

## Competency-Based Learning

### **Description:**

Competency-based learning (CBL) is a highly personalized instructional model in which teaching and learning is designed so that students advance to new content only after demonstrating mastery of prior content.

In CBL, students take ownership over the pace and process of their learning, and through the use of frequent assessments, monitor their own progress of learning outcomes. Students who master content quickly can accelerate their learning, while those who struggle receive the needed supports, and additional time, to become proficient in college- and career-ready standards and aligned competencies.

Though implementation of competency-based learning can vary, the approach described here is one in which traditional direct instruction is almost completely replaced by individual learning time, small and flexible group instruction, and in some cases, project-based learning.<sup>1</sup> The role of teachers is to provide feedback on students' mastery of competencies, and to identify and provide differentiated supports, including one-to-one or small group tutoring, to support their learning.

Schedules for such CBL models include long blocks of time for students to work independently, time for collaborative work time with peers, and structured coaching or tutoring time with teachers. Technology plays a large role, offering the content that students are working on, assessments to measure learning, and tools to inform pace and progress.

*Note: CBL is a major departure from traditional instructional approaches and requires strong foundational structures to be in place, including systems and routines for students, a positive adult culture with strong teacher teaming practices, and technology infrastructure that supports blended or one-to-one learning. This profile is intended to give schools a deeper understanding of the resource implications for competency-based learning, but because of its complexity, we refer schools to the resources at the bottom for additional support in implementing a CBL model.*

### **Rationale:**

By ensuring that students demonstrate mastery before moving on to new content, CBL is designed to support all learners—those who are high-achieving and looking to advance to new content quickly, as well as students who are struggling and need additional time and support to master content.

1. For more information, refer to the Project-Based Learning Building Block Profile.

CBL also benefits students who have fallen behind on the number of credits needed to graduate. If any students have not mastered all content by the end of the academic year, they pick up where they left off rather than repeating a course from the beginning—allowing them to earn credits more quickly.

CBL schools are also able to use their resources more efficiently by allocating more time and teacher attention to students and subject areas that need it the most, while using more cost-effective methods (including technology and partners) to provide independent learning experiences for students who are ready to move forward more quickly.

Because of the wide variety of CBL implementation, recent research has shown mixed outcomes on student achievement and dropout rates. The guidance provided below is drawn primarily from individual schools and networks (including Summit Public Schools and Asia Society schools) that have demonstrated positive student outcomes.<sup>2</sup>

### **KEY COMPONENTS FOR SUCCESSFUL IMPLEMENTATION**

Successful shared-content teacher teams require the following key components:

1. Curriculum and assessments, aligned to both standards and corresponding competencies, that are accessible to students as they progress through content at their own pace
2. Upfront and ongoing professional learning to prepare teachers for the shifts in instructional practices and guide ongoing implementation
3. Expert-supported teacher teaming to collaboratively plan lessons, analyze student data, and determine personalized support for students
4. A culture of student agency and high expectations that empowers students to be accountable for their own learning
5. Scheduling flexibility so that students can make choices about how to spend their time based on their learning needs
6. Technology and facilities that support the various learning environments needed for CBL (including independent work time, collaborative time, teacher-directed time, and out-of-school time)

2. See the RAND brief “Competency-Based Education in Three Pilot Programs: What It is, How It’s Implemented, and How It’s Working” for more information on competency-based learning research.

## District-Level Enabling Conditions

Districts looking to support schools in creating teacher leadership roles can:

- Advocate for statewide proficiency-based graduation requirements: Typical diploma systems are based on credits accumulated based on the Carnegie unit of credit hours. In order to align with a competency model, graduation requirements and diplomas should reflect demonstration of competencies and skills, rather than a set of course credits and seat-time requirements.<sup>3</sup> This is typically done at the state level, but districts can advocate on behalf of schools looking to implement CBL.
- Provide a fully aligned and built-out curriculum and assessments: As students progress at their own pace, curriculum must be available for them as soon as they are ready. This means that schools must have materials, including lesson plans, resources, and assessments available ahead of when students need them. This labor-intensive work is best done at the district level, providing schools a fully built-out curriculum with aligned assessments at the start of the year, and giving them time to make any adaptations before students will need access to them.
- Coordinate technology licensing agreements: Technology is a critical success factor to CBL, providing a platform for curriculum, progress monitoring, and adaptive instructional software. Districts are best positioned to coordinate technology licensing agreements that take advantage of economies of scale pricing. Districts can also better absorb the incremental costs of testing out and customizing technology platforms than schools can, and support integration with other technology systems at the district level.

**Clarify purpose:** Before making decisions about how to organize resources around competency-based learning, clarify its purpose in your school.

Competency-based learning should be structured to meet the unique context of your school. Use your student and teacher data to identify their most pressing needs, and determine how CBL will help meet these needs and increase student outcomes.

- Based on students' and teachers' most urgent needs, what must CBL accomplish in your building? How will it align with your school's stated priorities or goals?
- Who will be targeted for CBL? Will it be piloted in certain grades or student groups first (based on need or eagerness to pilot) or implemented schoolwide?
- What are one or two high-level goals that you might use to measure success annually? For example, if CBL intends to decrease the number of under-credited students, schools could use transcript data. Similarly, if CBL is meant to provide students higher levels of ownership and agency over their learning, they can use student survey data to monitor progress in this area.

3. [http://bellwethereducation.org/sites/default/files/Play12\\_EliminateSeatTime.pdf](http://bellwethereducation.org/sites/default/files/Play12_EliminateSeatTime.pdf)

## MAKING IT WORK: RESOURCE IMPLICATIONS

**Implementing a project-based learning (PBL) model will have implications for people, time, money, and other resources in your school. Specific decisions to make during the planning process with regard to these implications are noted below, organized by the building block components listed above.**

### 1. Curriculum and assessments, aligned to both standards and corresponding competencies, that are accessible to students as they progress through content at their own pace

Curriculum must align with both the competencies that schools want students to graduate with, and the grade-level and subject-specific standards that students must master for college and career readiness. For example, one of New Hampshire's nine competencies for High School ELA is: "students will demonstrate the ability to comprehend, analyze, and critique a variety of increasingly complex print and non-print literary texts." This competency is mapped to seven of the Common Core standards for HS ELA. Districts in New Hampshire then designed curriculum to align to both the state standards and competencies.<sup>4</sup>

Most CBL schools use multiple forms of assessments—including performance assessments, portfolios, projects, quizzes and tests—to measure content knowledge and assess mastery of competencies. Unless provided by the district or by external providers, teacher teams are typically responsible for developing these assessments to allow them to measure mastery of standards and competencies. This type of work is typically done in the spring or summer preceding implementation and continues throughout the year. Work done outside of the typical school day may require stipends for teachers given the time commitment.

A critical piece of CBL is providing curriculum and assessments to students as soon as they have demonstrated mastery on previous content. This is most successfully done through the use of an online learning management system (LMS). LMSs house a school's curriculum and assessments, and also typically include progress monitoring features to help students track their own progress. In most LMSs, units or modules of content are 'unlocked' once students can demonstrate mastery of the previous content, either through successful completion of an online assessment or by teachers' authorization upon demonstrated mastery.

There are other technology-delivered curriculum considerations for CBL, including the use of online adaptive instructional programs, such as Kahn Academy or Dreambox. Such programs provide differentiated content to students based on how they perform on previous assessments. As students demonstrate mastery on easier content, the program presents students with progressively

4. <http://education.nh.gov/assessment-systems/documents/pilot-proposal.pdf>

more complex content. Such programs help scaffold content for students as they work toward mastery on a concept or skill.

Lastly, many schools implementing CBL use standard-based grading systems to communicate progress on standards and competencies to parents and students. Standards-based grading systems help to communicate the specific skills or competencies that students have mastered or still need to master to complete a course, rather than providing a single, blended grade. Implementing standards-based grading at the same time as CBL will require additional time for teachers to receive professional learning around grading norms and expectations. Because standards-based systems report only what students have mastered or not mastered, it can exacerbate the apparent gap between on-track students and struggling students, because it doesn't include measures of effort or participation. Therefore, it is crucial for schools implementing the system to communicate the new grading system to parents and other stakeholders. Schools may also decide to include measures of effort, or habits of learning, in students' overall performance or report card to recognize their importance to students' overall development as learners and acknowledge those who are making efforts toward their learning.

#### Key Questions:

- Who will develop the competencies that students will be expected to demonstrate, and align those competencies to CCRS for each grade level?
- Will curriculum and instructional materials need to be modified to incorporate competencies, and if so, who will be expected to do that work?
- When will those people meet to complete this work (before/after school, over the summer, during CPT and/or faculty meetings during the planning year, etc.)?
- Will assessments be created internally, and if so, who will be expected to do this work?
- When will those people meet to complete this work (before/after school, over the summer, during CPT and/or faculty meetings during the planning year, etc.)?
- Will you need to provide stipends to staff for completing this work? If so, how many staff will be compensated and at what stipend amount?
- When will the new curriculum and assessments be rolled out to all staff?
- Will outside support be leveraged for any of this work (developing assessments, implementing an online assessment program, or implementing standards-based grading), and if so, at what cost?

- Will an LMS or other online program be used to store curriculum and assessments so they are accessible to students, and if so, at what cost?
- Who will oversee the implementation and maintenance of those systems?
- Will the school use a standards-based grading system to report student progress at the standard or competency level, and if so, who will be in charge of implementing that work?
- When will that person have time to do this work, and what responsibilities, if any, will need to be reassigned to allow that person the additional time?
- If standards-based grading will be used, what types of professional learning will teachers need on grading expectations and norms?
- How will you communicate standards-based grading to parents and the greater community to generate understanding?

## 2. Upfront and ongoing professional learning

CBL is a completely different pedagogical approach to traditional teaching, and requires significant professional learning time both prior to implementation and throughout the year. For teachers who have never done CBL, this includes training to deeply understand relevant competencies, how to develop these competencies, student facilitation techniques, and effective student monitoring and support.

Schools should assess teacher need and capacity before implementation, determine who might be able to lead this work, and who might need extra support and in what areas. Schools should also identify where external supports may be needed. Since this training typically happens over the course of the spring and summer preceding implementation, schools may need to set aside stipends for teachers and leaders of this work and/or time in the beginning of year professional learning (PL) calendar.

Teachers will also need support during the year as they implement CBL. In addition to expert-supported team meetings and curriculum/assessment development support mentioned above, this includes ongoing professional learning, coaching, and regular feedback. If professional learning needs are particularly high, schools may need to find additional time in the schedule, or pay teachers to come in before or after school. Lastly, schools must determine what internal capacity is to support teachers throughout the year, and if it is insufficient, they may need to hire additional coaches or seek outside professional development

## Key Questions:

- Based on teacher needs and capacity, what types of professional learning opportunities do teachers need up-front to support implementation?
- When will up-front professional learning take place (before/after school, over the summer, etc.)?
- Who will support or lead up-front professional learning?
- In addition to time during expert-supported team meetings, how much time will you devote to professional learning for CBL throughout the year?
- How will schedules need to change to support professional learning for CBL (including more time in the schedule, early release/late-start schedules for long professional learning blocks, time during PD days, etc.)?
- Who will provide ongoing expert support for teachers? Are these people currently on your staff?
- If not, will you create new positions or repurpose existing positions (e.g., instructional coach role)?
- At any point, will outside professional development be leveraged, and at what cost?

### 3. Expert-supported teacher teaming to collaboratively plan lessons, analyze student data, and determine personalized supports for students

In CBL, there are two types of teacher teams: shared-student teacher teams, or grade-level teams, and shared-content teacher teams.

Shared-student teacher teams meet weekly to determine the personalized supports that students need by analyzing student data and progress, and creating individualized plans for students, including 1:1 tutoring, small-group tutoring, changes to the students' schedule, or access to supplemental materials. This team coordinates with student support staff, such as counselors or social workers, to identify supports that students may need outside of the school day, such as out-of-school learning opportunities, internships, dual-enrollment programs, or extracurricular learning opportunities. Shared-student teams also work with ELLs, SWD, and gifted teachers to ensure that special populations are appropriately supported for their unique needs.

In shared-content team meetings,<sup>5</sup> teachers develop and modify curriculum and assessments, and determine content-specific supports for students. Teams also plan who will conduct performance-based assessments for which students, and when, and analyze student data to determine needed supports, such as large-group lessons/activities or assigning students to different tutors/groups based on their progress.

5. For more information, refer to ERS's Building Block Profile on Shared-Content Teams.

## Key Questions:

- What is the work that teaching teams will be expected to do throughout the year (e.g., creating competencies, developing curriculum and assessments, modifying existing materials, analyzing student data and determining student supports, coordinating supports across disciplines and student types, etc.?)
- What types of teams will you need to create (shared- content, shared-student, student support teams) to do this work, and when will they meet throughout the year?
- Who will provide expert support and facilitation for teaching team meetings?
- If current internal expert support for teams is insufficient, will you hire expert support roles?
- At any point, will outside partners be leveraged for expert support, and at what cost?

#### 4. A culture of student agency and high expectations<sup>6</sup>

In CBL, students take on a high level of autonomy and responsibility for their own learning. On any typical day, students may be working collaboratively in teams, doing independent learning of content, getting individual help from a teacher or advisor, or interning off campus.

To support this kind of working environment, schools should develop a set of values and norms that are shared by students and teachers, and set mutually agreed-upon expectations for student learning. These can include expectations for working independently and with peers, teachers, and outside partners, the respectful use of space and facilities, and clear processes to ensure students are able to advocate for their own learning needs and get the supports they need.

*For more information on creating a culture of high expectations and student agency, and for guiding questions for implementation, see ERS's Building Block Profile on Student Agency and a Culture of High Expectations.*

#### 5. Scheduling flexibility so that students can prioritize their time based on learning needs

To allow students to progress at their own pace, schedules must be individually designed and flexible for students' changing needs. In the model of CBL described here, time is divided into student work time, tutoring or small-group time, advisory or student mentoring, collaborative student time, and out-of-school time (including dual enrollment, internships, and other opportunities). Typically, courses do not receive their own daily period, as students are moving through content at their own pace.

6. For more information, refer to ERS's Building Block Profile on Student Agency and a Culture of High Expectations.

Teacher schedules are also flexible to respond to students' needs. Teachers may push in to provide small-group or individual support during both independent student work time and designated tutoring times. Teachers may be taking larger groups of students for lab work or large-group direct instruction on a particular topic or conducting performance-based assessments. Some schools include a separate mentoring block, where students meet with teachers to discuss their progress, identify learning needs, and create plans to keep the work moving forward. Mentors can also help manage students' schedules to ensure that students are getting what they need throughout the day.

#### Key Questions:

- How will schedules change to provide students time for independent work, time to collaborate with other students, get support from teachers, or participate in out-of-school learning experiences?
- Will all students have the same schedule, or will they change depending on the student and his/her needs?
- Who will oversee student schedules and make sure that individual students are getting what they need throughout the day?
- When will teachers provide tutoring or individual support, progress monitoring, and conduct assessments? Will there be set times throughout the day or week?
- Who will coordinate out-of-school learning opportunities, including dual enrollment, internships, or virtual coursework?

## 6. Technology and facilities

Technology plays a significant role in providing students with personalized pacing and supports. Many CBL schools utilize 1:1 technology to give students unrestricted access to online content and supports. Other schools may have laptop carts or computer labs to provide similar access. In either case, a school's wireless infrastructure must be able to support large numbers of students and teachers accessing the internet, and may require additional wiring or bandwidth to support it. Schools may need to contract or hire support staff to troubleshoot, repair, and monitor technology systems.

Likewise, facility spaces may need updating to accommodate the various learning environments. Schools may need additional computer labs or wiring and desk space to facilitate technology-enhanced learning, as well as large, open spaces for students to collaborate in teams or meet in large groups with teachers. Small conference spaces may be needed for teachers and students to meet in small groups, or 1:1 for targeted supports and/or tutoring. Furniture that can be easily rearranged may be warranted for spaces that serve multiple purposes for various groups throughout the day.

As part of the schoolwide values (referenced above), schools may need to establish norms and expectations for student use of technology, especially in a one-to-one learning environment. Students will need time to learn and practice these expectations at the beginning of the year, and be aware of the consequences for misuse or damage of technology or related hardware.

#### Key Questions:

- What investments in technology (including laptops, computer carts, wiring, or monitors) are needed to support your CBL model?
- Will you need to upgrade your wireless infrastructure to support the additional computers and users?
- Will you need to hire staff to support your technology infrastructure?
- What investments in facilities (including furniture) or technology are needed to support an individualized learning environment for students?
- When will students have time to learn and understand expectations for the use of technology, including consequences for misuse?

## SUMMARY OF KEY QUESTIONS TO GUIDE THE PLANNING PROCESS

### NEEDS ASSESSMENT

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- Based on students' and teachers' most urgent needs, what must CBL accomplish in your building? How will it align with your school's stated priorities or goals?
- Who will be targeted for CBL? Will it be piloted in certain grades or student groups first (based on need or eagerness to pilot) or implemented schoolwide?

### STRATEGY DEVELOPMENT

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- What are one or two high-level goals that you might use to measure success annually? For example, if CBL intends to decrease the number of under-credited students, schools could use transcript data. Similarly, if CBL is meant to provide students higher levels of ownership and agency over their learning, they can use student survey data to monitor progress in this area.
- Who will develop the competencies that students will be expected to demonstrate, and align those competencies to CCRS for each grade level?

- Will curriculum and instructional materials need to be modified to incorporate competencies, and if so, who will be expected to do that work?
- When will those people meet to complete this work (before/after school, over the summer, during CPT and/or faculty meetings during the planning year, etc.)?
- Will assessments be created internally, and if so, who will be expected to do this work?
- When will those people meet to complete this work (before/after school, over the summer, during CPT and/or faculty meetings during the planning year, etc.)?
- Who will oversee the implementation and maintenance of those systems?
- Will the school use a standards-based grading system to report student progress at the standard or competency level, and if so, who will be in charge of implementing that work?
- When will that person have time to do this work, and what responsibilities, if any, will need to be reassigned to allow that person the additional time?
- How will you communicate standards-based grading to parents and the greater community in order to generate understanding?
- What is the work that teaching teams will be expected to do throughout the year (e.g., creating competencies, developing curriculum and assessments, modifying existing materials, analyzing student data, identifying and coordinating support across disciplines and student types, etc.?)
- Who will oversee student schedules and make sure that individual students are getting what they need throughout the day?

### **MASTER SCHEDULE**

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- How will schedules need to change to support professional learning for CBL (including more time in the schedule, early release/late-start schedules for long professional learning blocks, time during PD days, etc.)
- What types of teams will you need to create (shared-content, shared-student, student support teams) to do this work, and when will they meet throughout the year?
- How will schedules change to provide students time for independent work, time to collaborate with other students, get support from teachers, or participate in out-of-school learning experiences?

- Will all students have the same schedule, or will they change, depending on the student and his/her needs?
- When will teachers provide tutoring or individual support, progress monitoring, and conduct assessments? Will there be set times throughout the day or week?
- Who will coordinate out-of-school learning opportunities, including dual enrollment, internships, or virtual coursework?

### **JOB AND TEACHER ASSIGNMENT**

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- Who will provide ongoing expert support for teachers? Are these people currently on your staff?
- Who will provide expert support and facilitation for teaching team meetings?

### **BUDGET AND STAFFING**

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- Will you need to provide stipends to staff for completing this work? If so, how many staff will be compensated and at what stipend amount?
- Will an LMS or other online program be used to store curriculum and assessments so they are accessible to students, and if so, at what cost?
- What investments in technology (including laptops, computer carts, wiring, or monitors) are needed to support your CBL model?
- Will you need to upgrade your wireless infrastructure to support the additional computers and users?
- Will you need to hire staff to support your technology infrastructure?
- What investments in facilities (including furniture) or technology are needed to support an individualized learning environment for students?
- At any point, will outside professional development be leveraged, and at what cost?

### **HIRING PLAN**

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- If not, will you create new positions or repurpose existing positions (e.g., instructional coach role)?
- If current internal expert support for teams is insufficient, will you hire expert support roles?

## ANNUAL PROFESSIONAL LEARNING PLAN

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- When will the new curriculum and assessments be rolled out to all staff?
- Will outside support be leveraged for any of this work (developing assessments, implementing an online assessment program, or implementing standards-based grading), and if so, at what cost?
- Based on teacher needs and capacity, what types of professional learning opportunities do teachers need up-front to support implementation?
- When will up-front professional learning take place (before/after school, over the summer, etc.)?
- Who will support or lead up-front professional learning?
- In addition to time during expert-supported team meetings, how much time will you devote to professional learning for CBL throughout the year?
- If standards-based grading will be used, what types of professional learning will teachers need on grading expectations and norms?

## STRATEGY IMPLEMENTATION AND MONITORING

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- When will students have time to learn and understand expectations for the use of technology, including consequences for misuse?
- What are one or two high-level goals that you might use to measure success annually? For example, if CBL intends to decrease the number of under-credited students, schools could use transcript data. Similarly, if CBL is meant to provide students higher levels of ownership and agency over their learning, they can use student survey data to monitor progress in this area.

*Note that implementing CBL represents a complex initiative, and this Building Block Profile has focused on the questions that have the most direct resource implications—not necessarily all possible questions or challenges that a school may need to consider in its planning for CBL. Please refer to the Additional Resources section below for more detailed information.*

## Design Interactions

Strategic school designs have many interconnected components. Well-designed competency-based learning models should be integrated with the following domains:

- Expert-led Collaboration and Professional Learning
- Personalized Time and Attention
- Responsive Learning Community

## Research

Jennifer L. Steele, Matthew W. Lewis, Lucrecia Santibañez, Susannah Faxon-Mills, Mollie Rudnick, Brian M. Stecher, Laura S. Hamilton. (2014). *Competency-based education in three pilot programs: examining implementation and outcomes*. RAND. Retrieved from [http://www.rand.org/pubs/research\\_reports/RR732.html](http://www.rand.org/pubs/research_reports/RR732.html)

Sturgis, Chris. (2015). *Implementing Competency-based Education in K-12 Systems*. CompetencyWorks. Retrieved from [http://www.competencyworks.org/wp-content/uploads/2015/06/iNCL\\_CWIssueBrief\\_Implementing\\_v5\\_web.pdf](http://www.competencyworks.org/wp-content/uploads/2015/06/iNCL_CWIssueBrief_Implementing_v5_web.pdf)

## Additional Resources

Competency-based learning is a complex instructional approach for which many organizations—including CompetencyWorks, Next Generation Learning, and Digital Learning Now—publish several resources and guides. Many of the examples and content mentioned in this profile are explained in more detail in the links below:

**Next Generation Learning:** <http://nextgenlearning.org/topics/competency-based-learning>

**CompetencyWorks:**

<http://bit.ly/2uXMCUC>

<http://bit.ly/2uXOrRC>

<http://bit.ly/1zzzRZw>

**EDUCAUSE:**

<https://library.educase.edu/resources/2012/11/breakthrough-models-for-college-readiness-an-introduction-to-next-generation-blended-schools>

**Digital Learning Now:**

<http://digitallearningnow.com/policy/publications/smart-series/>

There are also several schools, and some districts and states, that are implementing competency-based learning, and have become labs for studying high-quality design. These include:

**New Hampshire:** [http://education.nh.gov/innovations/hs\\_redesign/competencies.htm](http://education.nh.gov/innovations/hs_redesign/competencies.htm)

**The School District of Philadelphia:** <http://webgui.phila.k12.pa.us/offices/n/newschoolmodels/why-new-school-models2>

**Adams District 50:** <http://www.cbsadams50.org/>

**Asia Society:** <http://asiasociety.org/education>

**Building21:** <http://building21.org/learning-model/>

**Summit Public Schools:** <http://www.summitps.org/>

**Boston Day and Evening Academy:** <http://www.bacademy.org/>