An
Outcome-Based Education Primer

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1. What Is outcome-based education (OBE)?

Central to the name, outcome-based education, is the idea of an outcome. Although most have an intuitive idea of its meaning, the word outcome in this context means the internal and external changes in the learner that can be demonstrated at the end of a set of learning experiences. In an OBE system, schools organize instructional practice around clearly defined exit outcomes that all students must demonstrate and also provide opportunities for all students to reach these learning outcomes (Burns, 1987).

Several states have incorporated outcome-based ideas in legislative directives (Kentucky, Michigan, Minnesota, and Washington). Minnesota, defines its version of OBE as:

A learner-centered, results-oriented system founded on the belief that all individuals can learn. In this system:
1) What is to be learned is clearly identified
2) Learners' progress is based on demonstrated achievement
3) Multiple instructional and assessment strategies are available to meet the needs of each learner
4) Time and assistance are provided for each learner to reach maximum potential (MN Dept of Ed, 4-91)

More specifically, OBE is typically characterized as a way of defining, designing, delivering, documenting, and determining instruction in terms of outcomes (Spady, 1990). All decisions in OBE emanate from defined outcomes. Parents, educators, and community members identify or define the knowledge, skills, and attitudes they want students to be able to demonstrate after completing a K-12 education. From the explicitly defined outcomes, staff design the direction and structure of the learning experiences. In accordance with this, staff develop resources for implementation paying particular attention to the alignment of curriculum and assessment. Staff then deliver the developed resources to students in the pre-determined direction. Next, staff document the degree of success and progress toward the defined outcomes for each learner and finally determine the advancement for the individual learner.

2. Where did OBE come from?

The concept of OBE takes on more meaning by considering the various components of OBE and their origins. These include: objectives, outcomes, criterion-referenced measurement, mastery learning, accountability, and competency-based education.

Objectives and Outcomes. Objectives are probably the piece of OBE most
familiar to practitioners. The difference between objectives and outcomes, however, is less clear, although the background of the two is intertwined. At the turn of the century, pioneers like G. Stanley Hall and E. L. Thorndike emphasized the importance of goals for education. In 1918 the "Cardinal Principles of Secondary Education" listed what were the most widely accepted aims of education. Thirty years later, at the 1948 American Psychological Association convention, it was agreed that the goals of education should be classified, work that eventually ended in the development of Bloom's well-known Taxonomy.

Almost coincident to this development was Ralph Tyler's 1949 course syllabus Basic Principles of Curriculum and Instruction. Also known as the Tyler Rationale, this text posed fundamental questions that teachers should consider when developing curriculum and planning instruction: educational purpose, content, organization, and evaluation. Stressing these questions, Tyler emphasized the prior setting of goals. Tyler also noted the importance of the objective for systematically planning educational experiences. He stated that a well-written objective should identify both the behavior to be developed in the student and "the area of content or of life in which the behavior is to be applied." Tyler was especially concerned that assessment be tied to objectives.

Following Tyler came the taxonomies of objectives for the cognitive and affective domains from Bloom, Krathwohl, and colleagues and Mager's work on behavioral objectives. The taxonomies provided a theoretical orientation for curriculum design, and Mager's book, Preparing Instructional Objectives (1962) operationalized the use of the behavioral objectives into three components: (1) the behavior; (2) the conditions; and (3) the criterion of performance.

Although the behavioral tradition is strong in American education, educators recognize that an emphasis on the "behavioral" component of learning can produce objectives best suited to low level content knowledge and skills. Thus, over time the emphasis has come to be on objectives of instruction. Outcomes have been less described as the driving force.

Outcomes, however, provide the glue for OBE and an understanding of the concept is necessary for implementation. The term outcome is used frequently in education writings but rarely is it carefully defined. Its usage is casually synonymous with goals, purposes, and ends. Mauritz Johnson (1967) argued that curriculum is a "structured series of intended learning outcomes," concerned with the results or ends of instruction rather than with the means. These ends should be "at the level of attainable learning products" or outcomes which consist of three classes: knowledge, techniques (processes, skills), and values (affects). Gronlund (1970, 1985) also described learning outcomes as the "end products" of learning, or knowledge, skills, attitudes, and interests. These products are the "end results of learning stated in terms of changes in pupil behavior." William Spady, a prime mover in the development of
OBE, uses the words outcome and goal interchangeably in his writings. He typically describes publicly derived exit outcomes as "knowledge, competencies, orientations, and qualities" (1988).

Common to all three theoreticians, M. Johnson, Gronlund, and Spady, is the view that content is a source of learning experiences that produce outcomes. Subject domains are the means to an end. In this view, educators select instructional experiences that lead to the desired learning outcomes rather than creating objectives tied to content outlines.

Although it may appear that outcomes become all important in OBE, objectives remain an integral part of practice. Objectives are specified beforehand to provide direction for the instructional process by indicating both the behaviors to be developed and the applicable areas of content or life. Outcomes, on the other hand, are the end products of the instructional process. They may be either observable or internal changes in the learner. Thus, an outcome-based approach to curriculum development uses objectives to lead eventually to the desired changes in the learner--outcomes--defined as knowledge, skills, and attitudes.

**Criterion-Referenced Measurement (CRM).** As most practicing educators know, there are two types of measurement, norm-referenced (NRM) and criterion referenced. In general, NRM compares a student's score against the scores of others completing the same test whereas CRM involves comparing a student's performance to a criterion or specified level of achievement. Norm-referenced measurement was the measurement of choice until the 1960's, but although it is still useful for comparison purposes, it lacks information needed for implementing instructional programs that provide continuous feedback.

CRM locates a student's test behavior on a continuum ranging from no proficiency to perfect performance. OBE practice establishes criterion referenced measures linked to identified outcomes and used for determining placement, documenting student learning, adjusting instruction, and evaluating program effectiveness. In addition, Spady (1981) stresses that the reporting systems of OBE be based on performance criteria so that student records reflect what has been done well and what remains to be mastered.

**Mastery Learning.** Another component of many OBE systems is mastery learning--"instruction organized to emphasize student mastery of specific learning objectives and to deliver corrective instruction as necessary in order to achieve that goal" (Walberg, 1985). Benjamin Bloom, the developer of mastery learning, based his model on John Carroll's model of school learning (1963). Carroll observed that when a heterogeneous group of students receives the same instruction--same in terms of amount, quality, and time--achievement is normally distributed. Conversely, if the type and quality of instruction and time allowed are adjusted to the needs of each student,
the majority of students can achieve mastery. Bloom elaborated that if each student receives differential instruction and a differential amount of time, most will reach mastery. Accordingly, his model, using group instructional techniques, varies both instruction and time to meet individual needs.

**Accountability and Competency-Based Education (CBE).** In the 1970's several factors led to the widespread belief that schools must exhibit standards of competency or performance that the public can easily measure and understand. The increasing realization that schools were failing at their basic mission, coupled with the belief that schooling is important for success in the world, caused several groups--parents, taxpayers, legislators, and business leaders--to demand evidence of student achievement. Accordingly, legislators across the nation enacted accountability measures, including student assessment, management goals with evaluation methods, teacher evaluation systems, and procedures for citizen input. Since that time, most educators, parents, and business leaders have supported such legislation, agreeing that in education as in all fields, people should be held accountable for their work.

The competency-based movement incorporated by OBE was an answer to the changing job market at the end of the '60's when people questioned whether education was adequately preparing students for life roles. Spady (1978) argued that CBE should be built around the integration of outcome goals, instructional experiences, and assessment devices. This became more of an ideal than what actually developed in practice where CBE frequently became a testing and remediation program focused on basic literacy and mathematical skills. Rarely were maximum competencies targeted. Authorities differed significantly in their interpretation of the "outcomes" of CBE, and it remained for OBE to redefine this movement.

3. **What are the central principles of the model?**

Three distinguishing characteristics are central to OBE practice. These are: (1) a specific philosophy that embraces success for all students; (2) the alignment of outcomes with curriculum, instruction, and assessment; and (3) accountability for both students and teachers.

The philosophy of OBE proceeds from three simple maxims:
1. All children can learn.
2. Success breeds success.
3. Schools control the conditions of success.

Implicit in acceptance of this philosophy is a commitment by educators to finding "what works" for each individual student. The mastery learning model is frequently used as a jumping off point for instruction, but OBE does not dictate any one instructional model.
What is important is frequent grouping and regrouping of students for placement in appropriate instruction. This, however, does not imply the old paradigm of different content for different students but instead, different instruction for different students to allow all to realize the outcomes in a unit of study.

Alignment of outcomes with curriculum, instruction, and assessment means that the curriculum experiences and subsequent instruction are chosen because they directly allow students to achieve the desired outcomes. In addition, students know beforehand what they are expected to know and do after a unit of study and how they will be assessed. Essentially, there are "no surprises."

These first two components--philosophy and alignment--feed directly into the third--accountability. Teachers are held accountable both for providing instructional experiences directly related to the objectives of a unit of study and for individualizing to meet the learning needs of each student. At the same time, students must achieve predetermined proficiency in a unit of study in order to advance to the next level. There are no "seat time" certifications but only competency demonstrations. Students are held accountable for their achievement.

Overriding these three elements are the outcomes, and in order to make OBE a model that ensures quality, outcomes of significance must be chosen. Given the value and importance of such outcomes, students must be allowed however much time they need in order to achieve success. OBE, therefore, is not a seat-time, Carnegie unit orientation but rather one which provides differential amounts of time as needed for learning.

4. How does OBE differ from current practice?

Many teachers argue that they have always provided outcome-based instruction in their classroom, questioning whether OBE differs from good contemporary practice. There are, however, some fundamental differences.

Purpose. In considering purposes, it is useful to think of outcomes--what a student should look like after completing a K-12 education. These may be expressed as graduation outcomes which reflect the goal statements educators have used to guide their efforts for at least the last fifty years. Although graduation outcomes are similar to purpose statements, the orientation of OBE practice is fundamentally different. In an outcome-based system, educators no longer see themselves as "shooting" for these goals but instead committed to realizing them for every student and in a way that can be either demonstrated or measured.

Curriculum. Traditional curriculum may be characterized as designed "up," often based on text materials, divided subject by subject, taught for receptive learning, and usually stated in terms of behavioral objectives.
Ideally, OBE curriculum is based on "significant" outcomes to be mastered or performed, designed "down" from these outcomes, experiences chosen for their relationship to the outcomes, integrated across subjects, and stated as what is to be learned. Subject matter content is conceived as a source for learning experiences.

**Instruction.** The sequencing of experiences or instruction in traditional education is generally teacher-centered, one shot, usually incorporating one or two strategies, and delivered to a set group. In the ideal OBE classroom, instruction is learner centered, includes multiple opportunities to learn, incorporates correctives and extensions, uses multiple strategies, and employs flexible grouping.

**Evaluation.** Finally, evaluating whether or not goals have been reached for traditional education has included: (1) a fixed, limited time to learn; (2) one opportunity to take the test; (3) generally a paper, pencil measure; and (4) a norm-referenced approach. OBE asserts that assessment should be: (1) aligned with learner outcomes; (2) aligned with instruction; (3) both formative/diagnostic and summative/ certifying; and (4) criterion referenced.

In addition to these differences, OBE theoreticians, Spady and Marshall (1991), now distinguish three OBE approaches including: traditional, transitional, and transformational. **Traditional** OBE practice uses existing curriculum to determine what students should know and be able to do. Curriculum, instruction, and assessment then are aligned according to these "curriculum-based objectives" (Spady & Marshall, 1991). ** Transitional** OBE centers on graduation outcomes of higher order competencies such as critical thinking, effective communication, technological literacy, and problem solving. Curriculum draws on subject matter content as a means for developing these competencies in students. Instruction and assessment are then aligned to the curriculum. Decisions in **transformational** OBE emanate from a vision of a competent future citizen. Nothing that exists in the present structure of schooling is taken as a given. All practices are examined and restructured as needed for the achievement of future-oriented, role-based exit outcomes.

5. What are the implications for practitioners?

The implications for practitioners are based on whether the approach is essentially traditional, transitional, or transformational OBE, and can be discussed in terms of philosophy, alignment, and accountability.

First, no matter what the approach, educators, parents, and community members must revise their thinking, if they have not already done so, to reflect a belief in and commitment to success for all. OBE proponents argue that accepting this fundamental belief drives changes in how educators structure learning and work with students.

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Second, districts must identify outcomes and from these design curriculum, instruction, and assessment that can lead to and demonstrate successful realization of outcomes. For most districts this is a significant undertaking that incorporates many staff hours. Consensus building is central to the success of such an endeavor. In addition, a traditional, transitional, or transformational approach influences the amount of time spent determining the outcomes, the time needed to develop curriculum, and the alignment process. Schools engaged in a transformational process will be examining every facet of their practice. This may mean creative ways of scheduling, grouping for instruction, integrating curriculum, making staff decisions, and documenting and communicating the progress of students.

Finally, districts must document success in a way that holds students accountable, reflects the degree of achievement, and is interpretable by those outside the school such as parents, colleges and employers. At the same time, teachers need feedback and training to facilitate their responsibilities for accountability.

6. Who are some "experts" on OBE?

One of the first people to write about OBE was William Spady. His first work was on competency-based education, but he later became part of the OBE movement. His consulting group is called the High Success Program on Outcome-Based Education. Also working within that group is Kit Marshall and David Briggs.

Another parallel OBE development with a practitioner base is the Outcomes-Driven Developmental Model (ODDM). ODDM was designed and developed by the Johnson City, N. Y. Central School District and was validated in 1985 by the National Diffusion Network. The project director is Dr. Frank Alessi, and Lawrence Rowe is the assistant superintendent of the district.

Dr. John R. Champlin, a former administrator in Johnson City, has since moved to Arizona where he heads the National Center for Outcome-Based Education. This center is involved in training related to the ODDM model.

Benjamin Bloom at the University of Chicago originally conceived the mastery learning component of OBE in his Learning for Mastery (LFM) model. Other people who have written extensively about mastery learning include James Block and Thomas Guskey.

7. What are the documented achievements of OBE systems thus far?

Whenever the word "achievement" is mentioned, people usually expect hard, quantitative data that documents the success or failure of a program. Unfortunately, in the case of true OBE systems, only limited data are presently available, and much of
this is small-scale, anecdotal, and perceptual in nature.

In 1989-1991 the Center for Applied Research and Educational Improvement, through the now defunct Office of Educational Leadership at the Minnesota State Department of Education, evaluated 37 learning sites (almost 800 respondents), with OBE innovative programs. From survey and interview data, evaluators identified six perceived effects across these sites including: more and better learning; increased involvement in learning; different effects for brighter and slower students—positive and negative for each group; implementation problems (e.g., OBE holds some students back, what to do about incompletes, additional work for teachers, and student motivational problems); better attitude toward assessment; and higher self esteem.

Mastery learning has been the central instructional technique for many OBE implementations. A mastery learning review of 103 studies (Kulik, et al., 1991) found an overall effect size of 0.52 standard deviations for mastery programs as evidenced by end of unit criterion achievement testing. These reviewers concluded that mastery programs have a "strong educational effect."

ODDM data collected from California Achievement Test scores from 1974 to 1984 found that students in Johnson City who were slightly below average at the end of first grade were, on the average, two years above the norm in reading and over three years above in mathematics at the end of 8th grade.

Rochester, Minnesota, where OBE is practiced district-wide, has begun to accumulate data but as yet has only reported perceived effects similar to the OEL data collected by CAREI. In addition, the Minnesota State Department of Education has a short reprint of preliminary small-scale reported results from sites around the United States (Feb., 1991).

8. How can I learn more about OBE?

The following reference list serves as a guide to understand the concept better.

References


instruction as effective as one-to-one tutoring. Educational Researcher, 13(6), 4-16.


Note: The journal Outcomes and Block, Efthim, and Burns book are excellent references for other articles. This list is by no means conclusive.