Building a Mastery Learning Framework
Competency Adoption Guide

The Competency Adoption Guide provides a set of recommended steps for adopting and adapting a set of existing competencies, and integrating them into your Mastery Learning System.

PLANNING CHECKLIST	GOAL DEFINITION	SOURCE & REVIEW	ADAPT & ITERATE
TEAM	MISSION	SOURCE GUIDE	ADAPTATION GUIDE
TIMELINE	VISION	ALIGNMENT CHECK	ITERATION CYCLE
PROCESS	STANDARD SETS		

STEP 1: PLANNING CHECKLIST

TEAM *Who will participate in this process? Who will make design decisions?*

Begin by establishing a team for the project. Consider a team that involves a **work group** and an **advisory group**. The **work group** may include members who will manage the project, execute on the design work, and ultimately make decisions about the final design. The **advisory group** may include a range of stakeholders who will provide feedback along the way. Be sure that there are individuals on your team with the right skill set and expertise to implement the project.

TIMELINE *How much time do we have? What are our benchmarks for success?*

Identify your firm **deadline** for having a complete set of adopted/adapted competencies that is ready for use. Consider important questions, such as: How much time per week can be devoted to the project by the team? What milestones can you place on the calendar to set smaller benchmarks for the work outputs? After completing Step 4 (Adapt) in this process, circle back to your timeline and build a **schedule** based on your scope of work. Consider a Gantt chart as a template.

PROCESS *How will we approach our work?*

Consider establishing a clear process for the work, using this Competency Adoption Guide as a tool. Where will we start? What comes next? How will we engage stakeholders for feedback? We recommend approaching this work using the "design thinking" process, which we've embedded in this guide. The design thinking process involves **empathizing** with the user, **defining** the specific issue or problem you are trying to resolve, **researching** the issue and collecting examples of other relevant efforts, **ideating** (or generating ideas) through nonjudgmental brainstorming sessions, **prototyping** (or building a draft) of your work, then **testing** your work and collecting feedback to iterate on the work and improve the design.

The work of establishing competencies — whether designing, or adopting and revising — begins first and foremost with a reflective revisiting of your mission and vision. It is also important to take into consideration any non-negotiable national or state standard sets that you'll want to build your competencies upon. Think of each of the following three factors as filters through which you will make decisions about which competencies to adopt, and how to revise them in a way that best reflects the central purpose of your school or learning organization.

WHAT'S OUR VISION FOR A GRADUATING STUDENT?

What are the specific skills, knowledge sets, and dispositions that you want every graduating student to possess?

Consider engaging a wide range of your school or organization's stakeholders in developing an answer to this question.

WHAT'S OUR SCHOOL MISSION AND /OR THEME?

How does your school mission and/or theme connect to the skills and dispositions that you want all students to develop?

If your school has a particular theme or focus, such as performing arts, or youth entrepreneurship, this may impact the development of your competencies.

WHAT ARE OUR NON-NEGOTIABLE STANDARD SETS?

Which specific national or state standard sets must be embedded in your school's set of competencies?

Create a list of the specific standard sets that must be central to your instructional program, such as Common Core, or Next Generation Science Standards.

Designer's Tip Before beginning Step 2, consider reviewing this brief case study: *Strengthening High School Teaching and Learning in New Hampshire's Competency-Based System.* **(http://goo.gl/gBV764)**

Now it's time to dig in. During this stage, you will source competency sets using certain criteria, and then review exemplar competency sets with a critical lens, being sure to examine them through the filters you've established in Step 2 to determine how well they align to your mission, vision, and non-negotiable standard sets.

SOURCE

Develop a quick set of criteria to guide your sourcing. Here are a few key questions to help you get started:

▶ **Authorship:** Who was involved in building these competency sets, and what is their *expertise and background*?

▶ **Alignment:** Which *standard sets* do they claim to be aligned to or based upon?

▶ **User insights:** Who is using them in their instructional program, and what *feedback* can we glean from the users?

▶ **External validation:** What do experts in the field say about the *quality* of the work?

▶ **Access:** Are they *open source*, such that we can use them if we love them? If not, what is the cost?

IN A TIME CRUNCH?

Check out Exhibit A at the end of this guide for several exemplar competency sets.

CRITICALLY REVIEW

After sourcing, examine each set through your mission, vision, and standard filters. Evaluate whether they:

▶ Meet the definition of competency as *explicit, measurable, transferable,* and *empowering*

▶ Align with your mission and vision

▶ Preserve the rigor, depth, and breadth of the standard sets on which they are based

Designer's Tip When comparing a competency set to the original standard set, use these two questions for a quick litmus test on alignment:

• *Omission check*: Are there any standards missing? If so, which ones, and how important are they?

• *Language check*: How close is the language used to represent the original standard? Is anything significant "lost in translation?"

STEP 4: ADAPT & ITERATE

Now it's time to revise (rather than reinvent!) the wheel — by customizing competencies and making them your own. At this stage, you will engage in an adaptation process, using your mission, vision, and standard "filters" to guide your effort. The "Adapt" stage involves working through a set of key decision points, conducting a gap analysis, then implementing a revision and decision process. The "Iterate" stage encourages you to walk through at least one iteration cycle in which you collect feedback from stakeholders and make revisions to your competency sets before you finalize them for use in your school or organization.

ADAPT

1 KEY DECISION POINTS:

- **What are our competency categories or "buckets"?** Think of this as the very top of your taxonomy. It may be helpful to begin by adopting the "Academic + Efficacy" competency categories as a starting point, and see how your taxonomy takes shape from there. See Exhibit A for examples.

- **What structure will we adopt for our competencies?** This will help define the lowest levels of your taxonomy. As you think about structure, consider this question: How will you break down each competency into explicit, measurable parts?

2 GAP ANALYSIS:

- **Which competencies, among those we've examined:**
    - Meet our needs just as they are?
    - Are adoptable but need revisions?

- **Which competencies do we want to include, but could not find strong exemplars of during our search?** Come up with a rough list of ideas, or of draft competency statements that will guide further research and inform your design work.

3 REVISION & DESIGN

You may want to start by creating a quick "scope of work" for your team that articulates your competency revision and design needs. Then circle back to your **timeline** (Step 1) and build out your development plan and schedule.

Once you begin your revision and/or design process, consider the following suggestions:

- **Get organized**. Set up a Google Sheet — a great tool to support real-time editing, collaboration, and version control — accessible to all your design team members. Drop in the language for each competency you are adopting, and organize them. Consider establishing revision protocols for your team to track your work.

ITERATE

Why iterate?

Iterate literally means, "to perform repeatedly." One of the features of the design thinking process that makes it such a valuable problem-solving and design methodology is its commitment to keeping the user at the center. In practice, this means the needs and experiences of the user represent critical information that must inform the design process and product — repeatedly! Now that you have a working prototype of your competency sets and are stepping into the iteration phase of this work, start by asking: *Who are our users*? These are the folks with whom you'll want to test your prototype, and from whom you'll collect lots of feedback, in order to improve upon your design.

Who are my users?

Your primary users are most likely your educators (and counselors), your students, and your families. Their insights early on will be critical to ensuring understanding and buy-in in the long run.

You might also consider working up a list of secondary users, such as community partners or district employees, to collect their feedback as well.

students

educators   families
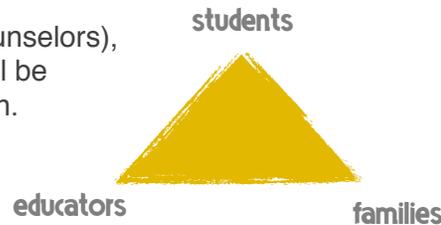
How should we gather feedback?

It's one thing to ask a user to "read something over" and give feedback. It's quite another to ask the user to *put the prototype to use* and then observe their experience as they go. User testing combined with direct observation is your most powerful option for gaining user insights to help improve your design. Consider working with your team to design a unique experience for each of your primary users in which they must do something meaningful with your competency sets. For example, ask a teacher to build a module that connects to your competency. It will be valuable not only to observe the process and capture insights; it will also be valuable to interview the user after the experience and gain their perspective on it. Finally, you may want to gain feedback from an expert in the field who has rich experience in mastery-based learning. Then bring all of this data back to your design team for at least one round of revision.

Designer's Tip When you have finalized version 1.0 of your competency sets, take the time to put them in a user-friendly format. Remember that your competencies will be new to many of your stakeholders — and first impressions matter.

REVISION & DESIGN (CONT'D)

- **Go back to your mission, vision, and standard sets.** Use each of these as guideposts for both the *content* and *language* of your competencies. Remember the voices and insights of your stakeholders and consider how to integrate these ideas.

- **Borrow wherever you can.** Scan relevant literature and recent articles, explore websites of local or international nonprofit or community-based organizations, look to other high-impact schools or organizations — and examine how they frame the outcomes they are striving toward. All of these can be sources of inspiration as you write. Don't forget to properly cite sources of language and inspiration!

- **Get to the drawing board.** Depending on your team's work preferences and time constraints, consider either delegating first drafts among your team and circling back for team review and edits, or carving out uninterrupted work blocks of time to do the revision and design work together. Use a work review protocol to maximize productivity and efficiency.

What do you mean, competency "buckets"?

We're glad you asked! Let's take a look at two different examples of how practitioners have approached the work of categorizing competencies. Below, you'll see the taxonomies of two different models side by side. On the pages that follow, we'll drill down and take a closer look at each model.
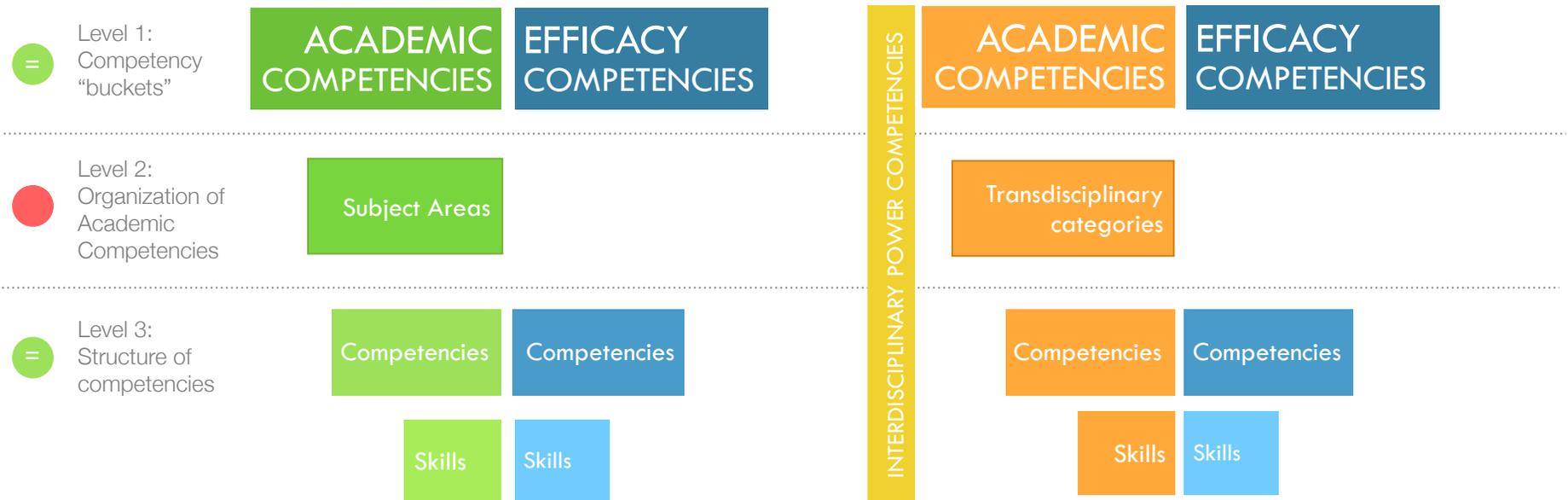
BACKGROUND:
The School District of Philadelphia's Office of New School Models and nonprofit partner Building 21 co-designed a competency model that is now being implemented in three new open-admission high schools in Philadelphia. Learn more about the model here: www.competencytoolkit.org

BACKGROUND:
Bronx Arena High School is a personalized, competency-based high school founded in 2012 as a collaboration between the Department of Education and SCO Family of Services. BAHS serves over-age, under-credited students in New York City. Learn more here: http://www.bronxarena.org/

PHILLY

BRONX ARENA

Level 1: Competency "buckets"
- ACADEMIC COMPETENCIES
- EFFICACY COMPETENCIES

Level 2: Organization of Academic Competencies
- Subject Areas

Level 3: Structure of competencies
- Competencies
- Competencies
- Skills
- Skills

INTERDISCIPLINARY POWER COMPETENCIES

- ACADEMIC COMPETENCIES
- EFFICACY COMPETENCIES
- Transdisciplinary categories
- Competencies
- Competencies
- Skills
- Skills

Notice that Philly and Bronx both adopted the same "academic + efficacy" competency buckets for the top of their taxonomy, and that they also structured their competencies in the same way, where a competency is a grouping of nested skills. Where they differ greatly in their approach is in how they organized their academic competencies: Philly as 100% discipline-specific, and Bronx Arena as 100% transdisciplinary.

PHILLY

The competencies developed in the Philadelphia model fall into two categories or "buckets": **academic competencies** and **efficacy competencies**. All academic competencies are then classified by subject area. Efficacy competencies, which they refer to as "Habits of Success," are not tied to any one particular subject area.

ACADEMIC COMPETENCIES

Subject Areas

Competencies

Skills

EFFICACY COMPETENCIES

Competencies

Skills
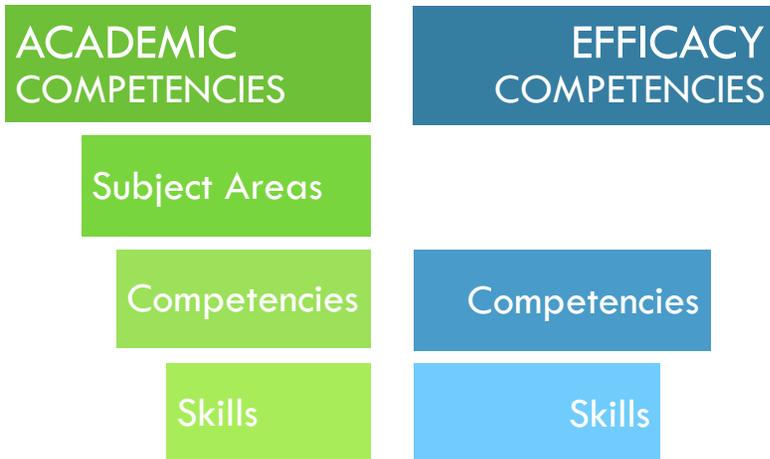
Next, we'll take a closer look at Philadelphia's taxonomy.

INSIGHTS FROM THE DESIGN TEAM:

"We decided to organize all of our academic competencies by subject area for three key reasons: first, because our district — new to competency-based education — requires us to clearly convey how competencies will map to traditional courses and how traditional grades will be generated. To keep it simple, we just say, "all English competencies map to English I, II, III, IV; all science competencies map to all science courses — bio, chem, physics — and so forth.

Secondly, we felt this way of organizing competencies would be easiest to digest for our teacher and student users. Finally, we knew our mastery tracking systems would not have the capability of tagging different demonstrations of the same competency to different courses, which would be needed to accurately report course grades.

Although we have categorized our competencies in this way, *in practice*, all teachers are responsible for our ELA competencies — which we consider to be truly cross-cutting in nature — such as reading, writing, research, collaborative discussions, and presentations. We also push for interdisciplinary design so that the lived learning experience of our students is not as course constrained as our competencies appear to be!"

-Sandra Moumoutjis, Designer

PHILLY

Philadelphia defines their competencies as "the essential skill-sets of college and career readiness." Each competency is structured as a grouping of "skills" or learning standards. The skills make the competencies explicit and measurable. In Philly's grading system, it is the skill that gets scored or rated based on performance-level descriptors.

PHILADELPHIA'S COMPETENCY TAXONOMY

ACADEMIC COMPETENCIES

Subject Areas

ELA | MATH | SCI | HIS | ART

HEALTH | PE | FIN. LITERACY

ELA Competencies

Reading Literature | Reading Inform. Texts | Writing Arguments | Writing Inform. Texts

Writing Narratives | Collaborative Discussions | Presentations | Research

Writing Arguments skills

I can:
- Introduce my claim
- Develop the claim & counterclaim
- Use words & transitions to create cohesion
- Maintain a formal style & objective tone
- Provide a compelling conclusion
- Strengthen writing through revision
- Use technology to share work
- Acquire and use academic vocabulary

EFFICACY COMPETENCIES

Competencies: "Habits of Success"

Growth Mindset | Decision-making | Self-Regulation

Work & Time Mgmnt | Social Skills & Awareness

Skills Example: Growth Mindset

I can:
- Approach challenges with confidence
- Deal with obstacles effectively
- Develop a love for learning
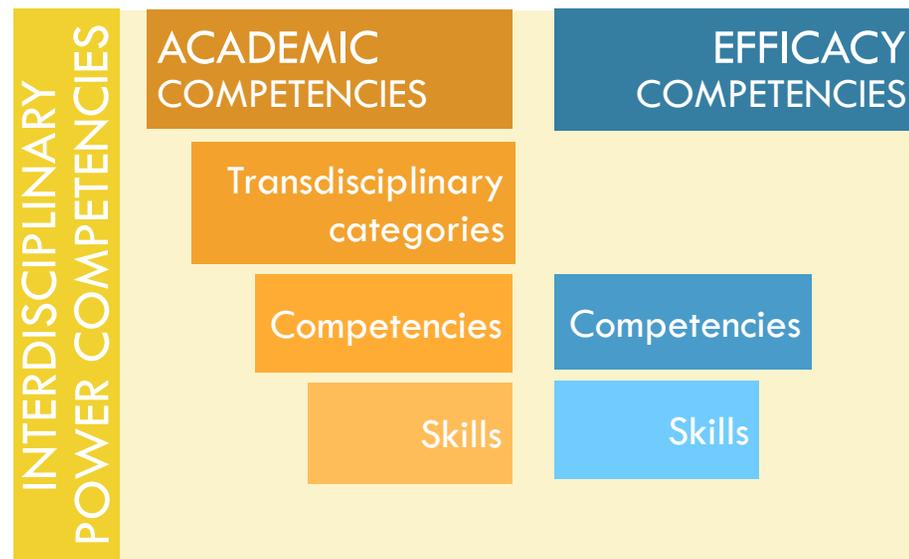- Accept criticism and feedback
- Get support from others

BRONX ARENA

Bronx Arena High School's competencies can also be categorized as academic and efficacy competencies. Unlike Philly, all academic competencies are "transdisciplinary" in nature, not tied to any one subject area. Additionally, Bronx Arena has identified a set of interdisciplinary "power competencies," which represent the recurring skill sets that "trend" throughout their transdisciplinary competencies.

INSIGHTS FROM THE DESIGN TEAM:

We began our work by attempting to map out a set of competencies that are essential to both content disciplines and what we call "Core Skills" (Thinking, Numeracy, Literacy, Expression, and the Development of the Self and Community). We benchmarked these to the Common Core Standards, but also to what we know are valued college and career skills. For example, we included competencies around Cyclical & Symbolic Thinking and Creative and Divergent Thinking, as well as around Personal and Social Efficacy.

Because we are developing a full-blown Mastery-Learning System, we needed a way to track students' increasing proficiency on each of the competencies, across any course, department or level. In the absence of an existing digital product, we have designed our own — organized around Students' Personalized Learning Plans — so that students, teachers and families can immediately determine student progress towards mastery, adjust the Plans, and set goals and targets for next steps.

Each course at Bronx Arena is organized around Content, Core Skills, and Competencies, and includes three Mastery Challenges that students undertake to both increase and demonstrate their proficiency.

INTERDISCIPLINARY POWER COMPETENCIES

ACADEMIC COMPETENCIES
- Transdisciplinary categories
- Competencies
- Skills

EFFICACY COMPETENCIES
- Competencies
- Skills

Next, we'll take a closer look at Bronx Arena's taxonomy.

BRONX ARENA

Bronx Arena High School has six transdisciplinary categories overall: Thinking, Numeracy, Literacy, Expression, Content (Academic) and Self & Community (Efficacy). The highlighted text below illustrates an example of two "power competencies."

BRONX ARENA'S COMPETENCY TAXONOMY

INTERDISCIPLINARY POWER COMPETENCIES

ACADEMIC COMPETENCIES

Trans-disciplinary categories:

- Thinking
- Numeracy
- Literacy
- Expression
- Content

Thinking competencies:

- Reasoning, Analysis, and Interpretation
- Cyclical, Symbolic Thinking
- Problem-Solving
- Creative & Divergent Thinking

Problem-Solving skills:

- Correctly follow and/or describe a procedure
- Analyze cause and effect relationships of events
- Determine if something is a cause or a coincidence
- Combine and analyze qualitative and quantitative data
- Break a thing into its parts and analyze how those parts work together
- Recognize patterns and trends
- Develop questions to further explore a particular topic or idea
- Evaluate an argument, explanation, or concept and identify the strengths and weaknesses using evidence
- Use evidence to develop a valid argument
- Determine important information in a given context

EFFICACY COMPETENCIES

"Self & Community" Competencies

- Personal Efficacy
- Social Efficacy
- Group Efficacy

Personal Efficacy skills:

- Engage in thoughtful & meaningful discussions
- Demonstrate reflection
- Analyze cause & effect relationships of events; determine if something is a cause or a coincidence
- Compare and contrast a concept, subject, or experience
- Break a thing into its parts and analyze how those parts work together
- Recognize patterns and trends
- Demonstrate time management skills by organizing time and effort effectively
- Attend to accuracy and precision
- Set and strive for appropriate goals
- Persist through task completion despite setbacks
- Know personal strengths, be aware of and use available supports, and self-advocate

CLOSING REFLECTIONS

Consider the following designer insights as you plan for the work ahead.

1 System-level factors

Philly's design team member, Sandra, indicated that district compliance issues had a hand in influencing how they approached their competency design effort.

Are there system-level constraints that you will need to take into consideration before you begin? If so, consider doing some fact-finding as soon as possible to be sure you have a full understanding of the issues and how they'll impact your work. Reach out to someone — perhaps in your district's central office — who can advise you.

3 Course Design

At Bronx Arena High School, teachers are instructional designers who are expected to build courses using a consistent structure: first, sequenced learning activities combine content, core skills, and competencies; and second, three "Mastery Challenges" or performance tasks give students the opportunity to build and demonstrate their proficiency.

Consider developing and using a consistent structure for course design across all teachers to help set expectations and build continuity for students.

2 Wait — what about content?

If you've had a chance to look at the full competency sets of the design teams we've showcased above, you may have noticed that their competencies do not include specific references to things like "photosynthesis" in science, or the Civil War in history.

But isn't content knowledge important, you might ask?

Absolutely. In our conversations with designers, here is a common thread that will help you think about the appropriate place for content knowledge in your own competency model: **content areas are the "context" in which students build and demonstrate their competencies.**

Let's take Philly's science competencies, as an example. Whether in biology, chemistry, environmental science, or some other science course, students are demonstrating their ability to lead scientific investigations, develop and use models, and analyze scientific and technical texts.

Here's a quick tip: if you have specific state standards that encompass content knowledge within a subject area, ensure your teachers are using these learning standards as the content framework for the course, alongside your competencies.

References:

Sturgis, C., Rath, B., Weisstein, E., and Patrick, S. 2010. Clearing The Path: Creating Innovation Space for Serving Over-Age, Under-Credited Students in Competency-Based Pathways.

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