Task-Oriented Reading: A Framework for Improving College Students’ Reading Compliance and Comprehension

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Task-Oriented Reading: A Framework for Improving College Students’ Reading Compliance and Comprehension

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**ABSTRACT**

Undergraduates report a variety of reasons for not reading assigned text(s), including confusion regarding instructors’ expectations, while faculty report using reading as a major instructional tool and attest to the negative consequences of students’ lack of reading. To bridge this divide, we propose Task-Oriented Reading Instruction (TORI) as a theoretically-based framework which faculty can use to explicitly communicate reading goals to students, specify effective reading strategies, and align class assessments with assigned reading goals. Synthesizing educational and psychological research on effective reading, this general framework can be applied across courses and disciplines.

College and university faculty consider reading to be both central to and essential for student learning (Jones 2001; Richardson 2004). Results from faculty interviews and student surveys show that faculty expect college students to be able to read at an advanced level, synthesizing and critically evaluating information (Burrell et al. 1997; Chase, Gibson, and Carson 1994; Hoefl 2012; Lei et al. 2010; Ryan 2006). In addition to this high quality of reading, students are expected to complete a significant quantity of reading. In a study of reading load across courses, biology students were assigned 450 pages of reading, containing over 1,000 technical terms, over a 10-week term, while students in American History were assigned 800 pages of reading every quarter (Chase, Gibson, and Carson 1994). Yet faculty report frequent concern with students’ inability to meet these expectations, while students express frustration with the volume of reading that they are asked to complete and its lack of relevance to course content and performance (Baier et al. 2011; Chase, Gibson, and Carson 1994; Clump, Bauer, and Bradley 2004). The central role of reading in college-level learning, paired with the misalignment between faculty and student expectations regarding reading, point to the need for an intervention to address undergraduates’ reading compliance and comprehension. In this paper, research from education and psychology are integrated to introduce an instructional framework that faculty can use to better support undergraduate reading. This framework is called Task-Oriented Reading Instruction (TORI).

**The state of college reading**

**Faculty expectations regarding reading**

Reading plays a central role in college-level learning. Reading serves as an alternate form of delivering content to students and contributes to meaningful learning outside of the classroom (Fernald 2004; Fitzpatrick and McConnell 2009). Before class, readings familiarize students with course content, enabling professors to devote class time to activities focused on discussion, debate, and critical thinking (Berry et al. 2010; Bramhall 2009; Fitzpatrick and McConnell 2009). After class, readings serve a supplemental capacity, offering students examples, explanations, perspectives, and practice problems beyond those available during class (Fitzpatrick and McConnell 2009; Taraban, Rynearson, and Kerr 2000). Additionally, reading can expose students to discipline-specific terminology and academic discourse at an accessible level (Berry et al. 2010; Burton 2014; Issitt 2004). For these reasons and others, instructors expect students to devote more time to reading textbooks and other assigned materials than students spend in class (Brost and Bradley 2006; Fitzpatrick and McConnell 2009; Phillips and Phillips 2007). Further,
faculty report expecting students to complete the reading independently, outside of class time and with relatively little guidance or support (Chase, Gibson, and Carson 1994; Fitzgerald 2004; Koslow Martin 2010).

**Students’ reading behavior**

In sharp contrast to faculty expectations, the majority of students do not complete the reading that is assigned (Clump, Bauer, and Bradley 2004; Sappington, Kinsey, and Munsayac 2002). Studies have consistently found the rate of reading compliance to only be between 20 and 30 percent (Burchfield and Sappington 2000; Sikorski et al. 2002), with 72% of students reporting rarely or never completing course readings by the date that they are assigned (Connor-Greene 2000). When students do attempt to read college level course material, they demonstrate insufficient skills needed to meet this goal, including a limited degree of cognitive and metacognitive strategy use, or a failure to monitor comprehension and to deploy strategies accordingly (Pressley et al. 1995; Saumell, Hughes, and Lopate 1999; Taraban, Rynearson, and Kerr 2000). This may be because only 50% of undergraduate students achieved SAT cutoff scores indicating readiness for college-level reading (Wyatt et al. 2011). This lack of preparedness results in students struggling with the semantic demands (i.e., vocabulary), syntactic complexity (i.e., sentence structure and writing style), and conceptual difficulty (e.g., understanding abstract concepts) of college-level reading, as well as with overall reading volume (Anderson 2015; Chase, Gibson, and Carson 1994; Williamson 2008).

Limitations in student’s reading skills, coupled with the increased demands of college-level reading, have resulted in low levels of reading compliance and comprehension (Kerr and Frese 2017; Ryan 2006). The resulting limitations in students’ learning are serious. Students not only miss core information presented in the readings (Ippolito, Steele, and Samson 2008; Roberts et al. 1990) but also miss information due to faculty spending class time reviewing the reading content instead of introducing new information, lowering the demands for critical thinking (Brost and Bradley 2006; Burton 2014; Pitts, White, and Harrison 1999; Sappington, Kinsey, and Munsayac 2002). Such deficiencies in reading and learning can also result in students receiving lower course grades or failing courses altogether (Hartwig and Dunlosky 2012; Sappington, Kinsey, and Munsayac 2002; Taraban, Kerr, and Rynearson 2004). Unfortunately, these deficiencies can persist into college and beyond. The National Center for Education Statistics (2017) found that 36% of adults who received at least some education past high school were not considered proficient readers, struggling with tasks such as drawing complex inferences and evaluating sources.

**Current efforts to develop college reading**

Given the challenges that undergraduates experience with college-level reading, considerable efforts have been made toward improving its quality and frequency. Historically, the most common response to deficits in students’ reading has been to refer students to remediation or to developmental reading courses focused on strategy instruction (Caverly, Nicholson, and Radcliffe 2004; Cox, Friesner, and Khayum 2003; Hodges and White 2001). Remediation programs or courses can teach students rudimentary skills such as deciphering vocabulary terms, creating mental images while reading, or using concept-mapping to identify relationships between concepts in text (e.g., Gamel 2015; Romance 2012; Smith 2016). At the same time, these developmental programs have been critiqued because they have demonstrated little impact, because they are not readily available for all students in need of help, and because they create barriers to college completion, sometimes requiring students to enroll in college-level courses prior to earning college-level credit (Karabenick and Knapp 1991; Kitsantas and Chow 2007; Maxwell 1997).

Other interventions focus on higher-level skills, such as the *Self-Explanation Reading Training* (SERT) program (McNamara 2004), which teaches students to use strategies such as paraphrasing and inferencing while reading. Although found to be effective in some studies, remediation programs such as these have been critiqued for a variety of reasons (Boylan 1999; Engstorm 2008; Gelene and Bentley 2005; Fleischerner 1996; Napoli and Hiltnner 1993; Yang 2010). Concerns include the domain-general nature of these approaches and their emphasis on generic reading skills, which do not necessarily prepare students for reading in their content areas (Fujimoto et al. 2011; Lee and Spratley 2010; Merisotis and Phipps 2000; Shanahan and Shanahan 2008). Also, while these student-directed interventions have been shown to improve comprehension of low-knowledge students responding to questions of low cognitive complexity, some have had limited effects on higher cognitive complexity questions or on the reading of high-knowledge students (e.g., McNamara 2004). Further, even
those programs that encourage faculty to develop students’ domain-specific, high-level reading (e.g., the Reading Apprenticeship Approach by Schoenbach, Greenleaf, and Murphy 2012, 2017) acknowledge that they require extensive in-class teaching and present a “significant commitment” (Schoenbach, Greenleaf, and Murphy 2017, 21).

Recently, colleges and universities have offered reading remediation courses with a slightly broader focus. For example, the University of Santa Cruz’s freshman curriculum added a course focused on helping students identify reading genres, strategies, and purposes for reading (Johnson 2019). Similarly, Merrill College has designed a course to address both reading and college-level thinking skills. Preliminary results showed some gains in students’ ability to analyze text, but lesser gains for higher-skilled students and international students (Johnson 2019). While initial results are hopeful, it is important to remember that the domain-general, task-independent nature of these approaches can be problematic because successful reading depends heavily on choosing reading strategies in response to the specific reading task assigned (Pressley et al. 1995; Taraban, Rynearson, and Kerr 2000; van den Broek et al. 2001; Wade, Trathen, and Schraw 1990) and because students have been found to experience difficulties with transferring general reading strategies across contexts (Hattie, Biggs, and Purdie 1996; Pintrich and Garcia 1994). Moreover, in both cases these interventions constitute semester-long courses, representing significant financial and time commitments for students.

In addition to program-wide or course-wide interventions, a variety of smaller-scale pedagogical techniques have been recommended to increase students’ reading, such as adding quizzes, graded assignments, and/or in-class discussions (Hoefft 2012). Other strategies focus on developing students’ motivation to complete reading prior to class, such as using a social learning platform to collectively annotate a text (Miller et al. 2018). In one case, students used a digital platform to collectively highlight and annotate a shared text, allowing them to identify common points of understanding or confusion. Using this method, Miller et al. (2018) reported high rates of reading compliance and increased performance on exams. Similarly, some faculty have developed their own videos demonstrating the critical reading skills needed for their particular course, such as the “Close reading interpretive tool” used in a general education English course at UT-Austin (Johnson 2019).

As with course-wide remediation, several concerns accompany these smaller-scale interventions as well. First, some of the strategies typically recommended to faculty for increasing student reading (e.g., unannounced reading quizzes) do not align with some faculty’s pedagogical approach, and they sometimes do little to improve the actual quality of students’ comprehension (Burchfield and Sappington 2000; Connor-Greene 2000; Sappington, Kinsey, and Munsayac 2002). Relatedly, recommendations centered around using assigned reading as a basis for in-class activities (e.g., Chickering and Gamson 1987; Oros 2007; Price 2004; Rocca 2010) may be of limited efficacy when students do not complete or comprehend the assigned reading, and may not be viable approaches to adopt within the context of larger class sizes. Exacerbating these problems is that there is little guidance for faculty regarding how to distinguish between or select from among the numerous existing strategies (Holschuh and Paulson 2013), and borrowing from existing interventions is not always feasible, as reading skills may not translate across disciplines (Shanahan, Shanahan, and Misischia 2011). Relatedly, most faculty report lacking the time and expertise to develop such interventions for their own classes, acknowledging low levels of self-efficacy for undergraduate instruction generally and for reading specifically (Chang, Lin, and Song 2011; Stark and Lattuca 1997; Sunal et al. 2001). Faculty also report stress due to the demands of assisting underprepared students and feeling isolated in their efforts to do so (Lindholm et al. 2005; Pitts, White, and Harrison 1999). Finally, these approaches have tended to assume that students’ reading deficits are skill-based, when ample research shows that other factors significantly impede students’ reading, including confusion regarding faculty expectations for reading (Berry et al. 2010; Hobson 2003; Hobson 2004), uncertainty regarding how to prioritize reading (Chase, Gibson, and Carson 1994; Collier and Morgan 2008), and frustration about the lack of reference to the assigned readings during class (Baier et al. 2011; Clump, Bauer, and Bradley 2004; Gillespie 1997).

**Task-Oriented Reading Instruction**

Students’ struggles to meet the demands of college-level reading, the consequences of their poor performance in this area, and the current lack of effective faculty-led interventions serve as the impetus for our development of the Task-Oriented Reading Instruction framework. The purpose of this article is
to synthesize research pertaining to college students’ reading into an instructional framework for faculty to use when concerned about their students’ reading behavior. Drawing on decades-long research traditions in both education and psychology, Task-Oriented Reading Instruction is predicated upon the idea that assigning students explicit, specific goals for reading will result in task-oriented reading behaviors.

**Empirical foundation of TORI**

To effectively guide students through the quantity and quality of reading they must complete, we first introduce the primary characteristics that define college-level reading in particular, and effective reading in general.

**Characteristics of college reading**

**Domain-specific**

First and foremost, college-level reading is domain-specific. The texts that students are asked to read are informed by the epistemic aims and practices of particular domains, which students may or may not yet recognize or understand (List 2020; Moje 2007; Shanahan and Shanahan 2008). For example, science texts convey processes, which encourage replication, while mathematical texts convey problem-solving approaches, which encourage application, and historical texts describe events, encouraging corroboration.

These aims can become even more nuanced within sub-disciplines. Consequently, college reading is highly domain-specific with regard to both the content and the strategies that readers should employ in making sense of this content. For instance, college reading is often characterized by the introduction of domain-specific technical terms (Best, Floyd, and McNamara 2008; Gardner 2004; Graesser, McNamara, and Louwerse 2003) and its use of certain communicative practices, which students may or may not recognize as being domain-specific (Shanahan, Fisher, and Frey 2012; Shanahan and Shanahan 2008). Likewise, college reading requires that students draw interpretive inferences when reading literature (i.e., rather than only understanding the literal meaning of text), corroborate evidence across documents in history, and integrate non-verbal representations (e.g., formulas, diagrams) with text in science (Cromley, Snyder-Hogan, and Luciw-Dubas 2010; McCarthy and Goldman 2015; Reisman 2012). This domain-specific nature of reading is responsible for consistent differences in strategy use documented between experts and novices, across domains (Dorfman 1996; Inglis and Alcock 2012; Kozma and Russell 2005; McCarthy and Goldman 2019; Waters and Underwood 1998; Wineburg 1991).

**Varied**

In line with its domain-specific nature, college reading can further be characterized by its variability. Across domains, students may be asked to read journal articles, policy memos, and blog posts in the popular press (Oliveras, Márquez, and Sammartí 2013; Reinertsen and DaCruz 1996). Constituting a *reading transition* (Jolliffe and Harl 2008), college may be the first time that many students are required to read disciplinary texts beyond their textbooks, as well as the first time that students are confronted with controversial or conflicting texts (Rouet et al. 1996) and with expert-level texts (e.g., journal articles) not written with a student audience in mind. Further, while students have been found to be attuned to differences among various types of texts and their relative trustworthiness (e.g., blog posts versus textbooks, Bråten, Strømso, and Britt 2009; Kim and Sin 2007; List, Alexander, and Stephens 2017), students have also been found to require explicit instruction in how to use features of different types of texts to guide reading (e.g., understanding the sections of a journal article, Lee 2008; Van Lacum et al. 2012; Van Lacum, Ossevoort, and Goedhart 2014).

**Autonomous**

Finally, college-level reading is distinct with respect to the level of autonomy with which students are expected to complete and comprehend texts (Williamson 2008). Assigned readings are often decontextualized from course content, which can result in problems noted earlier, including students’ uncertainty regarding their instructor’s expectations regarding reading (Berry et al. 2010; Hobson 2003; Hobson 2004), uncertainty regarding how to prioritize the assigned reading (Chase, Gibson, and Carson 1994; Collier and Morgan 2008), and frustration stemming from a lack of explicit connection between the course content and assigned reading (Baier et al. 2011; Clump, Bauer, and Bradley 2004; Gillespie 1997). Further, college-level reading tasks can require students to read with comparatively limited instructional support, with students sometimes being required to locate reading materials on their own (Chase, Gibson, and Carson 1994; Fitzgerald 2004; Koslow Martin 2010).
Characteristics of successful general reading

Beyond these characteristics of college-level reading per se, all successful reading can be conceptualized as requiring goal-directed strategy use and metacognitive monitoring, or as demanding the “intentional control and [the] deliberate direction of behavior” (Afflerbach, Pearson, and Paris 2008, 365).

Goal-directed strategic processing

Across domains, successful reading depends heavily on students choosing strategies that are responsive to task goals (Pressley et al. 1995; Taraban, Rynearson, and Kerr 2000; van den Broek et al. 2001; Wade, Trathen, and Schraw 1990). Fortunately, undergraduates have been found to be able to adapt their reading behaviors in response to variations in task assignment (Braten and Stromso 2009; Britt and Aglinskas 2002; Cerdán and Vidal-Abarca 2008; Gil et al. 2010a, 2010b; Linderholm and van den Broek 2002; van den Broek et al. 2001). Specific examples of these changes include differences in inference construction (Hyönä, Lorch, and Rinck 2003; Sundermeier, van der Broek, and Zwaan 2005), time spent looking at relevant versus irrelevant information (Braten et al. 2018; Graesser and Lehman 2012; Wiley et al. 2009), and quality of information recall (Pichert and Anderson 1977; Zwaan 1991, 1994) across various reading tasks. Further, college students recognize differences in the processing demands associated with various task assignments and modify the cognitive strategies that they employ for different reading situations accordingly (Kaakinen and Hyönä 2010; Lorch, Lorch, and Klusewitz 1993; List, Du, and Wang 2019; Schotter et al. 2014). Indeed, goal-directed reading has been found to be a key differentiator between successful and struggling readers. While successful readers readily adopt and monitor goals during reading, struggling readers do not (Baker and Beall 2009; Guthrie and Wigfield 2000; Hartwig and Dunlosky 2012; Pintrich and Schrauben 1992; Pressley et al. 1995).

Research defining effective reading has identified successful reading strategies that students can engage in prior to, during, and following reading, although we acknowledge that much of this research has been conducted with younger readers. Prior to reading, previewing the text and generating questions improves comprehension relative to using no strategies (Basile 1978; Burns et al. 2011; King, Biggs, and Lipsky 1984). During reading, summarizing the text improves both objective comprehension and metacomprehension (Garner 1987; Thiede and Anderson 2003). Specifically, research shows that pausing to explain a concept to one’s self while reading (sometimes called elaborative interrogation, or more simply, self-explanation), enhances performance on both low-level and high-level comprehension questions, as well as promoting transfer (Creer et al. 2020; Dunlosky et al. 2013; McNamara 2004, 2017). Generally, strategies that are characterized as ‘deep-level’, such as self-testing, self-explaining, evaluating information, drawing inferences, and determining the meaning of text are associated with benefits for both learning and for course performance (Dunlosky et al. 2013; Taraban, Kerr, and Rynearson 2004). Interestingly, the strategies that tend to be most commonly used by college students, such as highlighting, creating outlines, taking notes, and re-reading, tend to be either not correlated or negatively correlated with students’ grades (Bjork, Dunlosky, and Kornell 2013; Hartwig and Dunlosky 2012; Taraban, Kerr, and Rynearson 2004).

Metacognitive monitoring

The second general component of effective reading occurs when the deployment of reading strategies is guided by metacognitive monitoring. In this context, metacognition refers to students’ awareness of their own processing and comprehension during reading and, as a result, their deliberate and reflective strategy engagement (Azevedo 2009; Pintrich 2000). Metacognition can accompany some of the effective reading strategies listed in the previous paragraph, such as self-testing, but is not necessarily elicited by all of them. Greater metacognitive monitoring during reading has consistently been associated with improved comprehension and learning (Sandi-Urena, Cooper, and Stevens 2011; Schraw, Crippen, and Hartley 2006; Zhao et al. 2014).

The TORI framework

At this point, we can identify the characteristics of effective reading, in general, and of college-level reading in particular. However, the primary question of how to foster students’ reading compliance and comprehension remains. Although existing college-level interventions offer many benefits, our purpose is to provide an intervention that addresses the general characteristics of successful reading and the particular characteristics of college-level reading, while also acknowledging that faculty may not have the time or expertise for labor-intensive reading interventions. To that end, we propose Task-Oriented Reading as a method of fostering strategic, metacognitively-
engaged, autonomous reading via the reading assignments that faculty already use.

**Five steps of Task-Oriented Reading instruction**

The steps of the Task-Oriented Reading framework include: (a) selecting a text (and text type) for students to read, (b) providing goals for reading, (c) identifying sample assessments aligned with these goals, (d) identifying effective reading strategies to meet these goals, and (e) sharing this information with students. Tables 1–3 show how these steps could be applied in an introductory psychology course and communicated to learners. However, each step can easily be modified for another course or discipline.

Step one consists of choosing a text for students to read. We note that most faculty already complete this step through the regular process of syllabus preparation. Text types commonly assigned at the college level (i.e., textbooks, journal articles, popular press articles) are represented in Tables 1–3 to encourage faculty to introduce students to readings not only by title and author but also by text type. While the tables exemplify how any number of reading goals can be associated with each of these different text types, we recognize that some text types may be more closely associated with particular types of reading goals. For instance, faculty may more commonly want students to identify key terms in the textbook, while asking students to more frequently evaluate the quality of study designs when reading journal articles. Step one may be facilitated by faculty overviewing for students the types of texts (e.g., textbook, journal articles) that they may be likely to encounter throughout the class and analyzing their key features (e.g., topographic indicators, like bolded words in textbooks) at the start of the semester as well as including text types when listing reading assignments for students.

Step two involves identifying the specific goal or goals that students should achieve through the

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**Table 1. Textbook reading guide.**

<table>
<thead>
<tr>
<th>Reading assignment</th>
<th>Reading goal</th>
<th>Example test questions for this reading goal</th>
<th>Strategies to help you meet your goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1: History of Psychology</td>
<td>Comprehend the definitions of basic research vs. applied research</td>
<td>Multiple choice question asking you to select the most accurate definition</td>
<td>During Reading: Write down new terms and definitions both as written in the text and in your own words. After Reading: Review what you learned from memory</td>
</tr>
<tr>
<td></td>
<td>Apply the term behavioral psychology</td>
<td>Short answer question asking you to list one topic a behavioral psychologist might study</td>
<td>Before Reading: Activate prior knowledge (e.g., Draw a concept map) During Reading: Stop and elaborate (i.e., Connect the text concepts to your prior knowledge) After Reading: Assess your progress by writing down applications</td>
</tr>
<tr>
<td>Chapter 2: Research Methods</td>
<td>Analyze the differences between experimental vs. correlational methods</td>
<td>Create a Venn diagram listing the similarities and differences</td>
<td>Before Reading: Preview diagrams, charts, etc. for a summary of conceptual patterns During Reading: Takes notes over each method’s main characteristics (using headings as hints) After Reading: Assess your progress by creating a diagram, outline, etc. of the relations between concepts.</td>
</tr>
<tr>
<td></td>
<td>Evaluate the benefits and drawbacks of using case studies</td>
<td>Write a paragraph persuading someone to use case study methods or not, citing pros or cons</td>
<td>Before Reading: Preview section headings During Reading: Annotate* text as you find main ideas (e.g., underline benefits and drawbacks) After Reading: Consider what the underlined sentences have in common</td>
</tr>
</tbody>
</table>

*Note: Annotate means to add notes to the text, such as rewriting concepts in your own words, noting why the information is important, and/or listing questions you may have. If you are using an electronic text, annotation tools may be available. If you prefer, you could take notes on a separate document.*
assigned readings. In other words, faculty should explicitly communicate which cognitive processes that students ought to engage both during and as a consequence of reading. A useful starting point for identifying such cognitive processes is Bloom’s Taxonomy of Educational Objectives (Anderson, Krathwohl, and Bloom 2001; Bloom 1971; Marzano 2001). Bloom’s Taxonomy is one of the most widely recognized frameworks for categorizing the cognitive outcomes of student learning and their relative sophistication. Bloom’s Taxonomy ranges from the simplest level of remembering information to the most complex level of creating new work. Possible goals, corresponding to Bloom’s Taxonomy, are succinctly, yet explicitly, represented in the second column of each table. Of note is that reading goals are listed as short, declarative statements, each beginning with a verb. This is intentional to point students to the specific cognitive

<table>
<thead>
<tr>
<th>Reading assignment</th>
<th>Reading goal</th>
<th>Example assignment for this reading goal</th>
<th>Strategies to help you meet your goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of Journal Article</strong></td>
<td>Explain the author’s main purpose for conducting the experiment (found in the Abstract and Intro).</td>
<td>Write, in your own words, the main purpose of this study.</td>
<td>During reading: Annotate sentences referring to ‘purpose’, ‘central idea’, or ‘main question’. After reading: Write these phrases or sentences in your own words.</td>
</tr>
<tr>
<td>Identify how the independent variable and dependent variables are operationally defined.</td>
<td>Match concepts referred to in the purpose (e.g., ‘test anxiety’) with the method of measuring that concept (e.g., the test anxiety scale).</td>
<td>During reading: Annotate sentences referring to independent variable; ‘measured by; ‘defined as’. After reading: Check that you have one operational definition for each IV and DV.</td>
<td></td>
</tr>
<tr>
<td><strong>Report the hypothesis of the study.</strong></td>
<td>Write the hypothesis for this study.</td>
<td>During reading: Annotate sentences referring to “we expect”, “we predict”, “we hypothesize” After reading: Record the hypothesis of the study. Check your comprehension by writing it again in your own words.</td>
<td></td>
</tr>
<tr>
<td>Classify the study as either experimental or correlational.</td>
<td>List the factors that tell you if this study is experimental or correlational</td>
<td>During reading: Annotate sentences referring to experimental terms such as ‘manipulate’, ‘random assignment’, ‘cause’, ‘result in’, etc. and/or correlational terms such as ‘correlate’, ‘related to’, etc. After reading: Consider whether the phrases you’ve marked indicate an experiment or correlation.</td>
<td></td>
</tr>
<tr>
<td><strong>Interpret the main result.</strong></td>
<td>Write, in your own words, whether the hypothesis was supported or not.</td>
<td>During reading: Annotate sentences referring to ‘The results show’, ‘the results suggest’, ‘the hypothesis was supported’, etc. After reading: Write these phrases or sentences in your own words.</td>
<td></td>
</tr>
<tr>
<td><strong>Relate the results of the study.</strong></td>
<td>List at least one way in which this result compares or contrasts to the results of other studies.</td>
<td>During reading: Annotate what you remember from previous studies in the margin. After reading: If needed, check results of previous studies and write one point of comparison or contrast.</td>
<td></td>
</tr>
<tr>
<td><strong>Apply the results of this study</strong></td>
<td>Write, in your own words, one practical application or theoretical implication of this study.</td>
<td>During reading: Annotate sentences referring to ‘application’, ‘implication’, ‘this matters because’, ‘this could affect people because’, etc. After reading: Write at least one complete sentence explaining how the result might be useful.</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Annotate means to add notes to the text, such as rewriting concepts in your own words, noting why the information is important, and/or listing questions you may have. If you are using an electronic text, annotation tools may be available. If you prefer, you could take notes on a separate document.*
processes that ought to occur during and/or after reading. Although a variety of reading goals are specified in Tables 1–3, we believe there is merit in faculty choosing a relatively limited number of reading goals (e.g., between three and five) to guide students’ reading. Students’ accomplishment of such goals through reading can then begin to function as a (limited) set of cognitive routines that students can perform during reading (Holschuh 2014; Perkins and Ritchhart 2003). For instance, within a psychology course, students may be asked to read in order to (a) define key concepts, (b) identify examples of concepts in the real-world, (c) explain the empirical basis for our understanding of key concepts, and (d) evaluate the quality of study designs. Faculty have the option of briefly oversrieving these routines for students at the start of the course or simply providing students with a reading template to support these routines, as explained in later steps of the TORI.

Step three involves providing examples of how students’ reading will be assessed. Listing sample assessments serves several purposes: It conveys the value of reading to students (i.e., It addresses students’ perception that reading is optional and/or unrelated to course content); it provides students with opportunities for metacognitive reflection, in that they can self-test their progress in relation to assessments specified; and it helps faculty ensure that their assessments match assigned reading goals. Tables 1–3 provide sample assessments that align with particular texts and reading goals (e.g., using multiple choice questions to assess comprehension of vocabulary terms in a textbook chapter). Although faculty likely use a variety of assessments throughout a course, we recommend that faculty take time to consider and identify the general assessment types that students may be asked to complete in the course, map these to associated reading goals, and explicitly share these with students.

Table 3. Popular press reading guide.

<table>
<thead>
<tr>
<th>Reading assignment</th>
<th>Reading goal</th>
<th>Example assignment for this reading goal</th>
<th>Strategies to help you meet your goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Magazine Article</td>
<td>Identify the author’s main point, or thesis, in the article.</td>
<td>Write, in your own words, the main point of this article.</td>
<td>During reading: Annotate sentences referring to ‘purpose’, ‘central idea’, or ‘main question’; After reading: Write these phrases or sentences in your own words.</td>
</tr>
<tr>
<td>Classify each piece of evidence the author presents as either experimental or correlational</td>
<td>List the factors that tell you if this study is experimental or correlational</td>
<td>During reading: Annotate sentences referring to experimental terms such as ‘manipulate’, ‘random assignment’, ‘cause’, ‘result in’, etc. and/or correlational terms such as ‘correlate’, ‘related to’, etc. After reading: Consider whether the phrases you’ve marked indicate an experiment or correlation.</td>
<td></td>
</tr>
<tr>
<td>Evaluate the merit of this article.</td>
<td>Make a short persuasive speech regarding whether to accept this source or not.</td>
<td></td>
<td>Before reading: Note the authors’ credentials; During reading: Annotate when the author supports their view with evidence vs. when they state an opinion without evidence.</td>
</tr>
<tr>
<td>Relate the evidence cited in the article.</td>
<td>List at least one way in which this result compares or contrasts to the results of studies we discussed in class.</td>
<td>During reading: Annotate what you remember from previous studies in the margin. After reading: If needed, check results of previous studies and write one point of comparison or contrast.</td>
<td></td>
</tr>
<tr>
<td>Apply the evidence cited in this article.</td>
<td>Write, in your own words, one practical application of this information.</td>
<td>During reading: Annotate sentences referring to ‘application’, ‘implication’, ‘this matters because’, ‘this could affect people because’, etc. After reading: Write at least one complete sentence explaining how the result might be useful.</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Annotate means to add notes to the text, such as rewriting concepts in your own words, noting why the information is important, and/or listing questions you may have. If you are using an electronic text, annotation tools may be available. If you prefer, you could take notes on a separate document.
students in association with the readings and reading
goals assigned. Assessment types can vary both in for-
mat (e.g., multiple choice questions, discussion board
post) and in cognitive demand (e.g., definitional ques-
tions; application questions).

Step four involves listing the reading strategies that
will help students achieve assigned reading goals and
prepare for assessment. We recognize this step may
require some reflection on faculty’s part. As expert
readers in our disciplines, the strategies we use likely
seem like second nature and may necessitate some
planning to translate these learned skills into explicit
instructions for students. To assist faculty with this
process, Tables 1–3 list effective strategies for reading
commonly assigned texts (i.e., textbooks, scientific
articles, and popular print sources), while Table 4 pro-
vides a summary of additional reading strategies that
have been found to improve college students’ reading
comprehension.

The autonomous nature of college-level reading
and the inherently cognitive nature of strategy use
means that students’ processing during reading may
be difficult for faculty to directly observe or assess
(e.g., How do you know if a student is self-explaining
during reading?). On the one hand, this may not be a
concern, as students have been found to be fairly
effective in matching strategy use to assigned task
goals when these goals are explicitly specified and
appropriately understood, and faculty can determine
students’ degree of goal-related understanding via
assessment. On the other hand, some faculty may
want to adopt a more directive approach toward fos-
tering students’ strategy use during reading. One
mechanism for doing so is to model strategy use for
students and to provide learners with practice using
strategies during reading. Such approaches have been
found to be effective means of fostering students’ dia-
gram comprehension and use of worked examples,
when these are embedded in textbooks (Cromley et al.
2013; Salden et al. 2010).

An additional option associated with step four is to
ask students to engage in externalizing strategy use, in

<table>
<thead>
<tr>
<th>Table 4. Sample effective reading strategies.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading goals</strong></td>
</tr>
<tr>
<td>Recall or recognize ideas from the text</td>
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<tr>
<td>Explain ideas from the text</td>
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<td></td>
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<tr>
<td>Think of examples of the concepts described in</td>
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<tr>
<td>the text</td>
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<tr>
<td>Tell the difference between concepts;</td>
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<tr>
<td>Understand how concepts relate to each</td>
</tr>
<tr>
<td>other; Distinguish between relevant vs. irrelevant</td>
</tr>
<tr>
<td>information</td>
</tr>
<tr>
<td>Judge the quality of the ideas in the text</td>
</tr>
<tr>
<td>Combine ideas (possibly from multiple sources</td>
</tr>
<tr>
<td>such as lecture, textbook, handouts, etc.) into</td>
</tr>
<tr>
<td>one, main (possibly new) idea</td>
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</table>
association with various task goals, during reading. Externalizing strategy use refers to students’ note-taking and other record keeping (e.g., annotating texts, making flash-cards) during reading. Externalizing strategy use helps students identify important information during reading, facilitates its location after reading, and makes manifest students’ cognitive processing (Hagen, Braasch, and Bråten 2014). While externalizing strategy use has generally been found to facilitate learning and comprehension (Bonner and Holliday 2006; Kobayashi 2009), such note-taking has rarely been task-directed, with students asked to accomplish various cognitive goals via their notes. Exceptions to this include examinations of students’ diagraming in science (Wu and Rau 2019) and of students’ graphic organizer completion, using the SOAR method (Daher and Kiewra 2016). To facilitate external strategy use, faculty can provide generic templates of reading notes that correspond to the various task goals students may be asked to complete while reading. Sample templates can encourage students to outline key terms while reading a textbook chapter, to monitor similarities and differences using a Venn diagram, and to activate prior knowledge using concept maps. (See Table 5). In this way, students’ completion of such reading notes may serve as both a method of guiding students’ thinking during reading and as a mechanism for providing feedback and assessment, if a faculty member chooses to do so. To be clear, the goal is not for faculty members to create customized note-taking materials in association with each reading assignment; rather, the goal is to provide students with generic note-taking templates, in association with the limited number of reading goals that faculty envision using in their class, so that students can adapt and customize these for each assigned reading and begin to adopt these as “thinking routines” to engage during reading (Perkins 2003; Ritchhart, Church, and Morrison 2011).

Finally, step five is to use the provided tables as a template for explicitly communicating reading assignments, goals, and strategies to students. The tables could be incorporated into a course syllabus, included as part of a reading assignment’s directions, and/or posted along with other course-related study materials. Providing students with a copy of such tables helps faculty explicitly communicate expectations regarding reading and helps students identify the most effective strategies to use to tackle those readings, thus addressing some of the most commonly cited barriers to students’ lack of reading compliance and comprehension (Baier et al. 2011; Chase, Gibson, and Carson 1994; Table 5. Note-taking templates.

<table>
<thead>
<tr>
<th>Textbook Reading Guide: Comprehending Key Terms</th>
<th>Popular Press Reading Guide: Creating a Venn Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1: Write section heading here</td>
<td>Prior Results</td>
</tr>
<tr>
<td>Key term #1: definition from textbook</td>
<td>Results In Common</td>
</tr>
<tr>
<td>Key term #1: definition in my own words</td>
<td>Results from Current Study</td>
</tr>
<tr>
<td>Key term #1: example</td>
<td></td>
</tr>
<tr>
<td>Key term #2: definition from textbook</td>
<td></td>
</tr>
<tr>
<td>Key term #2: definition in my own words</td>
<td></td>
</tr>
<tr>
<td>Key term #2: example</td>
<td></td>
</tr>
<tr>
<td>Section 2: Write section heading here</td>
<td></td>
</tr>
<tr>
<td>Key term #3: definition from textbook</td>
<td></td>
</tr>
<tr>
<td>Key term #3: definition in my own words</td>
<td></td>
</tr>
<tr>
<td>Key term #3: example</td>
<td></td>
</tr>
</tbody>
</table>

Empirical Article Reading Guide: Identifying Main Ideas

1. Identify the author’s main point, or thesis, in the article:

Write the main point of this article in your own words:

2. Classify each piece of evidence the author presents as either experimental or correlational.

<table>
<thead>
<tr>
<th>Experimental Evidence</th>
<th>Correlational Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

Textbook Reading Guide: Create a Concept Map

<table>
<thead>
<tr>
<th>Main Concept of Chapter #3: Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fact I already know about memory:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fact I already know about memory:</th>
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<table>
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<tr>
<th>Related Fact:</th>
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<table>
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<tr>
<th>Related Fact:</th>
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</table>
Predicted advantages of using TORI

The Task-Oriented Reading Instruction framework addresses the key characteristics that college students need to be successful readers. In other words, the framework provides a scaffold, or system of structured support, that faculty can use to help students be goal-directed readers, who use domain-specific reading strategies and engage in metacognitive reflection while completing varied reading assignments autonomously. In fact, we believe the TORI has multiple strengths. First, the TORI synthesizes the variety of strategies from educational and psychological research that have consistently been found to improve students’ reading, including attendance to text structure, activating and relating prior knowledge, note-taking, and self-testing. Second, without asking faculty to devote additional in-class time to reading instruction, the TORI introduces a series of scaffolds, or prompts, that faculty can use to better articulate reading assignments and their associated expectations of reading quality to students. Moreover, the TORI presents such strategies in a way that can be introduced to students within the context of a typical college course, with limited need for direct instruction on the part of faculty. Third, we developed the TORI to be broadly applicable. The TORI should apply to any domain, allowing faculty from any discipline to identify, and, if they choose, to model the specific strategies students need to read effectively in their subject area. Relatedly, the TORI should be applicable to any text format (e.g., print, digital) or text type (e.g., journal article, textbook). As faculty increasingly shift to assigning texts in multiple formats and increasingly create “reading” assignments not based on texts at all (e.g., podcasts, TED Talks) they can still follow the TORI framework to help students identify their intended goals in assigning these materials.

An additional strength of the TORI is that it should benefit students of every reading ability. Both skilled and less-skilled readers report frustration regarding the amount of assigned reading, confusion regarding the readings’ relevance to their courses, and a lack of motivation for completing the assigned reading (Baier et al. 2011; Chase, Gibson, and Carson 1994; Clump, Bauer, and Bradley 2004; Koslow Martin 2010; Miller et al. 2018; Smith and Wertlieb 2005). The TORI addresses many of these concerns by explicitly aligning reading assignments with the motivational affordances of task goals (Bembenutty and White 2013). While all students should benefit from the increased clarity of expectations offered by the TORI, this clarity may be especially helpful for students whose first language is not English (Fujimoto et al. 2011), as well as for students who are not yet aware of some of the complex and implicit methods needed to access knowledge in a discipline, such as first-generation college students (Moje 2007). Because some students may lack this implicit knowledge about effective college reading strategies due to broader, systemic inequities (Moje 2007; Moses and Cobb 2001) we believe that explicitly modeling these reading strategies is an opportunity to address such inequalities.

Conclusion

We offer TORI as a relatively simple instructional framework for faculty who are concerned about their college students’ reading habits. The TORI does not necessarily require increasing the overall amount of time spent on reading instruction; rather, it encourages replacing after-the-fact reading remediation or punitive measures aimed at deterring noncompliance with pro-active steps that should not only increase reading compliance but reading comprehension and reading motivation as well. We believe that by explicitly stating the goals and purposes of assigned readings, linking these goals to assessments, and helping students identify effective strategies for meeting their reading goals, we can directly dismantle some of the most serious barriers to students’ reading achievement at the college level.

References


