

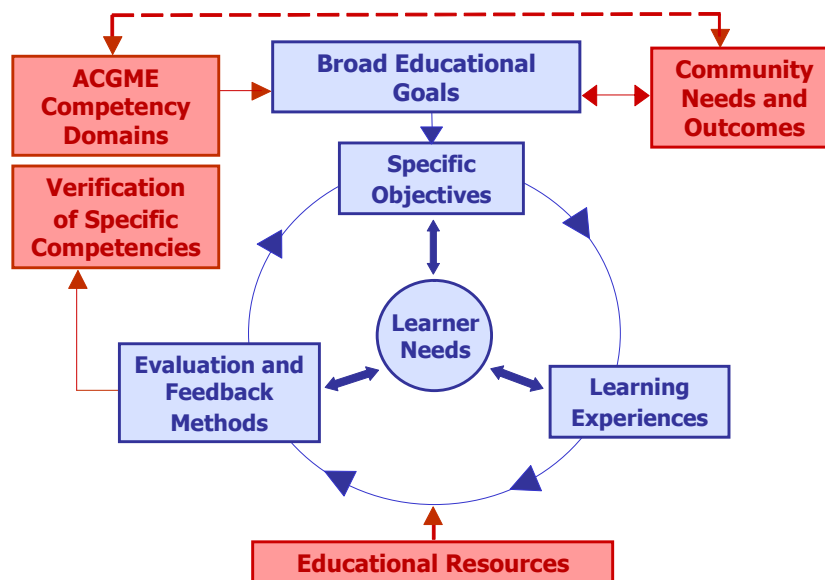
The Design of Educational Programs

Constance Baldwin, PhD
Core CAM Curriculum Committee Member
Department of Pediatrics

Model of a Planned Curriculum. The Figure below is a model of an instructional system, such as a residency program. It shows in blue boxes the key elements that interact in program development: [educational goals](#), [educational objectives](#), [learner needs assessment](#), [learning activities](#), [learner evaluation/feedback methods](#). Environmental factors that influence the curriculum from the outside, shown in red boxes, include community needs and outcomes, educational resources (money, time, personnel, educational expertise), stakeholder support, and accreditation requirements.

Community Needs and Outcomes are the driving force behind the creation of any medical education program: the needs of patients for good health care and the needs of physicians-in-training to develop their capability to provide this health care. These needs dictate the broad educational goals of the program and are continually reshaped by the results of program and trainee evaluation.

In today's world of residency training, **ACGME Competency Domains** also drive the selection of a program's educational goals. The ACGME Competencies are not separable from patient needs; on the contrary, they mirror the Institute of Medicine's goals for patient care and have been developed to improve patient outcomes. The ACGME Outcome Project will succeed if health outcomes in the community respond favorably to the new educational requirements of post-graduate programs.



Model of a Planned Curriculum

In the figure, the outer circle depicts the core curriculum of a program, which is guided by its broad [Educational Goals](#). Most residency programs share the same basic goals, although the relative emphasis on individual goals may vary in different settings.

A program's broad educational goals are refined and made real through development of specific [Educational Objectives](#), which are adapted to the local teaching settings and resources. [Learning Experiences](#) are developed by the program to achieve these specific objectives, and are tailored to the needs of the individual learner. [Learner Needs Assessment](#) should provide useful information for all stages in the educational process. Each residency program's specific objectives and linked learning activities are likely to be quite different, since there are many ways to approach an educational goal, and patient care opportunities are variable from region to region and from institution to institution.

A program develops a set of [Evaluation Methods](#) to measure whether residents' learning experiences result in their attainment of the program's educational goals and objectives, as well as the competency domains that underlie them. Evaluation should include carefully orchestrated feedback for the resident learner: thus, the evaluation becomes part of the resident's learning experiences and helps shape his/her attainment of the competencies. If the goals and objectives are competency-based, and the teaching/learning methods are effective, the evaluation of residents should document their accomplishment of the required competencies.

[Educational Resources](#) can strongly influence how a program decides to meet its goals and objectives, because learning activities and evaluation both require time and money. However, the goals themselves should not be dictated by the resources available. If a program places sufficiently high priority on a given goal, creative use of resources can nearly always make it possible to develop learning activities that at least partially address that goal. Changes in community needs may influence the resources available to a training program (e.g., through institutional budgets and external grants), although this connection may be weakened by political forces inside or outside the program.

The cyclic design of the instructional system model depicts the constant interaction that should occur between educational goals and objectives, learning activities, and evaluation/feedback processes. Learner evaluation should always be a key component of program evaluation. When deficiencies in learners are identified, the program may need to focus on essential goals, modify objectives, improve learning activities and/or improve feedback and remediation processes. Learner successes can also influence program development—for example, by indicating program components that deserve continuing support, or by making the program more competitive for new resources.

Because of its cyclic nature, and its interaction with environmental influences, an instructional system rarely remains constant. Since the model is dynamic, and all parts interactive, changes made at any point in the system will require adaptations in other components. Hence if educators change their programs in response to new RRC requirements (or by using tools provided by the APA *Educational Guidelines*), they should rethink each step of the cycle. Similarly, if new learning resources become available--e.g. a new faculty member with special expertise is hired, or a new learning

setting like a community practice site is developed—then the educational objectives in that area can be expanded. If resources are reduced, some objectives and activities may need to be modified or even discontinued, as long as essential goals are still being met. However, the most important internal change agent in a program should be evaluation. To keep a program operating effectively, learner and program outcomes must constantly be reassessed. If an evaluation reveals deficiencies in the program or its trainees, then needs should be redefined and all components of the system should be reviewed to address the problem.

