

Key Factors for a Quality Balance between National and Local Curricula

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The 1999 revision of the National Education Law in Thailand makes local educational institutions responsible for tailoring the national curriculum to the needs of the local community and society, and for teaching “local wisdom” as part of the coursework in basic education (Education in Thailand 2001/2002, available on line <http://www.onec.go.th>). Curriculum content can now be developed at the local level, with an emphasis on the learner-centered approach. One of the main goals of this Forum is to review the major trends and processes of education reforms in order to identify key success factors of education reform implementation that result in a learner-centered approach, school-designed curriculum, performance-based evaluation, and school-based management with public participation. Dealing partially with the above goals, the purpose of this article is to address the following questions:

1. What are significant factors if a nation have to maintain quality equilibrium between national and local curriculum.
2. What are the processes through which these kinds of innovative curricula are developed?
3. To give an example of implementation of such curricula that would be instructive to the audience. By considering the difficulties, shortcomings and missteps of its implementation process, can we identify key factors for successful implementation?

Before answering the above questions, it is worthwhile mentioning that both national and local curricula have their own purposes and limitations. Maintaining quality equilibrium or complementary relationship between national and local curricula is a real challenge to education reforms that are taking place in many countries. For instance, it was recently pointed out in an article available online (<http://www.education.man.ac.uk/icsei2001.doc>), that before the implementation of the national curriculum in England in 1988, the debate on the function of education reflected a greater breadth of purpose than was finally realised in the original national curriculum document. Literature post-1988 reveals growing criticism of the national curriculum’s limited vision, reflected in its attachment to a subject-based content, largely devoid of broader concepts and innovations relating to the overall preparation of an individual for the 21st century. Consequently, the Secretary of State announced revisions to the national

curriculum in England in a booklet entitled “The revised national curriculum for 2000:what has changed?” which is also available online (<http://www.qca.org.uk/ca/5-14/revised2000/index.asp>). This booklet gives a summary of the main changes. Most of the changes are designed to make teaching requirements clearer and to increase the flexibility available to schools to develop their curriculum in ways which best meet the needs of their pupils and local community.

This is only an example to illustrate the global trend of promoting a more balanced relationship between national and local curricula. By establishing national and/or state standards, other countries such as the United States, New Zealand, Australia and Taiwan are also trying to promote similar balance between the national and/or state standards and local curricula. Of course, in many cases, the schools or the local educational authorities may choose from a number of published textbooks that best fit their needs instead of developing the teaching materials by themselves. With the use of these textbooks, the schools can develop and implement curricula that meet the local needs, priorities and resources more easily, while following the general curriculum framework or guidelines issued by national or state authorities. It is from a literature review of the education reforms in the above-mentioned countries, and from my own research and teaching experiences in Taiwan that I will try to offer my answers to the above questions. Of course, I will do this with the current education reform of Thailand in mind.

Key factors for a quality balance between national and local curriculum

It is instructive to consider what the key factors are from the following two perspectives. First, let's consider the implementation of curriculum reform involved. In a report available online: <http://www.ed.gov/pubs/SER/FTP/summary.html>, it is pointed out that successful education reformers develop practical strategies to manage change in a systematic way. Eight key lessons are drawn from 12 major studies of education reform funded by the U.S. Department of Education, Office of Educational Research and Improvement (OERI). According to that report, the eight key lessons are the following:

Planning Reform Efforts

1. Leadership: Strong leadership enhances the prospect of successful reform.

2. Goals: Reform goals should be based on a shared vision and have the active support of a wide range of stakeholders who participate in achieving them.
3. Timing: School reform takes time and involves risk.

Implementing Proposed Reforms

4. Training: Participants must have training before they implement reform.
5. Flexibility: Reform strategies should be flexible to accommodate multiple solutions to a given problem.
6. Infrastructure: Reform may require redesigning organizational infrastructure.

Sustaining Ongoing Reforms

7. Managing Resources: Reform prospects improve if there is a means to redirect or reallocate resources in ways that meet the needs of the new, emerging system. Reform is not cost-free.
8. Self-Assessment: Reform is an ongoing process.

Second, let's consider key factors relating to the major participants, that is, to the national education policy makers/curriculum developers and the local educational institutions/schools/teachers.

National Education Policy Makers/Curriculum Developers

1. Clear Educational Goals: It is important for the national education policy makers and/or curriculum developers to delineate clear statements regarding the educational goals, which are understood and supported by the educators, teachers, parents and the general public through a variety of communication channels.
2. Flexibility: Flexibility should be provided in the program of studies, the subject matter contents, the teaching environments, the teaching strategies the evaluation of students learning outcomes, and so on. So that local adaptations can be made without much difficulty.
3. Examples and Guidance: Sufficient examples and guidance regarding the use of teaching materials and methods, which are included in the national curriculum, should be provided in the teacher guides to make local adaptation easier.

4. Support and Award: Material, instructional and motivational supports to local schools and teachers must be provided from the national authorities responsible for the development and implementation of national curriculum. Encouragement to teachers including an award system to provide extrinsic reinforcement of the teachers may be useful.
5. Research and Evaluation: Research studies aiming at identifying effective ways to use the national curriculum and its influencing factors should be conducted. The effectiveness of the teaching materials should be evaluated, in terms of students' learning outcomes. Both qualitative and quantitative data should be collected in order to find out whether the implementation of the new curriculum meets the educational goals.

Local Educational Institutions/Schools

1. Teamwork: Adapting the national curriculum to meet local conditions and students' individual differences is, in most cases, a very challenging task to teachers who are used to teaching submissively according to the national curriculum. Teamwork among teachers will prove to be an efficient way for teachers to prepare lesson plans and gather relevant information as well as local resources. It will also help teachers develop professionally.
2. Professional Development: The success of an education reform depends to a great extent on teachers' beliefs, knowledge, skills and attitudes. A significant amount of time and effort must be spent on the professional development of teachers, administrators and other staff members.
3. Use of Local Resources: Wise use of local resources is crucial in making the curriculum relevant to local contexts. This includes physical facilities, natural environment, historical events, human power, special expertise of parents and other community members, and so on. It is important for schools and teachers to identify and make good use of "local wisdom" or Thai Wisdom, which is in line with the educational goals of the national curriculum. It is equally important to recognize the possibility that some of the "local wisdom" or Thai Wisdom may interfere, for instance, with students' learning of certain science concepts.
4. Time: Heavy teaching load is an immediate concern for most teachers. Additional efforts to maintain a complementary relationship between the national curriculum and local curriculum will take time, causing stress and anxiety for most teachers. Local

educational authorities and schools need to realize this, and make an effort to reduce teachers' teaching load.

5. Leadership and Support: Strong leadership by experienced teachers and/or administrative personnel, such as school principal, is a key factor to get curriculum reform going successfully in a school. Teachers are learners too, and they need guidance as well as material, instructional and mental supports.

Processes for developing innovative curricula that meet the desired goals

In order to maintain a sensible and fruitful balance between the national and local curricula, there are various ways that local curriculum can be incorporated with a national curriculum. Local curriculum can be design so that contents, activities and materials that are more easily accessible to local schools and make better personal sense to the students can be used to complement, supplement or replace what are included in the national curriculum. Local history, events, social and natural environments can also be used to serve as examples or counterexamples of what are mentioned in the national curriculum. A comparison of the similarity, deviation or difference between local and national situations is also a useful strategy for teachers to use.

In practice, there are a number of ways for the local educational institutions to adapt the national curriculum to the needs of the local community and society, and for teaching "local wisdom" as part of the coursework in basic education in order to maintain a better balance between national and local curricula. Idealistically, it would be nice if every teacher can design and develop instructional materials and activities that meet the desired goals. This is, however, unlikely to happen in a short period of time in Thailand and perhaps in other countries under similar circumstances. The main reason is that teachers were initially prepared and trained to teach according to the national curriculum. They lack the knowledge, skills and experiences to develop instructional materials and activities for their own classes, using local resources that are of individual interests and relevance to the students. Another possibility is for national education authorities or curriculum developers to provide teachers with detailed teacher guides or comprehensive resource books. Nevertheless, as detailed as a teacher guide or as comprehensive as a resource book can be, teachers in certain regions may not be able to find teaching strategies or materials that meet their local needs or students' interests and experiences. Another alternative that

easily comes to mind is to set up in-service training programs or school-based professional development programs that help teachers develop innovative curricula that meet the desired goals. In this regard, some of the author's experience in Taiwan will be described further in the following section.

As mentioned earlier, in the current thrust of education reform in Thailand, curriculum contents will be developed with an emphasis on the learner-centered approach. Although there are philosophical, psychological as well as educational reasons for adopting this approach, it seems instructive to briefly summarize what is meant by the learner-centered approach. This is nicely done by a Work Group of the American Psychological Association's Board of Educational Affairs (BEA) in an article that is available on line (<http://www.apa.org/ed/lcp.html>) entitled: "**Learner-Centered Psychological Principles: A Framework for School Redesign and Reform**". These principles emphasize the active and reflective nature of learning and learners. From this perspective, educational practice will be most likely to improve when the educational system is redesigned with the primary focus on the learner. The 14 principles are divided into those referring to *cognitive and metacognitive (1-6)*, *motivational and affective (7-9)*, *developmental and social (10-11)*, and *individual difference (12-14)* factors influencing learners and learning.

1. **Nature of the learning process.** The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience.
2. **Goals of the learning process.** The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge.
3. **Construction of knowledge.** The successful learner can link new information with existing knowledge in meaningful ways.
4. **Strategic thinking.** The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals.
5. **Thinking about thinking.** Higher order strategies for selecting and monitoring mental operations facilitate creative and critical thinking.
6. **Context of learning.** Learning is influenced by environmental factors, including culture, technology, and instructional practices.
7. **Motivational and emotional influences on learning.** What and how much is learned is influenced by the learner's motivation. Motivation

to learn, in turn, is influenced by the individual's emotional states, beliefs, interests and goals, and habits of thinking.

8. **Intrinsic motivation to learn.** The learner's creativity, higher order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control.
9. **Effects of motivation on effort.** Acquisition of complex knowledge and skills requires extended learner effort and guided practice. Without learners' motivation to learn, the willingness to exert this effort is unlikely without coercion.
10. **Developmental influences on learning.** As individuals develop, there are different opportunities and constraints for learning. Learning is most effective when differential development within and across physical, intellectual, emotional, and social domains is taken into account.
11. **Social influences on learning.** Learning is influenced by social interactions, interpersonal relations, and communication with others.
12. **Individual differences in learning.** Learners have different strategies, approaches, and capabilities for learning that are a function of prior experience and heredity.
13. **Learning and diversity.** Learning is most effective when differences in learners' linguistic, cultural, and social backgrounds are taken into account.
14. **Standards and assessment.** Setting appropriately high and challenging standards and assessing the learner as well as learning progress -- including diagnostic, process, and outcome assessment -- are integral parts of the learning process.

A quality balance between the national and local curricula can be made only through deliberative planning. In addition to bearing the above principles in mind, a systematic approach to develop curriculum is needed. In an article available online entitled "DESIGNING CURRICULUM FOR THE 21st CENTURY", by Joan Penrose (<http://www.nyiteez.org/EDIN777/21centcurric.htm>), it was pointed out that a systematic approach to the development of curriculum demands active curriculum planning to achieve desired learning outcomes. A

systematic approach can produce the desired goals through careful curriculum alignment. Curriculum alignment happens when teaching and learning activities correspond with learning objectives and with assessment and evaluation strategies. Detailed and practical guides for curriculum design are given in this article. Adapting Penrose's suggestions to our purpose here, a systematic approach for developing innovative curricula that meet the desired goals involves the following steps:

1. Identify the goals and objectives of the national curriculum.
2. Identify instructional goals (course, unit, lesson levels).
3. List skills and knowledge learners need to achieve instructional goals.
4. Determine needs, interests and abilities of learners.
5. Develop learning objectives to achieve desired outcomes at appropriate levels of learning—basic knowledge, comprehension, application, analysis, synthesis and evaluation.
6. Apply learning principles to facilitate student learning.
7. Develop and individualize teaching/learning activities.
8. Develop criteria and assessments by which student achievement will be assessed

Illustrative examples and key factors for successful implementation

In response to calls for educational reform, the Ministry of Education in Taiwan has come up with a series of reform measures aiming at reaching the following goals (Ministry of Education, online <http://teach.eje.edu.tw/>):

1. To make the educational system less centralized.
2. To give each and every student a better chance to achieve.
3. To provide more flexible ways for students to be admitted into schools of higher levels.
4. To improve the quality of teaching at schools.
5. To establish a life-long learning society

A major change in this new wave of curriculum reforms is the abolishment of national curricula. In its place is the development of the so-called Nine-year Integrated Curriculum Frameworks, with greater emphasis on the continuation and coordination of the curricula for grades 1 through 9. Several salient features were noticed including, for instance, the delineation of educational goals featuring a drastic change toward putting more emphasis on fostering students' basic skills than on the acquisition of factual knowledge, and an emphasis on integrated curriculum focusing on seven broad subject areas with more flexible and

less specific instructional objectives for grades such as 1-2, 3-4, 5-6, and 7-9.

Following these Curriculum Frameworks, groups of curriculum developers organized and supported by commercial publishers are currently developing textbooks and accompanying instructional materials for teachers and students to use at schools. In addition to the use of textbooks, development of school-based curricula is encouraged, and teachers are expected to develop instructional materials and activities that take into account the educational visions and contextual conditions of the schools, students' special needs and available community resources. The new curriculum entails educational goals and instructional skills that are very different from what the elementary and junior high school teachers are familiar with. Apparently, in order for the curriculum reform to be successfully implemented, both preservice and inservice teachers need to be better informed of the goals of the current education reform and be more versatile in using instructional strategies which will facilitate the development of students' skills in learning, thinking and problem-solving.

As a precursor to the establishment of school-based professional development programs, the author has conducted a joint research study to bring together the expertise of a number of science and mathematics education researchers to conduct collaborative research studies with teachers from several local elementary and secondary schools (Guo, Chang, Hsieh & Yau, 2002). With guidance and supports provided by researchers from teacher education institutions, participating science and mathematics teachers worked in small groups to develop science and mathematics teaching modules according to the rationale and instructional objectives emphasized by the Nine-year Integrated Curriculum Frameworks. The development of teaching modules in this study involved the development of teaching materials, the design of teaching activities using appropriate teaching strategies, the development of assessment tools to assess students' learning performance, and to try out the teaching modules in actual classroom settings. Participating teachers' changes in beliefs, instructional skills, pedagogical content knowledge, and so on were monitored throughout the project, in order for the researchers to study teachers' professional development and its' facilitating factors. Results obtained in this study have produced exemplary instructional modules illustrating the goals and rationale of the Nine-year Integrated Curricula. Many participating teachers in this study become "seed teachers" who will help implementing the new curriculum reform in their schools. Just as noted by Marx, Freeman, Krajcik & Blumenfeld (1998) and Sparks & Hirsh (2000), it was found in this study that key factors for teachers to develop professionally included: time,

collaboration, guidance and supports, practices and reflections in actual classroom and school settings. Our findings also agreed with what was suggested by Bridges (1993) that school-based professional development programs running collaboratively between schools and teacher education institutions could provide an effective solution to developing teachers professionally and producing a more widespread change in the schools.

Bibliography

Bridges, D. (1993). School-based teacher education. In D. Bridges & T. Kerry (eds.), *Developing teachers professionally: Reflections for initial and in-service trainers*. London: Routledge.

Guo, C.J., Chang, H.P., Hsieh, H.Y. & Yau, R.F. (2002). Studies on the Professional Development of Science and Mathematics Teachers through the Development of Instructional Modules for the Nine-year Integrated Curricula in Taiwan. Paper presented at the National Association for Research in Science Teaching Annual Meeting at New Orleans.

Marx, R.D., Freeman, J.G., Krajcik, J.S., & Blumenfeld, P.C. (1998). Professional development of science teachers. In B. J. Fraser & K. G. Tobin (eds), *International handbook of science education*. Dordrecht/Boston/London: Kluwer Academic Publishers.

Sparks, D. & Hirsh, S. (2000). A national plan for improving professional Development [Online].

Available:<<http://www.nsd.org/library/NSDCPlan.html>>.