2. Curriculum development re-invented: evolving challenges for SLO

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2.1   From memories of the past to nowadays perceptions

SLO was founded as a national institute for curriculum development in the middle of the 1970s, a decade that may be characterized by a preference for 'grand designs' for education (and many other domains of society). Expectations about the contribution of curriculum development to address the need of learners as well as society at large were high. SLO was supposed to fulfil a coordinating role in the various curriculum development activities (that had previously been carried out by over twenty different subject-oriented committees) and to initiate the design of curricular frameworks at national level, including the development of examples at various levels of learning and instruction. Altogether, it was hoped that SLO could contribute to more integral and professional curriculum development practices. Thus, the intentions were rather optimistic. However, it is fair to say that these intentions were not undisputed by various other stakeholders, both in the political arena (would SLO not be instrumental to too strong government influence on education?) as well from the educational publishing sector (fear for false competition on instructional materials).

Three decades later, we have witnessed a variety of demographic, social, political, cultural, economic, and technological changes that have seriously affected education practices. However, the fate of many educational reform attempts has turned out to be far from successful. On the contrary, disillusion and chagrin dominate many educational debates. There is a lot of frustration and polarization. Often the discussion tends to resemble a battlefield, leading towards an overdose of blaming games. At least, we may conclude that nowadays there is little coherence and much fragmentation in educational development. Gaps between innovative rhetoric and actual outcomes are usually big. By the way, these phenomena are, of course, not only typical for the Netherlands, but quite common in many countries.

It is remarkable in these often confused educational debates and sobering practices that curriculum thinking seems to play a very modest, almost invisible role. Although many trends and problems could be fruitfully interpreted from a curriculum perspective, curriculum concepts and approaches are very seldom explicitly used. Perhaps even more remarkable is the fact that the work of SLO itself gradually seemed to have lost a clear curricular focus. Its mission has become rather fuzzy and the actual activities of SLO also often seemed to lack a well articulated curricular approach. In line with Schwab's (1969) famous words, one may wonder whether the (Netherlands) field of curriculum is 'moribund'.

As I am convinced that a curricular perspective has lots to offer, both in conceptual grasp of educational problems as well as in how to address concrete development activities, I would like to underscore that it is still very much needed, thus should be brought back to life again. To stimulate that, I will make an effort to 're-invent' that curriculum perspective in this presentation. For starters, redefining, reframing and re-interpreting of curriculum concepts, perspectives, and approaches are needed. Afterwards, I will try to elucidate the emerging curriculum development challenges for SLO.

2.2   Defining curriculum and curriculum development

When there is a myriad of definitions of a concept in the literature (as with curriculum), it is often difficult to keep a clear focus on its essence. In those cases it often helps to search for the etymological origin of the concept. The Latin word 'curriculum' refers to a 'course' or 'track' to be followed. In the context of education, where learning is the central activity, the most obvious interpretation of the word curriculum is then to view it as a course or 'plan for learning' (cf. Taba, 1962). This very short definition (reflected in related terms in many languages) limits itself to the core of all other definitions, permitting all sorts of elaborations for specific educational levels, contexts, and representations.

Given this simple definition, a differentiation between various levels of the curriculum has proven to be very useful when talking about curricular activities:
• supra: international, comparative
• macro: system, society, nation, state
• meso: school, institution, program
• micro: classroom, group, lesson
• nano: individual, personal.

The macro and micro are more or less classical in educational literature. The supra level becomes increasingly visible through international policy discussions, where common aspirations and frameworks are formulated (for example, within the European Union), or countries are comparing their educational productivity (e.g. via large scale studies as PISA and TIMSS). The meso level is especially prominent in countries (such as the Netherlands) where schools are supposed to be active in developing their own profile. The nano level relates to the growing emphasis on individual responsibility for (life long) learning and development, resonating both societal trends as well as socio-constructivist visions.

The process of curriculum development can be seen as narrow (developing a curricular product) or broad (comprehensive and ongoing improvement). In order to successfully address tasks of curriculum decision-making and enactment, a broader description of curriculum development is often most appropriate: usually a long and cyclic process with many stakeholders and participants, in which motives and needs for changing the curriculum are formulated, ideas are specified in programs and materials, and efforts are made to realize the intended changes in practice.

2.3   Different curriculum representations and analytical perspectives

Curricula can be represented in various forms (cf. van den Akker, 1998, 2003). Clarification of those forms is especially useful when trying to understand the problematic efforts to change the curriculum, as often manifested in major gaps between ideals and outcomes. A common broad distinction is between the three levels of the 'intended', 'implemented', and 'attained' curriculum. A more refined typology is outlined in box I.

INTENDED	Ideal	Vision (rationale or basic philosophy underlying a curriculum)
	Formal/Written	Intentions as specified in curriculum documents and/or materials
IMPLEMENTED	Perceived	Curriculum as interpreted by its users (especially teachers)
	Operational	Actual process of teaching and learning (also: curriculum-in-action)
ATTAINED	Experiential	Learning experiences as perceived by learners
	Learned	Resulting learning outcomes of learners

Box 1. Typology of curriculum representations

Besides this differentiation in representations, curriculum problems can be approached from various analytical angles. For example, Goodlad (1994) distinguishes the following three different perspectives:
- *substantive*, focusing on the classical curriculum question about what knowledge is of most worth for inclusion in teaching and learning
- *technical-professional*, referring to how to address tasks of curriculum development, especially the challenge how to bridge the gaps between intentions, realities and outcomes

• *socio-political*, referring to curriculum decision-making processes, where values and interests of different stakeholders and agencies are at stake.

Some might argue that this list is too limited as it does not include the more 'critical' perspectives that are amply present in curriculum theory literature (e.g. Pinar, Reynolds, Slattery & Taubman, 1995). However, as critical curriculum theory often focuses on analysis of what is wrong in education (running through each of the previous angles), the threefold distinction seems adequate for a developmental and improvement perspective.

2.4   The vulnerable curriculum spider web

One of the major challenges for curriculum improvement is creating balance and consistency between the various components of a curriculum (i.e. plan for learning). What are those components? The relatively simple curriculum definition by Walker (1990) includes three major planning elements: content, purpose and organization of learning. However, curriculum design and implementation experiences have taught us that it is wise to pay explicit attention to a more elaborated list of components. We have come to adhere to a cadre (see box 2) of ten components that address ten specific questions about the planning of student learning (cf. van den Akker, 2003).

Rationale	Why are they learning?
Aims & objectves	Toward which goals are they learning?
Content	What are they learning?
Learning activities	How are they learning?
Teacher role	How is the teacher facilitating their learning?
Materials & resources	With what are they learning?
Grouping	With whom are they learning?
Location	Where are they learning?
Time	When are they learning?
Assessment	How to assess their learning progress?

Box 2. Curriculum components

The 'rationale' (referring to overall principles or central mission of the plan) serves as major orientation point, and the nine other components are ideally linked to that rationale and preferably also consistent with each other. For each of the components many sub-questions are possible. Not only on substantive issues (see the next section), but, for example, also on 'organizational' aspects as:

- Grouping:
  - How are students allocated to various learning trajectories?
  - Are students learning individually, in small groups, or whole-class?
- Location:
  - Are students learning in class, in the library, at home, or elsewhere?
  - What are the social/physical characteristics of the learning environment?
- Time:
  - How much time is available for various learning domains?
  - How much time can be spent on specific learning tasks?

The relevance of these components varies across the previously mentioned curriculum levels and representations. A few examples may illustrate this. Curriculum documents at the macro level will usually focus on the first three components (rationale, aims & objectives, content; often in rather broad terms), sometimes accompanied by an outline of time allocations for various subject matter domains. When one takes the operational curriculum in schools and especially classrooms in mind, all ten components have to be coherently addressed to expect successful implementation and continuation. The components of learning activities, teacher role, and materials & resources are at the core of the micro-curriculum. The component of assessment deserves separate attention at all levels and representations since careful alignment between assessment and the rest of the curriculum appears to be critical for successful curriculum change.

Our preferential visualization of the ten components is to arrange them as a spider web (figure 1), not only illustrating its many interconnections, but also underlining its vulnerability. Thus, although the emphasis of curriculum design on specific components may vary over time, eventually some kind of alignment has to occur to maintain coherence. A striking example is the trend towards integration of ICT in the curriculum, with usually initial attention to changes in materials and resources. Many implementation studies have exemplified the need for a more comprehensive approach and systematic attention to the other components (in particular the role of teachers) before one can expect robust changes.
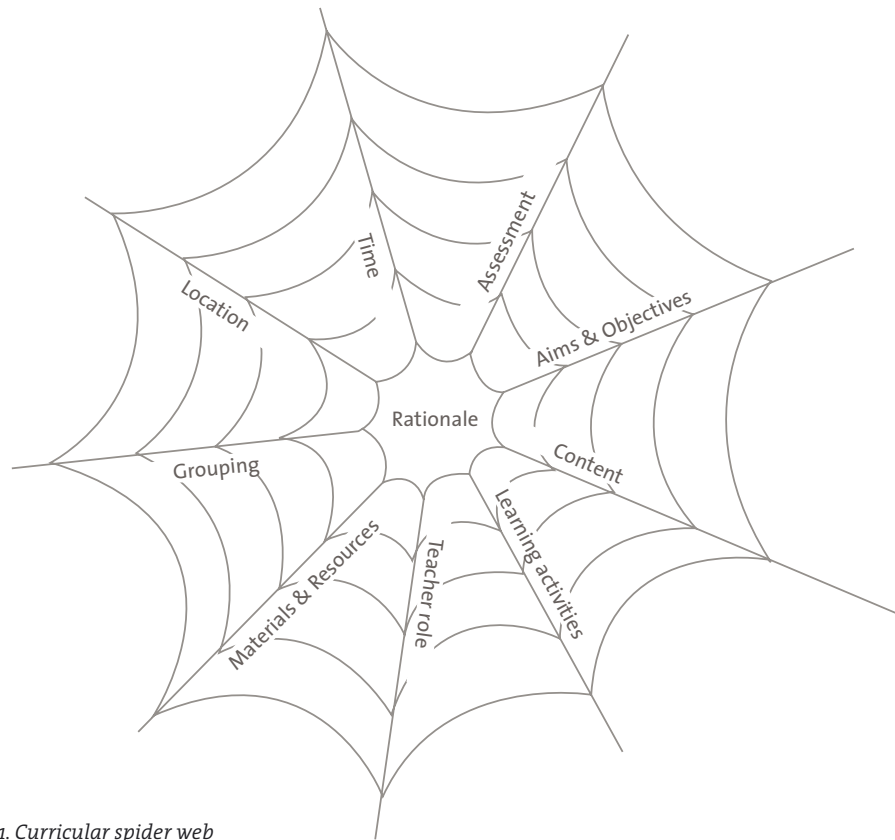
Fig. 1. Curricular spider web

The spider web also illustrates a familiar expression: every chain is as strong as its weakest link. That seems another very appropriate metaphor for a curriculum, pointing to the complexity of efforts to improve the curriculum in a balanced, consistent and sustainable manner.

2.5   Perspectives on substantive choices

A classic approach to the eternal curriculum question of what to include in the curriculum (or even more difficult as well as urgent: what to exclude from it?) is to search for a balance between three major sources or orientations for selection and priority setting:

• Knowledge: what is the academic and cultural heritage that seems essential for learning and future development?
• Society: which problems and issues seem relevant for inclusion from the perspective of societal trends and needs?
• Learner: which elements seem of vital importance for learning and development from the personal and educational needs and interests of learners themselves?

Answers to these questions usually constitute the rationale of a curriculum. Inevitably, choices have to be made, usually involving compromises between the various orientations (and their respective proponents and pressure groups). Oftentimes, efforts fail to arrive at generally acceptable, clear and practical solutions. The result of adding up all kinds of wishes is that curricula tend to get overloaded and fragmented. Miscommunication between different stakeholders often arises from neglecting one or more of the orientations. And implementation of such incoherent curricula eventually tends to lead to student frustrations, failure, and dropout.

How to create a better curriculum balance? Easy answers are not available, but a few alternatives seem to have some promise. First, in view of the multitude of (academic) knowledge claims, it sometimes helps to reduce the big number of separate subject domains to a more limited number of broader learning areas, combined with sharper priorities in aims for learning (focusing on basic concepts and skills). Second, referring to the avalanche of societal claims, more interaction between learning inside and outside the school may reduce the burden. However, the most effective response is probably to be more selective in reacting to all sorts of societal problems. As Cuban (1992) phrased it clearly: schools should not feel obliged to scratch the back of society every time society has an itch. And third, about the learners' perspective: worldwide, many interesting efforts are ongoing to make learning more challenging and intrinsically motivating, by moving from traditional, teacher- and textbook-dominated instruction towards more personally meaningful and activity-based learning approaches and environments, emphasizing preparation for future roles in education, jobs and society.

2.6   Development strategies

To sketch curriculum development as a problematic domain is actually an understatement. From a socio-political stance, it seems often more appropriate to describe it as a war zone, full of conflicts and battlefields between stakeholders with different values and interests. Problems manifest themselves in the (sometimes spectacular and persistent) gaps between the intended curriculum (as expressed in policy rhetoric), the implemented curriculum (real life in school and classroom practices), and the attained curriculum (as manifested in learner experiences and outcomes). See, for example, van den Akker (1998) about such gaps in the science curriculum. A typical consequence of those tensions is that various frustrated groups of participants blame each other for the failure of reform or improvement activities.

Although such blaming games often seem rather unproductive, there are some serious, critical remarks to be made on many curriculum development approaches worldwide.

First of all, many curriculum reform efforts are characterized by overly big innovation ambitions (especially of politicians) within unrealistically short timelines and with very limited investment in people, especially teachers. Second, oftentimes there is a lack of coherence between the intended curriculum changes with other system components (especially teacher education and assessment/examination approaches). And last but not least, timely and active involvement of all relevant stakeholders is often neglected.

From a strategic point of view, literature has offered us many (technical-professional) models and strategies for curriculum development. Three prominent approaches are Tyler's rational-linear approach, Walker's deliberative approach, and Eisner's artistic approach. As it does not fit with the purpose of this text to explain those models in specifics, the reader is referred to educative texts as from Marsh and Willis (2003). Obviously, the context and nature of the curriculum development task at hand will determine to a large extent what kind of strategy is indicated. It is noteworthy that we are beginning to see more blended approaches that integrate various trends and characteristics of recent design and development approaches in the field of education and training (for an overview and a series of examples: see van den Akker, Branch, Gustafson, Nieveen & Plomp, 1999).

Some key characteristics:
- Pragmatism: recognition that there is not a single perspective, overarching rationale or higher authority that can resolve all dilemmas for curriculum choices to be made. The practical context and its users are in the forefront of curriculum design and enactment.
- Prototyping: evolutionary prototyping of curricular products and their subsequent representations in practice is viewed as more productive than quasi-rational and linear development approaches. Gradual, iterative approximation of curricular dreams into realities may prevent paralysis and frustrations. Formative evaluation of tentative, subsequent curriculum versions is essential to inform and support such curriculum improvement approaches.
- Communication: a communicative-relational style is desirable in order to arrive at the inevitable compromises between stakeholders with various roles and interests and to create external consistency between all parties involved.
- Professional development: in order to improve chances on successful implementation, there is a trend towards more integration of curriculum change and professional learning and development of all individuals and organizations involved.

A promising approach that incorporates some of these characteristics, and adds the element of knowledge growth to it, is development(al) or design research (van den Akker, 1999, 2002; van den Akker, Gravemeijer, McKenney & Nieveen, 2006). Such research can strengthen the knowledge base in the form of design principles that offer heuristic advice to curriculum

development teams. More than in common development practices, deliberate attention is paid to theoretical embedding of design issues and empirical evidence is offered about the practicality and effectiveness of the curricular interventions in real user settings.

2.7   Strategic dilemmas and puzzles

However, there are several persistent dilemmas in curriculum development that cannot easily be resolved, let alone through generic strategies. For example: how to combine aspirations for large-scale curriculum change and system accountability with the need for local variations and ownership? The tension between these conflicting wishes can be somewhat reduced when one avoids the all too common 'one size fits all' approach. More adaptive and flexible strategies will avoid detailed elaboration and prescription through over-specified central curriculum frameworks. Instead, they offer substantial options and flexibility to schools, teachers, and learners. Although struggles about priorities in aims and content will remain inevitable, the principle of 'less is more' should be pursued. However, what is incorporated in a limited core curriculum should be clearly reflected in examination and assessment approaches.

The 'enactment' perspective (teachers and learners together create their own curriculum realities) is increasingly replacing the 'fidelity' perspective on implementation (teachers faithfully following curricular prescriptions from external sources). That trend puts even more emphasis on teachers as key people in curriculum change. Both individual and team learning is essential (Fullan, 2001). Teachers need to get out of their all too often still customary isolation. Collaborative design and piloting of curricular alternatives can be very productive, especially when experiences are exchanged and reflected upon in a structured curriculum discourse. Interaction with external facilitators can contribute to careful explorations of the 'zone of proximal development' of teachers and their schools. Cross-fertilization between curriculum, teacher, and school development is a *conditio sine qua non* for effective and sustainable curriculum improvement. The increasingly popular mission statements of schools to become attractive and inspiring environments for students and teachers can only be realized when such integral scenarios are practiced.

Obviously, there are no magical solutions for the tensions between common core and local autonomy. It will always remain a balancing act, also depending on the scale of operations and the broader educational policy. In those policies, we see quite an interesting variation between countries in their respective pendulum movements. In recent years, the Netherlands has seen a trend towards decentralization. In basic education (ages 4-14), only two-third of the instructional is very broadly defined by (rather abstract) attainment

targets in a national framework, leaving many choices to schools, teachers, and students. Some other countries are in a different position, characterized by highly detailed and prescriptive curriculum frameworks, oftentimes combined with heavy assessment regimes patterns. This theme is more fully elaborated in the chapter of Kuiper et al. (this book).

Whatever the position on the continuum of central-decentralized curriculum policy making, a number of debatable issues are relevant in any context:
- How much commonality in curriculum offering is required to promote equity for students and to stimulate socio-economic development?
- How can curriculum and assessment policies adequately be aligned?
- Which accountability mechanisms are helpful for both policy and practice?
- How to stimulate and support professional development of teachers?
- How can schools' capacity for educational improvement be strengthened?
- How can external support to schools and teachers have actual added value?

A series of country workshops during this conference deals with these challenges (see several chapters in this book). In the remaining part of this chapter, I will explore such questions for SLO.

2.8 Major challenges for SLO

The major challenge for SLO is to re-position and articulate its role in curriculum development. SLO should feed the continuous dialogue about the aims, content and organization of learning, and further the quality of curriculum development as part of integral educational development. A first requirement is that SLO, as a national expertise centre for curriculum development, operates in close interaction with many other stakeholders and professionals in: policy, school and classroom practice, research, teacher education and development, assessment/examinations, textbooks and materials development, and school guidance.

Moreover, SLO has special responsibilities for curricula and curriculum development to have added value to the following quality criteria of education:
- relevance: it should be transparent how the different sources/perspectives for learning (knowledge, society, learner) are balanced in the curriculum
- internal consistency: attention should be paid to the linkages between the ten inter-woven curriculum components.
- external coherence: curriculum development should occur in interaction and alignment with other systemic change factors (in particular teacher development and examinations)

- usability/practicality: new curriculum proposals should be tested and improved to arrive at acceptable practicality
- effectiveness: curriculum development strategies should include data gathering that permits plausible statements about the effectiveness of (new) curricula in terms of student learning
- sustainability: curriculum changes should be assessed for their chances on lasting improvement under more or less realistic conditions.

These criteria need also to be reflected in the basic tasks of SLO:
- Knowledge development (in interaction with other professional partners) about curriculum and curriculum development issues.
- Designing and validating:
  - national curricular frameworks
  - exemplary school programs
  - exemplary instructional materials.

These tasks have both product and process characteristics (to be elaborated in the next sections) and require combined approaches of design, research and consultancy activities.

2.9   Curricular frameworks

As mentioned before, the trend in Dutch educational policy is towards decentralization. What does that imply for the nature of curriculum frameworks? Obviously, imposing (top-down) curricular straitjackets is out of the question, but which balance to strike in frames of reference to be experienced as stimulating, meaningful, and helpful? Schools and teachers continuously express their desire for autonomy, but, at the same time, they also like more or less stable curriculum structures. Moreover, they like to see examples of how practitioners in other, more or less comparable circumstances are dealing with their curricular challenges, what lessons can be learned from their experiences, and to what extent their findings hold promise for other contexts.

As a national agency, SLO has also a special responsibility for those questions that require central initiative and coordination. That applies in particular to generic curriculum questions that go beyond the scope of individual schools.
Three examples:
- How to optimize the longitudinal transition and alignment of curricular trajectories of subsequent education stages?
- How to optimize the horizontal balance and alignment of curricular frameworks for subject matter learning domains within the same stage?

• How should national curriculum frameworks be made (more) responsive to social, cultural and economic needs?

Addressing these and related questions offers considerable professional challenges for SLO in terms of analysis, design, validation and coordination. These challenges can only adequately be addressed in interaction with many partners, but SLO can facilitate through:
• stimulating commitment of all relevant stakeholders
• creating balance between multitude of interests and views of different stakeholders
• maintaining transparency in the process of development and decision making
• underpinning decisions, where possible, by research
• offering promising practical examples that illustrate and support the concrete implications of generic curriculum decisions.

2.10   Examples at school and classroom level

What is the function of exemplary programs and materials for schools and classroom? Top-down, detailed prescriptions are out of the question nowadays. Hardly anyone is eager to receive nation-wide recipes. Schools and teachers prefer local, school-based, and classroom-adapted customization. However, very few people like to completely re-invent the wheel. Schools and teachers do like concrete, promising examples from other, more or less comparable contexts, if firmly rooted in practice. SLO, as national agency, with a full range of curriculum experts across learning domains and education sectors, and a permanent overview of relevant development activities, is in the right position to identify, co-develop, and validate such examples. Close interaction with local/regional practitioners and other professional partners in educational development is very important.
The resulting examples are then not meant to copy, but to stimulate and support orientation on promising, concrete alternatives to current practices. They can help practitioners to redesign their own curriculum.

This approach brings teachers (and their school leaders) deliberately to the forefront of curriculum improvement. Starting from their own 'zone of proximal development', teachers can act as curriculum makers through collaborative design and piloting of alternative curriculum approaches. Discourse and reflection about alternatives and experiences can lead to development that is perceived as real improvement. It is evident that such curriculum improvement can only succeed when occurring in close interaction with teacher professional development and school capacity building for educational renewal. Thus, productive relations between curriculum, teacher and school development are essential for local progress.

In line of the aforementioned approach, SLO likes to pay special attention to strengthening the interrelation between teachers and curriculum development. One might argue that the quality of teachers and the quality of the curriculum they use together contribute most to the learning experiences and outcomes of students. For that reason, investing in relations and partnerships with teachers (including teacher educators and teacher associations), both locally, regionally, and nation-wide, is a top priority for SLO. The recent, ongoing initiatives to create regional educational development centres around cooperating teacher education institutes offer fine opportunities to build partnerships with the world of teachers, focusing on their role in curriculum improvement.

2.11   Knowledge development

As expertise centre, SLO invests considerably in knowledge development about relevant curriculum themes. The research & development activities of SLO are initiated and coordinated by five, recently established 'knowledge circles' or 'professional learning communities'. An overview of those groups, including some tentative key themes:

• The core of the content
- how to arrive at balanced national frameworks?
- from subjects to broader learning areas?
- longitudinal curriculum priorities?

• Dealing with diversity
- in talents, interests, problems
- in social and cultural backgrounds

• Learning resources and environments
- e-learning, web, ICT (blended approaches)
- linking with out-of-school learning opportunities
- design of learning environments within school

• Schools & curriculum development
- promising scenarios for integrated curriculum, teacher, and school development
- including aspects of leadership, collaboration, organization and culture, networking, external support

• Teachers & curriculum development
- teachers as curriculum makers
- collaborative curriculum development

- local/regional networking
- continuous professional development

The R&D approaches within the five groups will include a variety of activities: literature reviews, trend analysis, scenario studies, pilots of innovative designs, formative and summative evaluations, sharing and coordinating expertise with partners from within and outside SLO, publications, conferences, workshops, et cetera. Moreover, it is important to notice that the R&D activities will not occur in isolation, but as much as possible in close relation to the mainstream of curriculum development projects of SLO, and to related efforts of other agencies, both in the Netherlands and abroad. The R&D efforts should support those projects, leading not only to optimized products (including indicators of their practicality and effectiveness), but also to knowledge growth (in terms of design principles), and, last but not least, to capacity building of SLO and all its partners in curriculum development. Such interactive approaches, aimed at joint professional learning seem most beneficial for the 'resurrection' of curriculum development as a vital approach to educational improvement.