stakeholders.

The relational approach in curriculum design finds support by a continuous concern for implementation. Implementation is conceived as an ongoing activity that starts at the initial stage of the problem solving process (Plomp, 1982). Fullan, who defined implementation as "the process of putting a change into practice" considers clarity (or confusion) about goals and means one of the perennial problems of curriculum change (Fullan, 1991). In his view, two approaches are open to the developer: the fidelity approach that strives for high quality in the developmental stages, and the adaptive approach in which further development must be worked out by individuals and groups who are involved in implementation (Fullan, 1986). In fact, Fullan's fidelity approach bears great similarity with the here described systematic approach, as his adaptive approach to implementation comes near to the advocated deliberative and relational approaches.



Gay (1986) states that curriculum affairs involve issues of power, people, procedures and participation: "Curriculum development is a social enterprise. It is a 'people process' with all the attending potentialities and obstacles associated with humans engaged in social interactions. The interests, values, ideologies, priorities, role functions, and differentiated responsibilities form the contours of the interactional and dynamic context in which curriculum decisions are made. .... Curriculum development is neither a purely rational and scientifically objective, nor a neatly sequentialised and systematic process" (Gay, 1986, pp. 471-472).

### **Competencies for a relational approach**

Walker's deliberative approach, Fullan's adaptive approach, as well as Gay's emphasis on the development *process* instead of the design *product*, support the elaboration of the relational approach. The early ISD-models emphasised unidirectional application of the systematic approach and the concern for internal consistency prevails (Merrill, Reigeluth & Faust, 1979). Though claimed to be vital for successful programme implementation, external consistency and the related competencies and procedures for a relational approach do not receive much explicit attention in formal instructional systems development models.

As curriculum affairs are mainly activities involving human beings communicating with each other, the relational approach applies to all the contacts between the curriculum developers and relevant stakeholders. Besides senior managers, supervisors, trainers and trainees, other parties may be involved, in particular clients, customers, co-ordinators, sponsors and opinion leaders.

Unlike the systematic approach with its clear and rigorous logic, the relational approach may often seem fuzzy, using informal networks, balancing power and influence, and striving for consensus within the limits of culturally determined



feasibility (Duncan & Powers, 1992). Political awareness, cultivating support, developing relationships and gaining visibility seem to be ingredients of this aspect of curriculum design (Warshauer, 1988). Activities that belong to the relational approach are sometimes characterised as "walk and talk the job" (Harrison, 1992).

Many sources offer analyses of the competencies professionals should dispose of when they enter into the relational approach. The most salient competencies are listed below:

- ▼ *Communication skills*: listening, observing, interviewing, relating to others, self-expression and exchanging constructive feedback.
- ▼ *Project management skills*: leadership and chairperson skills, planning, monitoring and negotiating skills.
- ▼ *Consulting skills*: building open collaborative relationships, clarifying mutual expectations and responsibilities, and the ability to influence others and gain commitment.
- ▼ *Facilitating change*: encouraging widespread participation in the design and implementation of a project, and dealing with friction and resistance.
- ▼ *Experimental flexibility*, self-insight and self-esteem.
- ▼ Ability to create an atmosphere of tact, trust, politeness, friendliness and stability.

The competencies for a relational approach facilitate the developer's activities in the domain of interpersonal dynamics of decision making about educational planning. The relational approach involves social intervention and skilled communicative interaction. The developer organises meetings and interviews managers, supervisors, employees, potential trainees and trainers. These procedures entail consulting with concerned parties, problem solving, negotiating, reaching a consensus, gaining support, and strategically applying gentle pushes and decisive pulls. The goal of these efforts is to achieve a consensus among parties involved on problem definition,



methods of solving the problem, implementing the programme, and creating favourable transfer conditions for learning in the work environment (Kessels and Plomp, 1996).

Several procedures support the relational approach. On the basis of the results from the literature review, the research project investigated project management, rapport-building activities during needs assessment and task analysis, involving line management in the development process, creating similarity between learning situation and work environment, recruiting trainers with practical experience in the subject matter field, and the selection of trainees.

### **Empirical evidence of an integrated approach**

The dynamics of the systematic and relational approach have been examined in the design of 31 corporate education programmes. Moreover, the application of these approaches were related to the perceived effects of these programmes. We reported the research design, the methodological aspects and the results of this study in Kessels (1993), Kessels and Plomp (1997).

#### *Data collection*

Three curriculum experts investigated independently the systematic approach by judging the quality of the applied procedures for needs assessment, task analysis, instructional objectives, evaluation criteria, evaluation instruments, design of instructional strategies and the development of course materials for each programme. The experts investigated the relational approach by judging the quality of the applied procedures for project management, rapport-building activities during needs assessment and task analysis, involving line management in the development process, creating similarity between learning situation and work environment, recruiting trainers with practical experience in the subject matter field, and the selection of trainees.



The effect measures for each programme could be established on the basis of questionnaires and interviews revealing the newly acquired skills, changes in performance and the impact of the programme on the organisation, as perceived by senior managers, supervisors, developers, trainers and trainees.

### *Results*

In-depth analysis of the programmes revealed a series of interesting phenomena. On the systematic approach, the following observations could be made:

- a. Reports on training needs assessment and task analysis are mostly absent.
- b. Instructional objectives of unsuccessful programmes tend to be stated in terms of reproductive knowledge aspects, as the objectives in successful programmes tend to be stated in terms of reproductive and productive skills.
- c. Evaluation criteria are neither stated nor documented.
- d. Evaluation instruments are restricted to the reaction to learning processes. Very few tests of training results were available. Virtually no instruments were found to assess performance in the workplace and organisational impact.
- e. In the successful programmes, the designed learning situations show a greater variety of activities than in those that are unsuccessful.
- f. Most programmes used elaborate training materials. Successful programmes devoted more attention to guidelines for the trainers and coaches.

On the relational approach the following observations could be made:

- a. Successful programmes show strong involvement by line managers.
- b. The similarity between learning situation and work environment is extremely strong for the successful programmes and is correspondingly weak for the unsuccessful programmes.



- c. Practical experience in the subject matter field of the trainer is extensive in the successful programmes and limited in the unsuccessful.
- d. A majority of the successful programmes emphasised creating favourable conditions for implementation. None of the unsuccessful programmes emphasised this aspect.

The combined appearances of the systematic and relational approach showed the following:

- a. Successful programmes with a weak systematic approach all exhibited a strong relational approach. The high value for the relational approach seems to compensate for the low value of the systematic approach.
- b. None of the successful programmes showed a weak relational approach.
- c. The unsuccessful programmes show a negative correlation between systematic approach and effects ( $r = -.51$ ), whereas successful programmes have benefited from the systematic approach ( $r = .62$ ). These figures might indicate that investments in systematic design of the formal curriculum may become counterproductive when the development process does not satisfy the relational approach.

A regression analysis of the main variables led to the following statistical relations:

Systematic Approach to Effects	$r = .64$	$p < .001$	slope = .47
Relational Approach to Effects	$r = .83$	$p < .001$	slope = .54

The Systematic and Relational Approach correlate significantly with Effects. The regression line of the Relational Approach shows a slightly steeper slope, which indicates that the Relational Approach probably predicts most accurately the programme Effects.



## Discussion

We have probably touched on the limitations of rational curriculum design and its systematic approach. Both for practical reasons and from a theoretical point of view, it is relevant, to find the optimal input for relational and systematic approaches. The results do not question the foundations of internal consistency (the logic contingencies among purpose, objectives, evaluation criteria and instruments, and instructional strategies). Whereas external consistency (the homogeneous curriculum perceptions of the various stakeholders) is viewed as conditional, internal consistency is still considered the driving force behind a curriculum. It might, however, be interesting to investigate curriculum design procedures that are not rigorously rational and strive for logical contingencies in the formal curriculum. If curriculum design were also perceived as professional artistry, additional categories of design principles would be explored, for example:

- creating learning situations that mirror the work environment
- involving line managers as the prime educators
- recruiting experienced colleagues as trainers
- creating favourable conditions for programme implementation.

Of course, the application of these relational design principles should be applied in a systematic way, but emphasis would primarily be put on the dynamics of the interactional context of curriculum design. The findings of the present study justify the conclusion that in striving for quality in corporate education a relational approach should be a high priority. As a consequence, design standards that strive for an internal, rigid logic, but meanwhile hinder the integration of the actors' interests, values, beliefs and priorities (external consistency), should be abolished and replaced by mainly strategies focusing on the interpersonal dynamics of educational decision-making. In particular, professional curriculum designers should be alerted not to focus unilaterally on the structured and internally consistent formal



curriculum. Curriculum development should be regarded, more than up till now, as a social enterprise. Therefore, developers may elaborate on their management role within that social enterprise of the educational decision-making process. Effective educational provisions are not constructed, but negotiated. Therefore, successful curriculum designers are above all competent social engineers, who skilfully manage the social enterprise of educational decision-making.

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