The main ideas of the book are:

~ The Common Core is an important step on the path to college and career readiness; it is not just a passing fad.
~ However, the standards alone are not enough. To prepare students for college and career readiness, schools need to teach a wider range of skills and knowledge encapsulated in Conley’s nationally known “Four Keys to College and Career Readiness.” This book provides a framework to organize classrooms, schools, and systems around the goal of college and career readiness.

Why I chose this book:
There is a lot of talk about whether the CCSS are here to stay. Conley admits that, “I am neither an unqualified cheerleader for nor a harsh critic of the Common Core State Standards.” However, Conley has done some of the most in-depth research, for over a decade, into the content and skills students need to be successful in postsecondary institutions. He concludes that these are the best standards we’ve had to date.

He is also unabashed in his claim that the standards are not enough. Rather than suggesting we ditch the standards, he outlines three other key areas students need to develop in order to be college and career ready. For educators of even our youngest students, there is a great deal to be learned from this book – what it means to be college and career ready and how we can instill the necessary skills to get them there.

The Scoop  (In this summary you will learn…)

✓ Why college and career readiness should be the focal point of any school’s instructional program for all students
✓ What are the “four keys” – the full set of knowledge and skills that go beyond the Common Core – that students need to be college and career ready
✓ A more thorough understanding of the CCSS as a vehicle for college and career readiness
✓ Why deeper learning is so valuable for college and career readiness
✓ How to approach the assessments of the CCSS
✓ Professional learning ideas at the end of each chapter (from Conley) and at the end of the summary (from The Main Idea)
Introduction and Chapter 1 -- The New Challenge: All Students College and Career Ready

Teachers go into the profession because they want their students to learn. And with the Common Core State Standards, they want them to learn at much higher and deeper levels than ever before. However, it is unlikely that students will truly learn unless they take more ownership over their learning. They need to be able to think about their goals and aspirations, not just for college, but for their lives, and make connections between what they are being taught and their own goals and aspirations. To help students make this connection, schools need a more concerted and explicit focus on college and career readiness.

Why College and Career Readiness?
In the mid-1970s, only half of all high school students went on to college directly after high school. Since then, that percentage has steadily increased and now in the era of the Common Core, we expect everyone to be college and career ready. Because of drastic changes in the U.S. economy, future success no longer depends on what students learned in school, but rather what they are capable of continuing to learn throughout their careers. Much of what we teach students today will not be sufficient over the course of their careers. However, the types of skills that will help them include: communication skills, technology proficiency, problem solving strategies, and the ability to be flexible and take initiative. The types of jobs that had previously been available to those with just a vocational education or a high school diploma are rapidly disappearing. Vocational and high school education worked well for its time, but now we need to re-think what we mean by preparing students to be college and career ready. How well are schools adapting? The next chapter will explore what it means to be college and career ready, and the similarities and differences in these two terms.

Awareness and Action Steps
- Explore the degree of consensus in your school on the need for all students to be college and career ready.
- Gather a small group of educators and guidance counselors to discuss: What does it look like, in concrete, observable ways, when students take ownership of their learning? What are three steps the school can take to increase student ownership of learning?

Chapter 2 – College Readiness, Career Readiness: Same or Different?

College and career readiness is both complex and contextual. It can be difficult to determine college readiness when students can choose from over 2,000 baccalaureate-granting institutions and over 1,000 two-year colleges. Furthermore, readiness is also determined by what students want to do next educationally. Students may fall slightly short in one subject area but be perfectly capable of succeeding at a postsecondary program of their choice. Therefore, we need to gauge the knowledge and skill level of students in relation to their particular goals and aspirations.

Commonalities in College and Career Readiness
Because the CCSS purport to address both college and career readiness, we may feel the need to look no further to prepare our students for life after high school. However, there is ongoing research into what exactly constitutes college and career readiness that continues to yield new insights. For example, the author, together with his colleagues at the Educational Policy Improvement Center (EPIC), has been conducted in-depth research over the past decade into what is required for students to be ready for college and career pathways. The studies involved collecting and analyzing course materials for both college and career programs and determining what students need in high school to succeed in these entry-level courses. Below is some of what they found:

- Overall, the studies showed that while there was some variation between college and career readiness, the elements that were most consistently shared were the learning skills students needed to be prepared for a wide variety of postsecondary learning environments, such as: study skills, time management skills, goal orientation, persistence, ownership of learning, self-awareness of how one is performing, seeking help when needed, and technological proficiency.
- In their 2011 study of the CCSS they also found that the content necessary for postsecondary courses varied widely, but the following English language arts standards were necessary for all courses: speaking and listening, reading informational texts, and writing in a variety of genres. Furthermore, in mathematics, the Standards for Mathematical Practices (such as reasoning and problem solving) were the standards most consistently required for success in postsecondary courses.

Connecting Student Interests and Goals to College and Career Readiness
Because of the above commonalities of skills required by both college and career postsecondary opportunities, schools need not offer distinct courses or programs at the secondary level for students with different aspirations. However, schools should provide more opportunities for students to explore their future goals and aspirations and connect these to what they are learning in school. The goal is not to have students pick occupations at an earlier age, but rather to have them identify their interests at a much earlier age so they can learn what knowledge and skills they will need to pursue their interests at the postsecondary level. By having a better sense of their future aspirations, students will be more likely to learn and retain important content and skills, including the CCSS, because they will make more connections between what they are learning now and their future.
So, how do schools create opportunities for students to explore their own interests and aspirations without creating a separate track? We can provide them with more and better counseling as well as online resources. Furthermore, we can give students assignments, projects, and activities that allow them to connect to their interests. One idea is to assign a research project to learn about the requirements and opportunities involved with a variety of career and professional paths. Students can gather data for this both online and by interviewing people about their careers or watching videos of these interviews at sites such as RoadTrip Nation. To help them explore their interests, we can ask students to answer questions that help them begin to think about college and careers (Does the student like designing things? Being outdoors? Problem solving? Etc.) By introducing these activities and assignments, we can teach all students the CCSS while acknowledging that students will demonstrate strengths and interests in different areas. Student interests should then be further cultivated to help students engage more in their learning and remain excited about their futures.

**Conley’s definition of College and Career Ready**

After eighteen years of research and study on this topic, Conley has come to the following definition of college and career ready:

Students who are ready for college and career can qualify for and succeed in entry-level, credit-bearing college courses leading to a baccalaureate degree, a certificate, or career pathway-oriented training programs without the need for remedial or developmental course work. They can complete such entry-level, credit-bearing courses at a level that enables them to continue in the major or program of study they have chosen.

**Chapter 3 – The Four Keys to College and Career Readiness**

This chapter introduces the full range of what it means to be college and career ready. While the Common Core outlines the English and mathematics content students need to be college and career ready, this chapter explores the full set of knowledge and skills students need to be prepared. It will focus on two of the four keys to college and career readiness, while the next chapter will focus on the other two. Below is a chart with an overview of these four areas. In order for students to be fully ready for college and careers, they need to have mastered all of the elements in all four keys.

<table>
<thead>
<tr>
<th>Key Cognitive Strategies</th>
<th>Key Content Knowledge</th>
<th>Key Learning Skills and Techniques</th>
<th>Key Transition Knowledge and Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Formulation</td>
<td>Structure of Knowledge</td>
<td>Ownership of Learning</td>
<td>Contextual</td>
</tr>
<tr>
<td>• Hypothesize</td>
<td>• Key terms and terminology</td>
<td>• Goal setting</td>
<td>• Aspirations</td>
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<tr>
<td>• Strategize</td>
<td>• Factual information</td>
<td>• Persistence</td>
<td>• Norms/culture</td>
</tr>
<tr>
<td>Research</td>
<td>• Linking ideas</td>
<td>• Self-awareness</td>
<td>Procedural</td>
</tr>
<tr>
<td>• Identify</td>
<td>• Organizing concepts</td>
<td>• Motivation</td>
<td>• Institution choice</td>
</tr>
<tr>
<td>• Collect</td>
<td>Technical Knowledge and Skills</td>
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<tr>
<td>Interprettion</td>
<td>• Challenge level</td>
<td>• Help seeking</td>
<td>• Admission process</td>
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<tr>
<td>• Analyze</td>
<td>• Value</td>
<td>• Progress monitoring</td>
<td>Financial</td>
</tr>
<tr>
<td>• Evaluate</td>
<td>• Attribution</td>
<td>• Self-efficacy</td>
<td>• Tuition</td>
</tr>
<tr>
<td>Communication</td>
<td>• Effort</td>
<td>Learning Techniques</td>
<td>• Financial aid</td>
</tr>
<tr>
<td>• Organize</td>
<td></td>
<td>• Time management</td>
<td>Cultural</td>
</tr>
<tr>
<td>• Construct</td>
<td></td>
<td>• Study skills</td>
<td>• Postsecondary norms</td>
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<tr>
<td>Precision &amp; Accuracy</td>
<td></td>
<td>• Test-taking skills</td>
<td>Personal</td>
</tr>
<tr>
<td>• Monitor</td>
<td></td>
<td>• Note-taking skills</td>
<td>• Self-advocacy in an institutional context</td>
</tr>
<tr>
<td>• Confirm</td>
<td></td>
<td>• Memorization/recall</td>
<td></td>
</tr>
</tbody>
</table>

1st Key: Cognitive Strategies

Fifteen years of research have shown that for students to be ready for college and career-training programs they need a certain set of cognitive strategies that can be applied in various learning situations. For example, more than simply retaining knowledge, students need to know how to process it, manipulate it, examine it, look for patterns in it, organize it, and present it. A useful definition of strategy is a systematic approach that anticipates the key problems in completing a process. Adults usually have a range of strategies to deal with daily challenges. For example, if you need to assemble something you purchased you might carefully read the directions, organize the pieces into groups, look at the picture, go online to watch a YouTube video, or you might just hire someone to do it for you! Based on your experience and your strategies, you have a variety of ways to address the problem. In analyzing college course syllabi and assignments, the author and colleagues identified five key cognitive strategies that students must be able to draw upon throughout the learning process in order to complete college-level work:
1. **Problem formulation**: Students understand the problem, identify possible outcomes, develop strategies for all aspects of the problem, formulate a hypothesis, and consider one or more plausible approaches that could lead to a solution.
2. **Research**: Students consider a range of resources or generate original data, make judgments about the quality of the data (validity, credibility, relevance), and collect the information they need to address the hypothesis.
3. **Interpretation**: Students select the most relevant information, make connections, look for patterns, and draw quality conclusions.
4. **Communication**: Students organize ideas and information purposefully, create a draft, incorporate feedback, and present an appropriate final product for an audience.
5. **Precision and accuracy**: Throughout the entire learning process, students determine and apply standards for precision and accuracy and confirm that the final product meets all discipline standards.

Teaching in ways that allow students to engage in these types of cognitive strategies is not easy. For example, students often have little experience with problem formulation because teachers tend to give students the problem. The instinct of many teachers is to take a problem and break it into a task with a series of directions and procedures to follow rather than to provide an open-ended challenge that allows for multiple possible solutions. Similarly, for research, students often simply go to Wikipedia and do not think through the credibility of sources to truly evaluate the data. Instead of true interpretation, students will merely regurgitate what they find. For communication, students typically jump to writing a full response without the requisite research and interpretation or even the revising and reviewing needed for a quality written piece.

### 2nd Key: Content Knowledge

Unlike for the other three keys to college and career readiness, the chapter’s description of this key does not include a lot of specifics about the content knowledge students need. This is because this content knowledge is already outlined in the Common Core State Standards or other college readiness standards used in the U.S. Instead, below is a list of what it takes for students to be able to learn that content effectively and efficiently:

- The content is well organized
- Key ideas are identified
- Students believe that effort will make a difference in their learning of the content
- The content is valuable to learn in the first place

The reason why it is important for content knowledge to be organized with the key ideas outlined is because it is difficult for the brain to retain information without some sort of structure. When students learn the big ideas in a discipline and understand the structure of that knowledge, they will be able to master the content more efficiently and effectively. An example of this type of organization can be found in a restructured AP Biology course with the following four big ideas identified:

<table>
<thead>
<tr>
<th>Big Idea 1</th>
<th>Big Idea 2</th>
<th>Big Idea 3</th>
<th>Big Idea 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>The process of evolution drives the diversity and unity of life.</td>
<td>Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.</td>
<td>Living systems store, retrieve, transmit, and respond to information essential to life processes.</td>
<td>Biological systems interact, and these systems and their interactions possess complex properties.</td>
</tr>
</tbody>
</table>

Furthermore, it is not enough to organize the content well, students must believe that success is based on the effort they put into learning. This contrasts with the belief that academic success depends on innate aptitude that is essentially fixed – either you can learn something or you can’t.

### Awareness and Action Steps

- What percentage of your students would be able to complete an assignment that required them to use the key cognitive strategies (problem formulation, research, interpretation, communication, and precision)? Which of these strategies would cause the most difficulty for your students?

### Chapter 4 – The Four Keys Continued: Learning Skills & Transition Skills

While content knowledge and cognitive strategies – the first two keys – are vital to success in postsecondary programs, they are not sufficient in and of themselves. Students also need to learn how to become effective learners and how to handle the challenging transition from high school to college, both of which are not necessarily taught systematically in school. In fact, when educators and policymakers talk about the “achievement gap,” they are referring to the knowledge and skills that students are missing in English and math. However, even students who are college ready in these areas often struggle in college. Why? What are the other skills these students are lacking that would help them to become successful in college? This chapter outlines what these other two key areas entail.
3rd Key: Learning Skills and Techniques
In order for students to be successful beyond high school they need to own their learning and know how to manage their learning.

Ownership of Learning
No other factor is as important to student success as the degree to which students take ownership over their learning and are allowed to do so. Below are some of the skills and dispositions students need to be able to take on this type of ownership:

- **Goal setting** – More than any other skill, goal setting gives students a reason to learn. Starting at a young age, students should learn how to set short- and long-term academic and career goals, and monitor their progress toward them.
- **Persistence** – Many educators and parents try to avoid student frustration by reducing challenges or oversupporting students. Instead, students need to learn to persist in the face of frustration and failure on the path to reaching their goals.
- **Self-awareness and motivation** – Regardless of what the teacher says, students who are self-aware know when a work product is not good enough. Further, they know how to use a combination of internal and external motivation -- even when they are not naturally excited by a task -- to complete a challenging task.
- **Help seeking** – Skillful learners know when they need help and seek it out. In college this is crucial – do they know how to join a study group? Use academic advisors? Use office hours or academic support centers?

Learning Techniques
In addition to assuming ownership over their learning, students must also develop the skills to manage their learning. The types of skills students will need to succeed in any postsecondary program are numerous and varied, but below are a few examples. Note that schools could give students a separate grade for these learning techniques in addition to their academic grade:

- **Time management** -- How to schedule, prioritize, balance work loads, and break down complex assignments
- **Study skills** -- How long to study, where to study, how to break down the material, and who to study with
- **Test taking** -- Knowing what will be on the test, which skills will be tested, how to identify weak areas, and which areas to memorize versus understand and apply
- **Note Taking** -- How to identify what is important and how to go beyond the PowerPoint to understand and apply concepts
- **Strategic Reading** -- How to preview the text, identify unknown terms, and extract key meanings not just comprehend
- **Collaborative Learning** -- Increasingly, college and career programs require students to work in groups
- **Technological Proficiency** -- Mastering the full range of programs students will find in college from word processing and spreadsheets to technologies required for a specific subject area (like projection microscopes)

4th Key: Transition Knowledge and Skills
In addition to the cognitive strategies, content knowledge, and learning skills students need to move beyond high school, they also need to learn the types of skills that will help them with the considerable transition to a postsecondary program. Most students have no idea of the scope, scale, or the severity of the transition they are about to experience. Below are five aspects of transitioning to postsecondary education that students must address in order to succeed:

1. **Contextual Issues** – Beyond knowing which high school courses they need to take, students who have a clearer idea of what they want to do with their future will be better able to know which types of institutions would be the best match for them.

2. **Procedural Issues** – Students must know the “how-to” of admissions and how to complete all parts on time.

3. **Financial Issues** – Students and families must become aware of the actual costs and the options to cover those costs. High schools can have students do research projects on college costs and create budgets. Even elementary schools can begin to educate parents about costs.

4. **Cultural Issues** – Students must learn about the different behavioral norms in postsecondary institutions. For example, teachers will no longer remind them to do work and study: they must become independent learners who take initiative.

5. **Personal Issues** – Students need to advocate for themselves so they can navigate the complex postsecondary world. They will lose their way if they can’t address a range of issues from financial concerns and academic problems to roommate issues.

Awareness and Action Steps
- Have students assess their learning skills by taking the quizzes here http://bit.ly/1XShSsF (What kind of student are you? What’s your learning style? Which study habits can you improve?).
- Introduce time management skills by having students first track how they use their time http://bit.ly/11wb1HM
- Have students take this resiliency quiz and share how they’ve persisted with difficulties in the past http://bit.ly/191hJOG
Chapter 5 – Toward Deeper Learning

College and career readiness involves much more than following one set of standards or preparing for a set of tests. The concern is that schools will break up more challenging standards into small bits and pieces and miss out on teaching for deeper learning. Deeper learning goes beyond the surface level of facts to require students to apply what they have learned in new, varied, and complex ways. To develop deeper learning, teachers need to get their students to engage actively in learning and give them an opportunity to process and integrate what they have learned, personalize it, incorporate it into their own experience, and infuse it with their own interpretations. Many of the principles of deeper learning reflect aspects of the four keys.

Knowledge Complexity Progression
When students take their basic knowledge and use it in ways that demonstrate a deeper understanding, this is the definition of deeper learning. Deeper learning is the result of the interaction between the content students learn and the skills they use. To better understand deeper learning, it helps to know the four levels of processing:

- **Declarative knowledge** – the what of content that students can repeat back
- **Procedural knowledge** – the how that involves applying the declarative content in predictable ways. Most content knowledge has rules. For example, English has rules about applying parts of speech while mathematics has rules for how the relationships of numbers work.
- **Conditional knowledge** – the when of content knowledge is about knowing when to use which technique. For example, when would you use metaphor and simile? When would you use certain statistical methods?
- **Conceptual knowledge** – the why enables learners to know why they are doing what they are doing. This helps them make strategic decisions about how to process and apply information to solve problems. When a student understands that history involves multiple perspectives, this allows the learner to do a much more sophisticated analysis.

Deeper learning occurs when students acquire both declarative and procedural knowledge and use this knowledge at the conditional and conceptual levels. A number of organizations have created more specific models of what deeper learning means so educators can assess their own practices against these models. One of those models is the author’s model – the Four Keys to College and Career Readiness Model. All of the models include students engaging deeply with meaningful and challenging content (comprehending, processing, applying, retaining, and reflecting) as well as components that address the learning process and the development of students’ social and intellectual capabilities (processing, persisting, transferring, and understanding learning as socially mediated). While there may not be one singular definition of deeper learning, the components across models are similar enough. All models see the learner as the processor of information and the creator of meaning. And, in addition, the learning must be active, engaging, social, self-monitored, and self-aware.

**Awareness and Action Steps**
- See [http://edut.io/1UPWpCz](http://edut.io/1UPWpCz) -- Bob Lenz and Ken Kay’s commentary in both Education Week and Eduutopia -- about an important decision concerning how your school can choose to implement the CCSS.
- Review course syllabi to determine the balance of declarative, procedural, conditional, and conceptual knowledge. Is one over or underemphasized?

Chapter 6 – Deeper Learning at the Classroom Level

**Characteristics of the Deeper Learning Classroom**
A classroom focused on deeper learning looks different from a classroom in which the goal is to transmit content knowledge. To achieve deeper learning, the teacher begins with crystal-clear goals. These goals are not limited to content knowledge, but rather encapsulate big ideas. For example, in biology, students would focus on about a half-dozen big ideas that help students gain greater insight into living organisms and how their systems interact. In addition to being clear about the learning goals, teachers are also explicit about how the learning is to occur and how they will assess it. Furthermore, teaching to deeper learning involves using a variety of instructional techniques and not relying to excess on directed instruction. To do this, the lesson may incorporate:

1. **Introducing** a concept – perhaps through lecture, a visual aid, a graphic, or a poster
2. **Processing** the the concept through exercises in which students manipulate the information from the lecture
3. **Integrating** the key learnings through an activity in which students apply the concept in a nonroutine way

In deeper learning classrooms, teachers design challenging tasks that help students make connections between their interests and aspirations and the material. When they do this, students are more likely to take ownership over their learning. Furthermore, throughout the different phases of the lesson, it is important that students feel trust and support in the classroom. And finally, to foster deeper learning, teachers have students reflect on their own thinking. Here are some examples of ways students can reflect:

- They consider alternatives they had not originally considered.
- They examine how they could have gained deeper insight into the problem.
- They consider how they are organizing their time and prioritizing their tasks.
- They assess their relationships with others including those who think differently and might offer new insights.
Challenges to Developing Deeper Learning in the Classroom
It is not easy to incorporate all of the elements of a deeper learning classroom into one’s teaching. Below are some of the challenges educators face in trying to do so:

Teacher Understanding of Subject Matter: When teachers don’t have a deep understanding of their content area – whether it is the scientific method, literary analysis, or mathematical proofs – they are unlikely to give assignments that require deeper thinking and stick to simpler questions with right or wrong answers. Most schools are reluctant to determine if there are any gaps in teacher content knowledge themselves and instead rely on a teaching license or certificate. Principals can do a better job with this by observing in classrooms, and if a teacher only conducts low-level activities, it may be that the teacher does not have a strong grasp of the subject.

A Wide Range of Instructional Strategies: To incorporate deeper learning into their teaching, teachers need to know how to utilize a range of instructional strategies such as: how to focus lessons on key ideas, not just content; how to make connections to what has been learned previously; how to make material relevant; how to question students to cause them to think deeply; how to develop challenging tasks; how to help students reflect to learn from their learning; and how to help students manage social learning situations.

Time for Deeper Learning – Deeper learning simply takes time. First, teachers need to know how to allocate time by prioritizing key concepts rather than attempting to “cover” everything. Then they need to know how to change the pace and the amount of time for content introduction, guided practice, explanation and discussion, deeper exploration and integration, application, and reflection.

Creating a Culture of Deeper Learning – This is a challenge for the school. If deeper learning isn’t seen as centrally important and if the culture is centered around improving test scores rather than deeper learning, it is very hard for deeper learning to take hold in individual classes. Schools should assess their culture to determine if the school is ruled by an academic learning culture or a youth culture. Do teachers publicly model deeper learning? Does the school award deeper learning? Are those students who engage in deeper learning seen as outcasts? Once the school has a sense of its culture, it can put together a work group to address any concerns.

Knowing How to Assess Deeper Learning – In a deeper learning classroom, teachers need to formatively assess students on multiple occasions and not just at the level of the number of right and wrong answers. Assessment tasks should address the full range of skills, not just the lower level, and students should be aware of the criteria by which they will be judged. Below is an excerpt of a scoring guide that can be used to assess deeper learning (definitions of the characteristics of learners in the left-most column are on pp. 132-4):

<table>
<thead>
<tr>
<th></th>
<th>Emerging Novice</th>
<th>Novice</th>
<th>Accomplished Novice</th>
<th>Emerging Strategic Thinker</th>
<th>Strategic Thinker</th>
<th>Accomplished Strategic Thinker</th>
<th>Emerging Expert</th>
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<tr>
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<td>Concept Formation</td>
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<td>Integration</td>
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<tr>
<td>Solution Seeking</td>
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Deeper Learning, the CCSS, and College and Career Readiness
The good news is that the CCSS have the potential to steer schools in the right direction when it comes to deeper learning. The standards establish a framework that incorporates increasingly complex skills into instruction and assessment, they link key ideas across various grade levels, and they align with what research shows students will need in postsecondary courses. However, the standards remain a first step in the right direction. There still needs to be work in developing deeper learning outside of English and mathematics, in subjects such as science, social studies, and the arts – each of which needs to challenge students to think at increasing deeper levels. We still need to consider how to nurture deeper thinking in these areas as well.

Awareness and Action Steps
• Read Snapshot of a Deeper Learning Classroom: Aligning TED Talks to the Four Cs (bit.ly/13Z2G0T) to see how a teacher integrates collaboration, communication, critical thinking and creativity into a unit on TED Talks.
• Set a goal of having all classrooms do at least one activity that requires deeper learning skills (problem formulation, research, interpretation, communication, and precision and accuracy).
Chapter 7 – A Closer Look at the Common Core State Standards

This chapter looks at both where the standards come from, and how the standards are organized. Knowing more about the rationale for the creation of the standards will help educators implement them in the way they were intended. Because the history of the development of the standards has been well documented elsewhere, this discussion is not included in the summary. However, Conley points out that because two different subject-area groups worked independently to create the English language arts and mathematics standards, these two sections not only vary in their organization and structure, but the introductory sections of each also differ. The introductions are particularly important in understanding the rationale for the standards, and Conley has actually written a supplement to the introduction that provides more information about the rationale for them. It is available to download along with the standards. Much of this chapter details how the ELA and mathematics standards are organized. As this has been described in great detail elsewhere, this is also not included in the summary. However, the chapter outlines some important shifts, identified by the New York State Education Department, that teachers will need to make in order to teach the CCSS successfully. These shifts include:

**ELA/Literacy Shifts**

- **Balance literacy and informational texts** – This is frequently misunderstood, but teachers need to be able to teach students how to read information texts correctly.
- **Build knowledge of subject areas through texts** – There will be an increased emphasis on texts as a way for students to deepen their understanding rather than relying on teacher presentations or activities.
- **Text complexity is more explicit and systematic** – Students will spend more time reading closely and developing reading skills even beyond primary grades.
- **Evidence to support arguments** – Students will learn to regularly use evidence in their arguments and responses.
- **Academic vocabulary** – Students will need to introduce and use the vocabulary specific to their subjects.

**Mathematics Shifts**

- **Focus on concepts** – Students will need a better grasp of mathematical concepts so they understand them more deeply.
- **Progression of knowledge** – Like in ELA, mathematics instruction will be built on progressions of knowledge across grade levels. Teachers will need to incorporate the knowledge and skills students have learned in previous grades.
- **Fluency** – Teachers will need to ensure that students learn fundamental skills well enough that students develop fluency and automaticity in their ability to calculate or apply the material.
- **Deep understanding** – Teachers will need to find new ways for students to interact with, use, and apply the mathematics so students develop a deeper understanding of it. This means teachers must also deeply understand the material and be able to explain why as well as how.
- **Application** – CC mathematics is designed to be applied outside of the classroom. This is how deeper thinking will occur by transferring what is being learned in one setting to another.
- **Balance practice and understanding** – Students need time to both practice what they have learned as well as to understand why they are doing it.

Overall, these standards are different from previous standards because they require teachers to collaborate so that literacy and numeracy skills can be developed throughout all subjects rather than taught in isolated bits and pieces. This is why it is important for all teachers to have a complete understanding of the standards regardless of what they teach. Of course, there are some problems with the CCSS – they do not address all subjects, they do not serve as a curriculum in and of themselves, they still require a great deal of translation to the classroom, they do not outline what proficiency means at all levels, and teachers still require a great deal of professional development to implement them well. However, this should not be understood as finding fault with the standards. Instead, naming these challenges should point the way to the work that is still to be done to implement them successfully.

**Awareness and Action Steps**

- Skim the introduction to the CCSS and discuss what questions still remain unanswered.
- Look at these CCSS resources developed by the National Council of Teachers of English that discuss the key shifts in the ELA standards: bit.ly/15avOM (resources on close reading, text complexity, nonfiction texts, and literacy as a shared responsibility).

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Chapter 8 – The CCSS and College and Career Readiness

**Research Behind the CCSS**

The Common Core State Standards were specifically designed to prepare students to be college and career ready. The question is, do they actually succeed in doing this? We are several years away from being able to conduct a study of how well those students who are proficient in the standards succeed in college and careers compared to those students who are not proficient in the standards. However, we can examine the results of the Reaching the Goal study by the Educational Policy Improvement Center (EPIC). In this study, postsecondary instructors from a wide range of institutions and courses analyzed each Common Core standard and determined its applicability and importance to their course. Instructors of almost two thousand courses reviewed the standards. Here is some of what they found: all instructors rated the ELA and literacy standards for nonliterary reading and writing applicable and a large percentage...
rated the speaking and listening standards applicable. Almost all math instructors (as well as others) rated the Standards for Mathematical practice as applicable, but not all of the other math standards were considered applicable to all of the postsecondary math courses (for example, both functions and geometry were rated applicable only to a small percentage of math courses). Overall, almost all of the CCSS were rated applicable and important to range of postsecondary courses.

Who’s Responsible to Teach the CCSS
When certain standards are neglected or are taught poorly, this leads to significant problems for students at the next grade level. To address this, schools should be explicit about which teachers are responsible for teaching which standards. At the elementary level, the teacher who has the students for the majority of the day is usually the one responsible. However, not all elementary teachers are comfortable teaching all standards. If this is the case, professional development may help, or schools may want to consider regrouping students during the day so they can be with those teachers who are strongest in teaching certain standards during part of the day.

At the secondary level, the standards are not meant to be taught exclusively by English and math teachers. To be fully understood, standards need to be taught multiple times across multiple subjects. However, just like with elementary teachers, high school English teachers may not feel comfortable teaching informational texts or math teachers may feel unprepared to teach applications of math to other subjects. Teachers are going to need to coordinate much more than they have in the past to ensure that standards are taught by those instructors who best understand them.

Challenges in Implementing the CCSS
There are many challenges to implementing the CCSS. Below are a few examples to consider.

Analyzing Verbs Not Just Nouns – Many educators attempt to align their current standards with the CCSS. However, most alignment activities focus on the nouns, not the verbs. While the nouns indicate what should be learned, it is the verbs that point to the level of proficiency expected. For this reason, educators must take the time to analyze the verbs to help them fully understand each standard.

Nonfiction vs. Fiction – The amount of time to spend reading informational texts versus literature is one the least understood aspects of the CCSS. At the elementary level it is recommended that teachers spend half the time teaching literature and half teaching informational texts and the latter should increase to seventy percent in high school. However, this does not mean that this time comes entirely from ELA. Instead, this is the breakdown of the reading that should be done across all courses.

Quantity of Writing – The standards demand a great deal of writing and much more variety than the six-paragraph essay. Furthermore, students are expected to write within the class period and over an extended time period. Teachers are often concerned about assigning a lot of writing because it is so time consuming to read and comment on all of that writing! However, teachers are finding new ways of evaluating writing more efficiently such as through the use of rubrics. Below is another suggestion:

Research, Speaking, and Listening Skills – Because college instructors are expecting more when it comes to research, gathering and weighing evidence is emphasized in several parts of the Common Core. Furthermore, speaking and listening skills at the postsecondary level are in even greater demand than specific ELA or math skills. Students need to be explicitly taught speaking and listening skills and given feedback on them as well.

Role of Elementary Teachers – Elementary school teachers may feel left out of the discussion of how to implement the CCSS in ways that prepare students for college and careers. However, the role of elementary teachers is extremely important in laying the foundation for skills students will need throughout their K-12 experience. For example, one important task for elementary teachers is to develop students’ understanding and use of academic vocabulary. There are hundreds of academic words students need to learn in elementary school to be successful in school later on. These include academic nouns (such as genre, symbol, and chronology), verbs (such as analyze, foreshow, and hypothesize) as well as adjectives and adverbs (such as concise, significant, and figurative).

Awareness and Action Steps
• Provide training on teaching the CC skills that are foundational to their subject area to teachers outside ELA and math.
• Develop a plan for integrating key reading and writing skills into science and social studies. Agree on a series of research papers in these subjects at each grade level to incorporate literacy skills.
Chapter 9 – The Consortia Assessments and College and Career Readiness

Another way the CCSS are different from previous sets of standards is that two different assessment systems were designed to measure a subset of these standards—the Partnership for the Assessment of Readiness for College and Careers (PARCC) and Smarter Balanced Assessment Consortium (SBAC). Note that the assessments from these two consortia are far from finalized and will continue to be adjusted and tweaked in years to come. For this reason, this chapter does not provide an in-depth description of these two assessments as they will continue to be a work in progress.

Goals of the Consortia Assessments

SBAC and PARCC came about as a result of the US Department of Education’s competition in 2010 to design an assessment system to accomplish the following goals:

1. Be aligned to college and career readiness standards
2. Measure the full range of knowledge and performance on those standards
3. Reflect classroom instructional practice
4. Support continuous student achievement
5. Provide timely information to determine educator and school effectiveness
6. Identify professional development goals
7. Improve instructional programs
8. Guide instruction

While it is highly unlikely that any one assessment can realistically address all eight of the above goals, the two consortia are the closest to having created the best tests of their kind ever. There are many challenges in meeting these eight standards, but even if all the consortia do is to create common measurements of the CCSS, then they should be considered a success. At any rate, the consortia assessments are at least a first step in beginning to meet the Department of Education’s goals.

Characteristics of Each Consortium’s Assessment

The two assessments have some similarities and some differences. While both assessments use computers, one major difference is that SBAC uses a computer-adaptive approach. This means the test adapts based on the level of the individual student taking the test. If she gets a question right, then she will get slightly more difficult questions each time until she starts to answer incorrectly. In contrast, PARCC uses a fixed-form exam. With this approach all students answer the same exact questions—much like the paper-and-pencil exams we are used to—except that students bubble in answers online. The benefits and drawbacks to each are described in the chapter.

One similarity the assessments share is that both include performance tasks. These are more complex products that students create in the classroom and which require more cognitively complex skills. Examples include research papers or math problems with multiple steps, and the use of data. Although these are more time consuming and expensive, these tasks assess the types of higher-level skills required by the CCSS. Both consortia also combine the results of these performance tasks with the scores from the computer test.

Both the Smarter Balanced and PARCC assessments claim their results will demonstrate which students are college and career ready. However, there are a wide variety of postsecondary institutions, so should all students have to show the same level of mastery in all areas or be able to compensate for weaker areas with strengths in other areas? This raises the question of whether states should use a conjunctive or compensatory approach. With a conjunctive system all students must meet one set level of performance. However, with a compensatory system, students can have strengths in some areas that compensate for weaknesses in other areas. A student who wants to enter a program with a bookkeeping emphasis may not need the same level of math knowledge as one who wants to enter a pre-engineering program. Regardless of the approach, students should have the opportunity to learn all of the CCSS.

How to Prepare Students for the Assessments

There is no magic bullet when it comes to preparing for these assessments. In fact, last-minute cramming does not work because the assessments test students on a deeper level of learning. Therefore, the best way to prepare is to integrate the type of higher-level skills required by the CCSS into teaching and learning throughout the year. Another suggestion is to make use of the interim and formative assessment resources provided by the consortia. These will help students and teachers see what is working and what needs to be improved long before the assessments.

Overall, these two assessments are ambitious attempts to determine how well students have mastered the CCSS and it is yet to be seen how well they are able to do this.

Awareness and Action Steps

• Help teachers become more familiar with performance tasks by sharing examples online in Appendix B of the CC ELA Standards and having teachers score a common performance task and compare results.
• Review your school’s strategy for preparing for your consortium’s assessment. Is the emphasis on short-term prep? What role do formative and interim assessments play in guiding instruction and diagnosing student need?
• Because both consortia include on-demand writing, have teachers build on-demand writing into their classes to help with time management and to reduce anxiety.

Chapter 10 – A System of Assessments

Chapter Three introduced four keys to college and career readiness, that is, four different areas students need to develop their skills in so they can succeed in college and other postsecondary institutions. In order to fully assess whether students have developed these skills successfully, schools will need to use a much wider range of data sources to determine this readiness than just the consortia assessments. As was mentioned earlier, the consortia assessments don’t even address all of the CCSS let alone the entire set of skills students need to succeed after high school. Therefore, states, or at least schools, should consider moving toward a system of assessments if they want to provide a more nuanced and accurate picture of student postsecondary readiness.

Some schools and states already use a wider range of assessments than just the consortia assessments. For example, some schools include more complex performance assessments as part of their system – schools in the New York Performance Standards Consortium and the Coalition of Essential Schools are examples of this. While some may argue with the amount of assessment occurring in the state of Kentucky, they do use a combination of a wide variety of assessment measures (ACCESS, ACT, EXPLORE, K-PREP, and other assessments). Having a range of data sources helps to meet the needs of the variety of constituents who use the data – teachers, principals, superintendents, and boards of education; college and university personnel; state education department staff, legislators, and governors; parents; the business community; and more. It is particularly important to rely on a range of data sources if high stakes decisions (about remediation, placement, admissions, or financial aid) are going to be made as a result of assessment data.

This does not mean schools need to adopt more standardized tests. A system of assessments can include end-of-course exams in areas other than reading, writing, and math; surveys of student learning skills to determine if students are becoming lifelong learners; inventories of student knowledge about college selection, admissions, and financial aid; and performance assessments that go beyond what the consortia assessments can test (deeper thinking over longer periods of time). A student profile is a way to compile all of the data from these different assessments into a single report. Below is an example of the measures that might be included in a student profile:

- Common Core State Standards consortia exams
- Admissions tests (e.g., SAT, ACT)
- Classroom-administered performance tasks (e.g., research papers)
- Oral presentations (to assess speaking and listening skills not assessed by the consortia)
- Teacher rating of student note-taking skills, ability to follow directions, persistence, and evidence of other learning skills like ownership of learning
- Grade point average
- Student self-report on actions to achieve goals
- Student postsecondary plans

Education lags behind other sectors that already have multidimensional, real-time data systems. Because college and career readiness is such a multi-faceted phenomenon, it is essential to have a system of assessments, not a single assessment, to determine readiness.

**Awareness and Action Steps**
- Create a hypothetical student profile. Which additional skills, knowledge, and abilities would it include?

Chapter 11 – Where to From Here?

In the last chapter, Conley speculates about the future: How will college education look different? Will the Common Core State Standards still exist? Will the consortia assessments be important? Whole books have been written on these possibilities, but this chapter highlights just a few key issues. For example, determining college and career readiness is likely to be much more data driven. This has the potential to not only better match students with their aspirations, but also to increase first-year college success rates and reduce debt. To learn more about what the future of college and career readiness may look like – possible competency-based models, a blurring of the line between high school and college, the future of the CCSS and consortia assessments, revising the CCSS, and the implementation of it all -- see Chapter 11 in the book.

Although many challenges remain with respect to the Common Core State Standards, the likelihood is high that they will be around for awhile. Even if states abandon them, any new standards would be greatly influenced by the CCSS. However, any set of standards alone will not improve education. Neither will any particular assessment dramatically improve student achievement on its own. Instead, these two elements need to be combined with high-quality instruction as well as increased student involvement in and ownership over their learning. This book began by emphasizing how important it is to more actively involve students in their own learning and the CCSS can be a tool to do this. However, instead of simply replacing old standards with the CCSS, we need to engage students so they want to take charge of their futures. This means we need to adjust instruction to connect the content with student interests and aspirations, and make sure postsecondary education is a plausible and key focal point for their futures.
I. Help Teachers Provide Opportunities for Students to Explore Their Future Aspirations

When students have a clearer idea of their future goals and aspirations this helps in several ways. First, we can better determine if they are ready for a particular postsecondary path. In addition, Conley argues that students who have a better sense of their future aspirations are more likely to learn and retain content and skills (including the CCSS) because they will make more connections between what they are learning now and their future.

It’s never too early to help students begin to identify their interests and aspirations (even in elementary school!) Teachers can do this through surveys and research.

A. Have teachers create or find a survey of student interests to give to students

a. Create or find the survey

This doesn’t have to be complicated. At a staff meeting, give teachers time to work in small groups and to poke around the Internet to develop a list of questions they can have their students answer about their futures. For ideas for questions, take a look at this student survey (the ONET Interest Profiler https://www.mynextmove.org/explore/ip) and this survey (“Which Careers Match Your Skills?” -- http://www.educationplanner.org/students/career-planning/find-careers/careers.shtml.) To take the survey, older students can write answers and reflect in groups and younger students can discuss their answers.

Sample questions from Conley’s book. Does the student like:

- Working with people?
- Being outdoors?
- Engaging in problem solving?
- Designing things?
- Applying logic to reach a conclusion?
- Organizing processes?
- Overseeing and directing a group toward a goal?
- Helping others?
- Creating visually interesting projects?
- Interacting across cultural and linguistic barriers?
- Addressing social problems to improve the world?

b. Discuss the results

Once students take the surveys, come back as a group to discuss the results. What are our students interested in for their futures? Were there any patterns? In what ways can teachers make connections between the students’ interests and class materials? At a school leader/cabinet meeting – how can we foster these students’ interests at the school level (create a garden, look for volunteer opportunities, team up with a local architect to redesign part of the school, etc.)?

B. Have teachers design opportunities for students to research different career or professional paths

After students have started to explore their interests through the survey above, teachers can assign a research project to help them learn about the requirements and opportunities involved with a variety of career and professional paths. Students can gather data for this both online and by interviewing people about their careers or watching videos of these interviews at sites such as RoadTrip Nation (note there is a fee to watch interviews of people in different fields: http://roadtripnation.com).

Have students research different aspects of a few careers (this can be adapted for students in all grades): Why are you interested in this career? What qualities/skills/knowledge do you need for this career? What are the working conditions like? What does a typical day in this job look like? What type of education or training do you need for this career path? Are there postsecondary institutions that are particularly suited to help you prepare for this career? What could you do to learn more about this career?

By further cultivating student interest in their futures, we can help engage students more in their current learning.
II. Help Teachers Ensure Students are College and Career Ready

A. Have teachers brainstorm the types of skills students will need to succeed in postsecondary institutions

Before introducing this section, ask teachers, “Do you think it’s enough to cover the CCSS to help students become college and career ready?” If not, have them brainstorm all of the skills they believe students will need to both choose a postsecondary institution and then be successful there. This is useful even at the elementary level.

B. Introduce teachers to the Four Keys to College and Career Readiness and conduct a self-assessment

Conley clearly shows that while proficiency in the CCSS is necessary for students to be college and career ready, it’s not enough. In fact, he outlines four key areas students need to develop in order to be prepared, only one of which includes the CCSS:

<table>
<thead>
<tr>
<th>The Four Keys to College and Career Readiness</th>
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<tbody>
<tr>
<td>1. <strong>Content Knowledge</strong> – Outlined in the CCSS</td>
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<tr>
<td>2. <strong>Cognitive Strategies</strong> – Problem formulation, research, interpretation, communication, precision and accuracy</td>
</tr>
<tr>
<td>3. <strong>Learning Skills and Techniques</strong> – Ownership of learning (goal setting, persistence, self-awareness, motivation, help seeking, progress monitoring, and self-efficacy) and Learning techniques (time management, study skills, note taking, test taking, memorization, strategic reading, collaborative learning, and technology skills)</td>
</tr>
<tr>
<td>4. <strong>Transition (to college) Knowledge and Skills</strong> – Knowing your aspirations, college norms, institution choice, admissions process, tuition, financial aid, and self-advocacy in an institutional context</td>
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</table>

Distribute the four keys, above, to all teachers. Answer any clarifying questions about what any of the skills mean (see Chapters 3 and 4). Then have teachers rate each skill (such as ‘problem formulation’) twice – How well does the school promote this skill on a scale of 1 to 5? How well do I incorporate this skill into my class? (1 = not at all to 5 = extremely well). Focus on the 2nd, 3rd, and 4th keys. Then discuss which areas need to be strengthened throughout the school and in specific classes.

C. Have teachers plan to incorporate more of the keys into their instruction

Focus on the 2nd or 3rd key. Ask teachers to come to a meeting with an outline of their next unit or project. Then have them adjust their plans to incorporate more of the skills needed for students to be college and career ready. Once they’ve made revisions, have them meet in pairs or small groups to share the changes they’ve made and to get feedback.

<table>
<thead>
<tr>
<th>2nd Key – Cognitive Strategies</th>
<th>3rd Key – Learning Skills and Techniques</th>
</tr>
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<tbody>
<tr>
<td><strong>Problem Formulation</strong></td>
<td><strong>Ownership of Learning</strong></td>
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<tr>
<td>• Hypothesize</td>
<td>• Goal setting</td>
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<td>• Strategize</td>
<td>• Persistence</td>
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<td><strong>Research</strong></td>
<td>• Self-awareness</td>
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<td>• Identify</td>
<td>• Motivation</td>
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<td>• Collect</td>
<td>• Help seeking</td>
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<td><strong>Interpretation</strong></td>
<td>• Progress monitoring</td>
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<tr>
<td>• Analyze</td>
<td>• Self-efficacy</td>
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<tr>
<td>• Evaluate</td>
<td><strong>Learning Techniques</strong></td>
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<td><strong>Communication</strong></td>
<td>• Time management</td>
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<td>• Organize</td>
<td>• Study skills</td>
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<tr>
<td>• Construct</td>
<td>• Test-taking skills</td>
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<tr>
<td><strong>Precision &amp; Accuracy</strong></td>
<td>• Note-taking skills</td>
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<td>• Monitor</td>
<td>• Memorization/recall</td>
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<td>• Confirm</td>
<td>• Strategic reading</td>
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<td></td>
<td>• Collaborative learning</td>
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