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Foreword

It was truly an honor to serve as the Society for the Teaching of Psychology/APA Division Two President during 2014; my highest professional privilege to date. Among the many duties and responsibilities of the STP President is the ability to form Task Forces during their presidential year. The task force is typically centered on the interests of the current president, and there can be multiple task forces launched during one’s presidential year.

I have been interested in the power of story for some time. I launched three task forces at the beginning of 2014, including the one most closely related to this e-book: The Power of Story 2014 Task Force. I held an open call for volunteers as well as tapped some individuals who I knew had an interest in the topic. The six members of the task force included (alphabetically) Karen Brakke, Brad Campbell, Amanda Clinton, Jeremy Ashton Houska, Sherry Lynn Kinslow, and Xin Zhao. This was the formal charge provided to the task force:

Given the lack of retention from typical introductory psychology course approaches (based on available data), perhaps storytelling is an alternative pedagogy that could lead to improvements in the retention of content knowledge in psychology. What is the current research evidence available about the power of story; if an educator wanted to adopt this pedagogy, what might ‘best practices’ be based on the available literature? My goal is that we can utilize STP resources to develop a repository of supportive documents and practices regarding the use of story-telling as an instructional practice to encourage long-term retention of information and the development of skills. This initiative should be cross-divisional and should reach out for participation beyond the discipline.

If we truly want the content of our courses to be memorable to our students, story-telling is one method by which memories can be encoded to last a lifetime. This topic is important to me, as it was the central theme of my STP presidential address given August 2014 in Washington, DC titled “The Power of Story: Practical Applications for Science, Practice, Public Interest, and Education.” I was so fortunate that The Power of Story task force completed their work July 2014, as I was able to incorporate some of their findings and conclusions into my own talk. Their 82-page task force report, including original empirical work about the use of story as a pedagogical device, was in large part the inspiration for this e-book on the very topics addressed in the task force report.

This e-book, jointly edited by Karen Brakke and Jeremy Ashton Houska, provides outstanding resources for teachers of psychology (and quite frankly, all teachers everywhere) regarding the research surrounding the effectiveness of stories as well as the detailed components of good story-telling. Many of the chapters present new, empirical work regarding the effectiveness of story-telling. The chapter topics range from broad to specific. For instance, the cognitive foundations for the effectiveness of story-telling (including

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1 I have tried to make the case (as have others) that one method of effectively communicating scientific information is by telling a good story (Landrum, 2012). Not only do I use this storytelling approach when I teach undergraduate research methods, but it is also the subtitle to the work referenced here: Learning to Tell the Scientific Story. Rather than the protagonist and antagonist of a story being human characters, in psychology, the variables serve as the “main characters.” In storytelling, and particularly in screenwriting, the backstory is important—our psychological backstory is told in the introduction section of our research articles. Foreshadowing occurs when the hypotheses are offered, the setting is described in the Method section, and so on. Storytelling is at the heart of psychological and scientific research.
reading and memory aspects) are addressed in multiple chapters. The benefits of teaching our students story-telling techniques are chronicled in chapters about personalization, mission statements, journaling, and the importance of stories in transforming families. The over-arching benefits of stories are described by authors in chapters about self-disclosure, scripted stories, self-referencing, and the power of the narrative. The varied uses and types of stories are highlighted in chapters about the role of story-telling in plays and the theater, feminist philosophy and pedagogy, and in the comics. Taken together, these chapters vibrantly depict the power of story from multiple vantage points achieving multi-layered goals with diverse audiences.

The materials created by The Power of Story task force, including the report, ToPIX site formed, and now this e-book as a result of the task force work, stand as a lasting legacy to the true power of story. I am indebted to the chapters’ authors, and especially the co-editors, for this collection of work that substantially contributes to telling the story of story-telling in higher education.

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September 2015

Reference
The Power of Story as an Instructional Strategy
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“The truth about stories is that that’s all we are.”
---T. King, 2008, p. 2

Everyone loves a good story. This has been a truism for uncounted generations and is evidenced by the abundance of stories that we encounter in our everyday lives – whether through a favorite novel or television show, across the dinner table or across the Internet. Stories are comfortable, they are familiar, and we learn much through their telling. Stories have been integral to human development, both ontogenetic and cultural, over the millennia. Parents and elders have long shared their experiences and practical wisdom with their children during countless everyday encounters. Many societies have held formal storytellers in high regard, and even today we celebrate those authors, singers, and actors who tell a story especially well. Despite a lack of consistent methods for recording and bookkeeping, oral tradition continues to persist throughout time in many different cultures (Banks-Wallace, 2002; Lynch, 1999).

It may be our very comfort with stories, though, that has led to reluctance toward their use in many higher education fields, especially within sciences such as psychology. We often associate stories with informal contexts and equate them with ‘anecdotes’. Many of us, in our professional training, have been admonished against giving anecdotes much weight in ‘Doing Science’. Rather than exploring narrative, we are taught to read and write in expository form, which conveys information in a particular voice that exudes detachment and objectivity rather than the subjectivity associated with storytelling. However, Bruner argues that "narrative is the medium par excellence for depicting...human plights" (2002, p. 60) and that the ability to construct one’s one story is essential for creating ‘Self’. As addressing human plights and understanding Self is part and parcel of what we do in psychology, using story through its myriad narrative forms in our teaching could yield powerful results.

What is Story?
As members of human society, most of us intuitively know what a story is; we know one when we hear it. But what makes it a ‘Story’ as opposed to a simple reporting of events or, for example, an argument? A story is a recounting of a sequence of events in which a living and usually sentient protagonist interacts with the world within a particular context. Typically, the protagonist must face one or more challenges, the resolution of which signal the story’s conclusion. Other characters often appear in the story as well; these characters may play a role in creating the challenges or in resolving them.

The terms ‘Story’ and ‘Narrative’ are often used interchangeably. Formally, however, the ‘story’ is the set of events and circumstances being recounted, while ‘narrative’ connotes the way in which story is told, both in terms of underlying cognitive processes or ‘way of thinking’ and in terms of the structure of the telling. To illustrate the difference between the ‘story’ and the ‘narrative’, we can think of ways in which the narrative can change but the story stays intact. Most narratives, for example, are linear in that they are
structured in a way that recreates the original sequence of events. It is possible, however, to maintain the integrity of a story even if the narrative is nonlinear, as in the cases of Toni Morrison’s (1987) *Beloved* or the film *Memento* (2000).

When contemplating stories and their structure, it is essential as well to consider the Narrator, or the story’s teller. The narrator may or may not be the protagonist or play a role in the story itself, but always has a particular perspective and develops the narrative from that perspective. As psychologists, we know that one’s perspective includes not only knowledge of events, but beliefs and biases that can influence what is told to others and the frame within which it is told. How stories are told, retold, and not told can have profound effects on subsequent personal and societal behavior. As mentioned earlier, this may be one reason that we have shied away from greater use of stories in the classroom as we promote the value of ‘objectivity’ through exposition and other cognitive tools.

Nevertheless, in recent decades there has been renewed interest in harnessing the strengths of story and narrative for use in the classroom (e.g., Bruner, 2002; Eldridge, 2009; Koenig & Zorn, 2002; Nathanson, 2006). The educational landscape is undergoing a sea-change, with greater emphasis on interactivity, context, and application – all of which are easily supported by different pedagogical uses of Story. In addition, new technologies allow multimedia narratives to be created with ease. These ‘digital stories’ or ‘data-based narratives’ afford additional modes of interactivity and knowledge creation. The time is upon us as psychologists and educational leaders to take a deeper look at incorporating Story into our teaching.

**Theoretical Rationale for Story**

The pedagogical use of storytelling is supported by a theoretical framework championed by, among others, Jerome Bruner (e.g., 1990, 2002). Bruner has written extensively about the importance of narrative as a vehicle of cultural transmission. In short, according to Bruner, narrative storytelling is well-suited to our species’ socially- and linguistically-adept brains; brains that seek patterns and causes, that remember lived experiences in terms of episodes composed of event sequences that orient to both the relationships between words and between persons. Since our ancestors were first able to create narratives, stories have provided a means for us to create and share meaning from human experience; indeed to construct models of the world. By incorporating context, problems, protagonists, and resolutions, stories allow us to interpret events of our own lives as well as those of others. They can be told in a variety of modalities – oral, written, visual and, most recently, digital (e.g., Rifa’-Valls, 2011; Segel & Heer, 2010) -- to suit a variety of situations and needs.

Stories, however, go beyond convenient ways to share information, in ways that are highly relevant to psychology in particular. Both Bruner (1990; 2002) and Hazel (2008), for example, argue that our episodic memories are expressed in essentially narrative form, and these accrete to provide the material for our construction of self through autobiography. To again quote Bruner, we "construct and reconstruct ourselves to meet the needs of the situations we encounter...telling oneself about oneself is like making up a story about who and what we are, what's happened, and when we're doing what we're doing." (2002, p. 64). When we add this to the intersubjectivity that a story affords through shared meaning arising from distal experience, Story becomes a very powerful tool indeed.

Our students come to the classroom understanding many of the frames and traditions associated with storytelling; indeed, their very brains are built to organize information into narrative schemata (see, e.g. Deacon, 1997; Hazel, 2008). Recent neuroscience (Zak, 2012) demonstrates the biological basis of
storytelling. Narratives that follow the “dramatic arc,” as defined by German playwright Gustav Freytag in 1863, evoke specific neurochemical responses. The dramatic arc recognizes five stages in a story: exposition, rising action, climax, falling action, and dénouement (Freytag, trans. 1900). When a narrative follows this pattern, the brain releases a combination of cortisol and oxytocin. Cortisol production is increased when one is under stress, such as that perceived in the climax of a story. Oxytocin is released when one feels empathy and caring emotion, such as that of the protagonist in a story when they must address and resolve a conflict. Zak showed that individuals who express empathy also release higher levels of oxytocin and this changes subsequent behavior by increasing overall generosity. When the dramatic arc is absent in a story, individual responses are, in effect, inattention. Effective storytelling, then, induces a physiological impact of narrative on the learner (Hazel, 2008).

Pedagogical Uses of Story
As a flexible means of information-sharing, and a very human way of constructing reality that we engage in naturally from early childhood, storytelling appears well-adapted to pedagogical use. Recognizing this, Nathanson (2006) highlights the use of narrative and storytelling in diverse fields, urging teachers to re-examine the power of Story for use in their own varied content areas. As evidenced by the scope of relevant literature (e.g. Cangelosi, 2006; Eldridge, 2009; Gold & Holman, 2001; Koenig & Zorn, 2002), faculty in many fields have embraced Story as a valuable pedagogical tool to advance their students’ knowledge of their discipline.

Within the realm of using Story as pedagogy exists a variety of techniques that can be used to fulfill different purposes. Two primary approaches to the pedagogical use of story have emerged in the literature. In the first, one or more published texts or stories can provide context for discussing course content. Stoddart and McKinley (2006), for example, relate how one of the authors has abandoned textbooks completely in favor of teaching introductory psychology through the exclusive use of literature and primary sources. Although this idea may be daunting to many teachers, Stoddart and McKinley note several pedagogical benefits of this approach among students, including greater arousal (and hence engagement), better attention to and memory for material presented in context, and greater willingness to consider different perspectives.

The second approach to story that has gained support in recent years relies heavily on autobiographical or personal stories. This approach draws upon the role of stories in creating and re-creating Self over time, and has been promoted particularly in contexts that are practitioner-oriented such as nursing (Koenig & Zorn, 2002) or in which instructors are working with a diverse or nontraditional learners (Pfahl & Wiessner, 2007). Instructors may couch material in their own stories to build student engagement, or may ask students to incorporate material from the course in reflecting on their own life stories. When incorporating stories of their own or their students’ lived experiences, these activities provide opportunities for listening, narrative creation, critical reflection, integration of experience, and even exploration of and planning future options (Pfahl & Wiessner, 2007).

We often think of stories taking traditional oral or written forms, but visual media have long played an important role in Story. From pictographs to tapestries to film, visual stories have long engaged viewers’ minds. Recently, the advent of digital stories has afforded even greater interactivity between the storyteller and audience, often through incorporation of data with text and images. These ‘narrative visualizations’ or data-driven stories, as reviewed by Segel and Heer (2010), take many forms that map nicely to different pedagogical purposes. Segel and Heer examined 58 narrative visualizations from
different media sources, and characterized them according to dimensions involving the complexity of the story and data as well as the intended audience and dissemination medium. Segel and Heer identified the narratives as either primarily “author-driven” or “reader-driven” approaches based on the ordering of the narrative, degree and type of messaging, and interactivity. Author-driven stories typically include linear ordering of events or scenes, heavy content messaging, and little or no interactivity in their telling. By contrast, reader-driven stories are more fluid or nonlinear in their ordering, include little content messaging, but are highly interactive (e.g., infographics with supporting links). Author-driven approaches support efficient communication and transfer of knowledge through telling, while reader-driven narratives lend themselves well to reader engagement through pattern identification or hypothesis formation. Many narrative visualizations fall somewhere in between the ends of the continuum, including elements of both reader-driven and author-driven approaches to story.

It is interesting to note also, that Seger and Heer’s (2010) comparisons between the two approaches to narrative visualization strongly mirror the broader discussions of classroom pedagogy that are occurring among higher education professionals. The contrasts between use of ‘lecture’ and use of ‘active learning techniques’ in many ways parallels the elements of author-driven and reader-driven narratives, respectively. In each context, there are tensions between efficiency and engagement. It may be that focusing on these tensions within the context of narrative visualizations or digital stories can help us better study and articulate the advantages and disadvantages of different instructional approaches as well.

In addition to serving an instructor’s goals for student learning, Story also appears to be well-suited for supporting the emerging national focus on integrative learning (Huber & Hutchings, 2004). Integrative learning encompasses a variety of practices, but is characterized by intentional support of student learning that makes connections between disciplines, between curricular and co-curricular experiences, or among the student’s experiences before, during, and after college. Story embraces the complexity required to think through the problems and solutions that are often inherent in integrative learning experiences (Huber & Hutchings, 2004).

The Genesis and Contributions of This Volume

Of all disciplines, perhaps Psychology aligns best with the stories that engage our students (and us) most – narratives of human (or animal) behavior and the mental processes that underlie it. Our challenges, achievements, interactions, and idiosyncrasies are the stuff both of our science and our daily lives. Merging the stories of our lives into the sharing of our science has the potential to serve as a powerful means to transmit the cultural (i.e., scientific) knowledge of our discipline with our students.

In 2014, APA Division 2 President R. Eric Landrum convened a task force to explore the use of Story in psychology instruction. One of the finding of the task force was that, although psychology appears to be ideally suited as a discipline both to capitalize on the pedagogical power of Story and to evaluate the effectiveness of its use, there has been relatively little scholarship on the use of Story for teaching and learning (SoTL) in our field. To begin to address this gap, we present here a collection of chapters written by faculty who have successfully and intentionally incorporated Story-based pedagogy in psychology or related fields, or who have explored the theoretical bases for use of Story as an instructional tool. The volume is organized into sections focusing on different forms of Story that have been applied in the classroom, as well as on some of the theories that underlie narrative comprehension. We believe that, together, the chapters included in this volume provide a wealth of ideas for instructors who are seeking creative ways to support student comprehension and engagement in their classes. As well, SoTL
researchers will likely find inspiration for additional empirical investigations of Story’s effectiveness for supporting student learning.

Following this opening chapter, we report some of our 2014 STP Story Task Force findings from an online survey of psychology instructors regarding their pedagogical use of Story. The first section of contributed chapters focuses on factors that underlie the comprehension of stories. Rick Miller and Bill Wozniak’s chapter provides an excellent ‘quick start tutorial’ on using Story in the classroom. They include both an overview of how stories may be used as well as a model of how story comprehension can be empirically evaluated in the psychology classroom. David Copeland, Kathleen Larson, and Michael Palena then review the literature on several different factors that affect comprehension of stories, paying particular attention to readers’ construction of situation models and the resultant narrative transportation that accompanies immersion in an effective story. Jeffrey Foy follows Copeland et al. with a chapter that explores the role of prior knowledge in the integration of information and deep comprehension of text while reading. Foy points out that prior knowledge can both help comprehension through providing additional context as well as hinder comprehension if prior knowledge includes misinformation. All of these chapters include suggestions for applying relevant research findings when teaching.

Contributions in the second section highlight the value of using students’ autobiographical stories. Russ and Barbara Searight describe personal mission statements as a means of aligning students’ personal values and actions. Drawing upon Stephen Covey’s (2004) “Seven Habits” body of work, these authors outline the use of such statements in a variety of educational contexts. Joyce Fields and Karen Thompson portray a series of ‘lives as text’ assignments with supporting data that integrate reflection on the self with the experiences and context of others. These assignments yield academic, personal, and professional benefits to students. Jeremy Ashton Houska and Meredith Drew provide another take on incorporating students’ experiences into stories, focusing on the creation of autobiographical ‘research stories’ as a means of documenting growth and reducing anxiety during the research process. In closing this section, Robyn Fivush and Natalie Merrill share their scholarly work on shared family narratives as a foundational “springboard” for the complex understandings of self and context that we hope to foster in our students.

In the third section of this volume, we include chapters that share a variety of ways that stories have been incorporated into classroom examples and activities. Kevin Grobman focuses on the instructors’ use of personal stories and explores the role of positive self-disclosure in creating immediacy between students and instructors. He also engages in an interesting discussion of the ethical considerations that accompany such disclosure. Like Grobman, Matthew Draper, David Polizzi, Daniel Sturtevant, and James McGraw present data demonstrating the effectiveness of Story in the classroom. These authors work from a theoretical stance of ‘dialogics’, which presents Story as a means of shared embodiment of experience that supports transformational understanding in their psychotherapy students. Jana Hackathorn and Brien Ashdown explore the use of stories in statistics courses, pointing out that such stories provide context for -- and increase engagement in – these courses that often elicit anxiety on the part of many students. Reflecting an approach that has been used regularly in other disciplines, Gerald Nissley and Michael Atwood relate how they apply Case-Based Education to clinical training in psychology. Although this and the other chapters in this section are presented within specific topical contexts, all include concepts and techniques that generalize to a variety of psychology courses.
Our last section presents some exciting interdisciplinary perspectives on teaching through Story. Sally Bailey reminds us that theater provides a rich platform for storytelling; one that can transport us for a time into another reality. She provides several examples of how performance can be incorporated into educational contexts, and shares empirical evidence that demonstrates how attending a performance can support learning. Jennifer Mootz and Debra Mollen then relate how the use of Story can be informed by a feminist lens and caution readers to take a much-needed critical look at the messages conveyed by the telling of stories. This is especially important with the contemporary emphases on reflexivity and cultural understanding. Finally, Kris Gunawan and David Copeland close the volume with a chapter sharing the creative use of comics as narrative. By incorporating both visual elements and text, comics can convey powerful narrative with economy, and also provide students with a creative means of telling their stories.

The chapter previews that we have presented here give only a glimpse of the wonderfully rich content that our contributing authors have shared in this volume. The variety of story types, curricular contexts, and empirical data that fill the following pages provides, we believe, a significant resource for teachers of psychology and other fields. We are pleased to share this work and hope that it fosters both application of, and scholarship on, the use of Story as an instructional strategy in the years to come.

References


Landrum (2014, p. 94) posed the question “what is the current research evidence available about the power of story?” To answer this question, it is first useful to differentiate between the types of evidence within and outside our discipline. Empirical support for the use of Story can be categorized into two general types of evidence: data borne from laboratory research and those collected in a classroom setting.

Classic cognitive research is replete with performance-based laboratory studies germane to our exploration of Story’s power. Bower and Clark (1969) conducted one of the first studies to examine the effect that construction of stories has on later memory for words. Story organization, relative to participants’ subjective organization of words, led to better memory. Graesser, Hauft-Smith, Cohen, and Pyles (1980) also found that narrative mode of presentation leads to greater recall relative to expository passages. Moreover, Graesser and colleagues observed a strong correlation ($r = .92$) between a passage’s degree of narrativity and amount of recall.

The cognitive literature also shows the power of Story when investigating memory over time and across different samples. When comparing word recall between a narrative-reading sample and a control group, Murray (1974) found no immediate differences in recall after the task. However, the memory power of generating Story was revealed in subsequent laboratory sessions. Take also Hill, Allen, and McWhorter’s (1991) or Drevenstedt and Bellezza’s (1993) work on the story mnemonic with older adults. In both cases, recall of words was improved with training on the narrative mnemonic in which participants imposed a structure (i.e., a personal story) on personally meaningless target words. As Gamst and Freund (1978) noted, it is unclear whether these beneficial effects from engaging in the narrative task are explained by a deeper processing encoding task (see Craik & Lockhart, 1972) or better organization (see Bellezza, Richards, & Geiselman 1976, or Bellezza, Chessman, & Reddy, 1977 for the latter argument). In sum, memory research has provided strong performance-based evidence for Story-recall in the context of target words across differing samples. These studies speak to the general memory benefits that root from narrative structure.

Text processing research also lends some support to the notion of Story for instructional purposes. These works include studies of attention as they relate to narratives (see McDaniel, Waddill, Finstad, & Bourg, 2000). McDaniel and colleagues investigated the effects of text-based interest on attention while reading. Their data revealed quicker response times for tasks while reading the higher-interest texts, when compared to the lower-interest texts. This pattern of data supports the idea that interest in a story frees cognitive resources and thus makes reading comprehension easier. McDaniel et al. also found that participants paid more attention to the larger organizational and structural elements of stories when they were interesting; participants attended to basic details of the text when stories were less interesting. Taken together, these findings suggest that the power of (a good) Story lies in its power to help the reader allocate cognitive resources more automatically and toward higher-level processes.
Pedagogical research has historically focused on ancillary effects of Story (e.g., student self-reports of enjoyment or perceived learning) or novel ways to incorporate some form of it within particular Psychology courses (e.g., Boyatzis, 1992; Carlson, 1992; Nawrot, 2014; Norcross, Sommer, & Clifford, 2001), and even across the undergraduate curriculum itself (see Steuer, 1996). In this context, the evidence of learning outcomes from Story has taken a variety of forms. Take for instance, Fernald’s (1989) work on the narrative format in textbooks. This research demonstrated students’ preferences for narrative text compared to traditional textbook formats and subsequently greater recall, as well as higher quiz and test scores for content presented in the narrative format. More recently, Gunther (2011) demonstrated significantly higher student exam performance for a Sensation and Perception class in which students read only non-fiction popular books compared to course sections with a traditional textbook. Evidence of Story’s potential within our discipline converges upon general evidence that takes both subjective and objective forms.

Certainly, the more objective performance-based student learning outcomes can be more challenging to implement due to pragmatic concerns. It can also be daunting to isolate the effects of Story in the context of other resources and strategies in a learning scenario. This may explain the apparent dearth of empirical research on Story in higher education. Taken in full, empirical evidence for Story may be strongest in the laboratory with its objective outcome measures and grounding in theory. However, the stimuli, tasks, and outcome measures do not often accurately simulate what takes place in the classroom. It is our hope that teacher-scholars who currently make use of Story, in all of its forms, continue assessing its power within authentic learning contexts.

2014 APA Division 2 Story Task Force

In April 2014, members of the APA Division 2 Story Task Force conducted a study with three primary goals. First, we sought to ascertain what kinds of Story are currently being used among teachers of psychology. We differentiated Story usage in type of teaching activities, presentation format of material, and type of student assignments. Second, we attempted to predict who uses Story in their teaching. We constructed an instructor profile using regression models that include both personal and institutional variables. Third, we explored participants’ attitudes toward pedagogical Story in both Likert-type and open-ended formats.

Method

Participants

One hundred fourteen respondents entered the online survey. After omitting incomplete surveys, the final sample included one hundred psychology instructors (\(M_{age} = 46.17\) years, \(SD = 11.93\) years). Sixty-six participants were female, 33 male, and one participant declined to state gender. On average, participants reported 16.21 years as instructor of record (\(SD = 10.77\) years), taught 7.09 courses per year (including Summer) (\(SD = 3.76\) courses), and reported an average class size of 38.64 students (\(SD = 33.66\)).

Materials

An online survey was hosted on Fluidsurveys.com. Prior to the survey itself, potential participants read an informed consent information page, and agreed to a statement of informed consent. Those who chose to participate in the research study completed an online questionnaire, and an open-ended use of Story item that allowed specific courses to be identified. The focus of this research was instructors’ current use of Story in teaching activities, teaching presentation formats, and student, as well as their attitudes toward
the use of Story in teaching. Subsequently, participants viewed a debriefing statement and the survey exit page.

Procedure
The online survey was created and hosted on FluidSurveys. This link was circulated on psychology listservs (i.e., PSYCHTEACHER, Tips, and PT@CC) and the Society for the Teaching of Psychology (STP) Facebook Group in April 2014. Participants took an average of 11 minutes, 7 seconds (SD = 6 minutes, 16 seconds) to complete the survey. The survey was closed in June 2014.

Results
Quantitative Data

Practice in the Use of Story in Teaching
Frequencies and Percentages. Participants indicated whether they used various forms of Story in their teaching activities (Teaching), presentation formats of material (Teaching Presentations), or for student assignments. Response options included YES, NO, or Decline to State. Most respondents (91% over the last five years; 77% during the most recent term) reported using Story at least occasionally in their teaching. More specifically, participants reported that the most frequently used forms of Story in teaching are: informal personal stories/anecdotes (89% of those providing a response), recent/historical events in story form (53%), and stories about conducting a research study (52%). Within these teaching presentations, participants most frequently noted that they use oral narratives (86%), films (5%), and short written texts (41%). Participants reported assigning student creations of Story much less often than they used it as a presentation tool, although student assignments such as short written texts that can be completed in 1-2 sittings (50%), oral narratives (27%), and YouTube videos (21%) were not uncommon.

Attitudes toward the Use of Story in Teaching
Frequencies and Percentages. Those who chose to respond to the survey were generally positive about the potential for the use of Story in the classroom, with 93% agreeing completely or somewhat that “I believe Story is an effective tool for teaching content in my area of psychology”. However, a much smaller percentage felt knowledgeable in their instructional use of Story (41%) or believed that they were familiar with the appropriate literature (26%). Respondents indicated substantial interest in pursuing activities that would facilitate greater effective use of Story in teaching, with 88% indicating interest in professional development opportunities. When specific opportunities were mentioned, nearly everyone indicated that they would use STP resources if they were provided. A majority of participants also indicated interest in conferences, webinars, and books as well.

Role of Story in Teaching, Frequency of Story Use
Independent samples t – tests. Attitudes toward the use of Story in instruction were assessed by the item, “I believe the use of Story is central to my teaching.” Participants responded to this item on a 5-point Likert-type scale (1 = Disagree Completely, 5 = Agree Completely). Instructors at a high school or community college (n = 29) reported significantly higher agreement with this statement (M = 4.00, SD =
1.28) than did instructors at baccalaureate institutions and above \((n = 63)\), \((M = 3.24, SD = 1.28)\), \(t(90) = 2.65, p = .009\), \(d = .56\).

Frequency of Story use in a given course was determined by the question, “In a given course, how frequently might you use Story?” Participants answered this question on a 5-point Likert-type scale \((1 =\) Never Use, \(5 =\) Frequently Use). Instructors at a high school or community college \((n = 29)\) noted a greater frequency of use \((M = 2.97, SD = 1.05)\) than did instructors at baccalaureate institutions and above \((n = 59)\), \((M = 2.53, SD = 0.99)\). However, this difference was only marginally significant, \(t(86) = 1.92, p = .058, d = .41\).

**Area of Training and Development of Stories**

**One Way Analysis of Variance.** Participants reported their area of training in psychology. Later in the questionnaire, participants answered the item “My psychology training and expertise lends itself well to the development of Stories” on a 5 point Likert-type scale \((1 =\) Disagree Completely, \(5 =\) Agree Completely). Significant differences in agreement with this item were observed among the content areas \(F(8,72) = 2.51, p = .018, \eta^2 = .22\). See Table 1 (below).

<table>
<thead>
<tr>
<th>Content Area</th>
<th>(M)</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical ((n = 13))</td>
<td>4.31</td>
<td>0.75</td>
</tr>
<tr>
<td>Cognitive ((n = 14))</td>
<td>3.14</td>
<td>1.35</td>
</tr>
<tr>
<td>Developmental ((n = 12))</td>
<td>4.00</td>
<td>0.95</td>
</tr>
<tr>
<td>Educational ((n = 12))</td>
<td>3.75</td>
<td>1.29</td>
</tr>
<tr>
<td>Experimental ((n = 3))</td>
<td>2.33</td>
<td>1.52</td>
</tr>
<tr>
<td>General ((n = 6))</td>
<td>4.00</td>
<td>0.89</td>
</tr>
<tr>
<td>Industrial/ Organizational ((n = 3))</td>
<td>3.33</td>
<td>2.08</td>
</tr>
<tr>
<td>Neuroscience ((n = 2))</td>
<td>2.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Social ((n = 16))</td>
<td>4.00</td>
<td>0.82</td>
</tr>
</tbody>
</table>

However, planned comparisons between areas perhaps seen as professional specialties \((e.g.,\) clinical psychology) and areas possibly viewed as basic research domains \((e.g.,\) cognitive, experimental, and neuroscience) were not statistically significant. Specifically, Clinical and Cognitive, Clinical and Experimental, and Clinical and Neuroscience did not differ in their rating responses \((Tukey HSD p = .14, p = .13, p = .14,\) respectively). All other comparisons were \(p < .05\).
Self-Reported Knowledge of How to Utilize Story

Multiple Linear Regression. The outcome, self-reported knowledge of how to utilize Story within instruction (survey item “I am knowledgeable about how to utilize Story for teaching courses in my content area,” on a Likert-type scale from 1 = disagree completely to 5 = agree completely), was sought to be explained by a set of instructor variables. Thus, a multiple linear regression was conducted to investigate whether a model that included age, years as instructor of record, gender, terminal degree (yes/no), and total number of courses taught in the curriculum predicts participants’ self-reported knowledge of how to utilize Story in instruction. Self-reported knowledge of how to utilize Story was significantly related to the set of instructor variables, $F(5, 83) = 2.84, p = .02, R = .38, R^2 = .15, R^2_{Adj} = .14$. As shown in Table 2 (see Model 1 below), a significant unique effect was observed for terminal degree, and a marginally significant effect for gender emerged in this first model. That is to say, on average, male instructors in our sample reported higher knowledge of how to utilize Story relative to female instructors. Additionally, instructors without a terminal degree reported higher self-perceived knowledge of how to use Story than did those instructors with a terminal degree. Overall, approximately 14% of the variance of self-reported knowledge of how to use Story can be explained by a regression model that includes only instructor variables.

Institutional variables (class size, institutional classification) were added to the aforementioned instructor variables. Self-reported knowledge of how to utilize Story was significantly related to the set of instructor and institutional variables, $F(8, 79) = 3.32, p = .003, R = .50, R^2 = .25, R^2_{Adj} = .18$. As shown in Model 2 of Table 2 (see below), the significant unique effect for gender remained, and a significant effect for class size emerged in this second model. Instructors who typically taught smaller classes tended to report higher knowledge of how to use Story relative to those instructors who taught larger classes. Overall, approximately 18% of the variance in self-reported knowledge of how to use Story can be explained by a regression model that includes both instructor and institutional variables.

Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td>Model 1: Instructor Variables Alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
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<tr>
<td>Age</td>
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<td>.02</td>
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<tr>
<td>Years Instructor of Record</td>
<td>.01</td>
<td>.03</td>
</tr>
<tr>
<td>Gendera</td>
<td>.54</td>
<td>.29</td>
</tr>
<tr>
<td>Terminal Degreeb</td>
<td>-.67</td>
<td>.32</td>
</tr>
<tr>
<td>Total Number Courses Taught</td>
<td>-.04</td>
<td>.07</td>
</tr>
</tbody>
</table>
Model 2: Instructor and Institutional Variables

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>p-Value</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.81</td>
<td>1.00</td>
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<td>.07</td>
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<tr>
<td>Age</td>
<td>.02</td>
<td>.03</td>
<td>.20</td>
<td>-.02 - .07</td>
<td>.92</td>
<td>.36</td>
</tr>
<tr>
<td>Years Instructor of Record</td>
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<td>.03</td>
<td>-.03</td>
<td>-.06 - .05</td>
<td>-.12</td>
<td>.90</td>
</tr>
<tr>
<td>Gender</td>
<td>.58</td>
<td>.28</td>
<td>.20</td>
<td>.02 - 1.14</td>
<td>2.06</td>
<td>.04</td>
</tr>
<tr>
<td>Terminal Degree</td>
<td>-.41</td>
<td>.33</td>
<td>-.15</td>
<td>-1.06 - .24</td>
<td>-1.26</td>
<td>.21</td>
</tr>
<tr>
<td>Total Number Courses Taught</td>
<td>-.04</td>
<td>.07</td>
<td>-.06</td>
<td>-.19 - .11</td>
<td>-.56</td>
<td>.58</td>
</tr>
<tr>
<td>Class Size</td>
<td>-.01</td>
<td>.01</td>
<td>-.23</td>
<td>-.02 - -.01</td>
<td>-2.19</td>
<td>.03</td>
</tr>
<tr>
<td>Institutional Classification</td>
<td>-.31</td>
<td>.35</td>
<td>-.11</td>
<td>-1.01 - .40</td>
<td>-.87</td>
<td>.39</td>
</tr>
</tbody>
</table>

^a^ Female (n = 61); M = 2.74, SD = 1.28; Male (n = 28); M = 3.36, SD = 1.31; t (87) = 2.11, p = .04, d = .48

^b^ Terminal degree (n = 63); M = 2.71, SD = 1.33; No terminal degree (n = 27); M = 3.37, SD = 1.21; t (88) = 2.21, p = .03, d = .52.

**Use of Story in its Many Forms**

**Multiple Linear Regression.** The outcome, use of Story in all forms, was created by summing the number of Story forms utilized by respondents across teaching, teaching presentation, and student assignments. The goal of this second set of regression models was to explain this outcome, total number of Story forms utilized, by a set of instructor variables. As in the models above, this first model included instructor variables (age, years as instructor of record, gender, terminal degree (yes/no), and total number of courses taught in the curriculum) to determine whether these variables predict the total number of different Story forms used by instructors. Total number of Story forms utilized was significantly related to the set of instructor variables, F (5, 89) = 3.01, p = .02, R = .38, R^2 = .14, R^2_adj = .10. As shown in Table 3 (see below), a significant unique effect was observed for gender. This indicates that male instructors in our sample reported higher total usage of Story (in all its forms) than did female instructors. Overall, 10% of the variance in total Story usage can be explained by a regression model that includes only instructor variables.

Institutional variables (class size, institutional classification) were added to the instructor variables above. The total number of Story forms utilized was significantly related to the set of instructor and institutional variables, F (8, 85) = 2.49, p = .018, R = .44, R^2 = .19, R^2_adj = .11. As shown in Model 2 of Table 3 (see below), the significant unique effect for gender remained (i.e., male instructors reporting greater total usage of Story), but no other significant effects emerged in this second model. Overall, approximately 11% of the variance in total Story usage can be explained by a regression model that includes both instructor and institutional variables.

**Table 3**
Multiple Linear Regression Models Predicting Total Story Usage from Instructor and Institutional Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td><strong>Model 1: Instructor Variables Alone</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.29</td>
<td>3.07</td>
</tr>
<tr>
<td>Age</td>
<td>.11</td>
<td>.08</td>
</tr>
<tr>
<td>Years Instructor of Record</td>
<td>-.14</td>
<td>.10</td>
</tr>
<tr>
<td>Gender(^a)</td>
<td>2.57</td>
<td>1.04</td>
</tr>
<tr>
<td>Terminal Degree</td>
<td>-1.77</td>
<td>1.10</td>
</tr>
<tr>
<td>Total Number Courses Taught</td>
<td>-.32</td>
<td>.24</td>
</tr>
<tr>
<td><strong>Model 2: Instructor and Institutional Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>6.63</td>
<td>3.58</td>
</tr>
<tr>
<td>Age</td>
<td>.08</td>
<td>.09</td>
</tr>
<tr>
<td>Years Instructor of Record</td>
<td>-.11</td>
<td>.10</td>
</tr>
<tr>
<td>Gender</td>
<td>2.58</td>
<td>1.04</td>
</tr>
<tr>
<td>Terminal Degree</td>
<td>-.89</td>
<td>1.19</td>
</tr>
<tr>
<td>Total Number Courses Taught</td>
<td>-.05</td>
<td>.15</td>
</tr>
<tr>
<td>Class Size</td>
<td>-.01</td>
<td>.02</td>
</tr>
<tr>
<td>Institutional Classification</td>
<td>-2.00</td>
<td>1.28</td>
</tr>
</tbody>
</table>

\(^a\) Female (n = 65); M = 7.60, SD = 4.40; Male (n = 30); M = 9.87, SD = 5.11; t (93) = 2.22, p = .03, d = .48

**Use of Story in the Current Academic Term**

**Logistic Regression.** A logistic regression was computed to determine the relationship between a set of instructor and institutional predictor variables and the outcome, use of Story in the current academic term. As in the previous models, this set of predictors included instructor variables (age, years as instructor of record, gender, terminal degree (yes/no), total number of courses taught in the curriculum) and institutional variables (class size, institutional classification). These results are presented in Table 4 (see below). An effect of Institutional Classification was only identified. Participants who teach at a high school
or community college were 5.58 times more likely than those at baccalaureate and graduate institutions to report that they used Story in the current academic term. Overall, this model of instructor and institutional variables explains 15% of the variation in use of Story in the current term.

Table 4

Logistic Regression Model Predicting Use of Story in Current Academic Term from Instructor and Institutional Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Likelihood of Story Use</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>Wald</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model: Instructor and Institutional Variables&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.96</td>
<td>.86 – 1.06</td>
<td>.77</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>Years Instructor of Record</td>
<td>1.02</td>
<td>.91 – 1.15</td>
<td>.11</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.33</td>
<td>.08 – 1.42</td>
<td>2.22</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>Terminal Degree</td>
<td>.62</td>
<td>.14 – 2.71</td>
<td>.41</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Total Number Courses Taught</td>
<td>1.19</td>
<td>.86 – 1.63</td>
<td>1.11</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>Class Size</td>
<td>.99</td>
<td>.98 – 1.01</td>
<td>.15</td>
<td>.70</td>
<td></td>
</tr>
<tr>
<td>Institutional Classification&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.58</td>
<td>1.11 – 27.95</td>
<td>4.38</td>
<td>.04</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Model summary: Hosmer & Lemeshow Goodness of Fit $\chi^2 = 11.16$, $df = 9$, $p = .19$

Nagelkerke’s pseudo $R^2 = .15$

<sup>b</sup> Story use in current term by instructors at Baccalaureate institutions and above ($n = 63$); No ($n = 15$), Yes ($n = 48$).

Story use in current term by instructors at high schools and community colleges ($n = 32$); No ($n = 3$), Yes ($n = 29$).

Results

Qualitative Data

Those participants who reported that they have used another form of Story in their teaching activities or teaching presentation formats entered the form in a textbox below an item titled “Other.”
Highlights from the Qualitative Data. Trends and themes in the open-ended data were determined by grouping the general frequencies of like responses. Several trends emerged when examining particular questions more closely.

Do you think Story is an effective tool for teaching content in your area of psychology Why/why not? Almost all respondents agreed that Story is an effective tool for teaching content in their area. The most frequently cited reason for Story’s effectiveness is its perceived ability to aid memory and retention of content. As one respondent succinctly noted: "Stories are what students remember." Other primary reasons cited for the use of this pedagogical technique is that Story is believed to engage students with the material and to enhance the understanding of content. The use of Story was additionally cited by respondents as helping the content to "come to life for students," to provide "real-life examples to illustrate concepts," and to help students relate to the material.

What do you see as some of the advantages of using Story in class? and Why have you used Story in class? Responses to these questions also focused on both engagement and cognitive benefits. Several participants noted that creating stories makes material personally relevant to students and therefore holds their interest, builds empathy, and leads them to understand how class content can be applied in situations that are relevant to them: “It brings material to life and allows practice of application skills”. As well, many respondents noted that use of stories improved students’ attention, memory, and depth of processing relevant to the material within: “Primarily, I use stories to help students think more carefully about and develop more significant memory for information related to class content”.

Why haven’t you used Story in class? Given that the sample included few respondents who did not use Story, responses indicating barriers to use were rare. However, those participants who provide reasons for not using story primarily focused on ignorance or lack of time, saying “I don’t know how”, “I didn’t know it was a ‘thing’”, or “I’m not familiar with it as a pedagogical technique – there is so much information to cover in a school year it is just easier to stick to the facts.” One participant also noted some difficulty infusing stories into online courses because “…I think it is the immediacy and sometimes spontaneity of story that is most effective and that is difficult to capture in an asynchronous environment.”

What role, if any, do you think APA or STP should play in exploring the use of Story as a pedagogical tool in psychology? Two primary trends emerged in the responses of faculty to this query. First, a number of respondents indicated the need for the use of Story to be investigated, explored, researched. This trend to want research to be initiated was well articulated by one respondent who said the role of the organizations should be: “helping support high-quality SoTL research to see whether there is empirical support suggesting this is an effective teaching strategy.” A subset of respondents specifically mentioned wanting to be provided with “evidence of the effectiveness” of Story. A second major trend that emerged is that the respondents want resources to aid them in using Story as a pedagogical technique. A wide variety of options were mentioned here with the suggestions of being provided with “samples” and “examples” of stories coalescing into more formalized requests for story archives and repositories. Several respondents mentioned the need for conference sessions or workshops on the use of Story. However, it is not just what material to use, but how to use it that several respondents are seeking, hence a focus for some on “training,” “help,” and “guidance” in the use of Story. In addition, a subset of respondents mentioned the need for these organizations to provide best practices for the use of Story, to take, as one respondent commented, a significant role that “encourages, supports, and recognizes it [the use of Story].” Such comments suggest the need for an advocacy role which would serve to legitimize the use of Story as a
viable pedagogical technique, rather than having it be viewed, as one Story proponent lamented, as not “academic.”

Discussion

The 2014 APA Division 2 Story Task Force was convened to answer questions regarding the existence of empirical evidence for the power of Story, and whether this literature is sufficient to point instructors toward “evidence-based best practices” (Landrum, 2014, p. 94). After reviewing the extant literature, the tentative answer to these questions is that the evidence is incomplete, but promising, for two reasons.

First, at present, the majority of theoretical frameworks and potential applicable best practices for Story are housed outside the realms of scientific and professional psychology. Other disciplines, such as education, the humanities, nursing, health, and organizational behavior appear to have embraced different forms and aspects of Story as suited to their discipline-specific needs. This frequency appears to be a stronger current than the sporadic waves of Story work in our discipline. We believe that elements of these interdisciplinary practices can be instructive for teachers of psychology; however, the picture may be obscured by the differing ways of other disciplines. In particular, we recommend taking some care in intentionally planning one’s application of these potentially fruitful approaches to Story. Even the most encouraging applications of Story in instruction must be evaluated rigorously and include subjective, or ancillary measures of student learning outcomes, as well as objective performance-based learning outcomes. SoTL work that translates to other teaching situations and contexts within psychology will be especially useful if our discipline seeks to weather the sea-change in the educational landscape.

Second, we need only revisit classic research in cognitive psychology to glean flashes of evidence in support of Story. Over the past four decades, cognitive researchers have demonstrated the memory benefits to integrating information into the narrative form, and the cognitive benefits of reading a good story. It may be the time to borrow procedures and outcomes from classic laboratory work to inform today’s empirical evaluation of oral, written, and visual Story. Aspects of our scientific lens can complement the possibilities for Story revealed in other disciplines.

The Online Survey

Given the dearth of data on whether and how psychology instructors use Story as part of their teaching, we circulated a survey asking about extant practice in using Story. In particular, we investigated instructor attitudes about its future use, and the role that STP might play in providing guidance and resources. Study participants responded to a variety of self-report Likert-type and open-ended items about their use of Story in teaching or attitudes toward its use.

The first goal of this project was to determine how Story is being used among psychology instructors. Our sample revealed that the vast majority have utilized some form of Story in the past five years, with nearly ¾ of the sample reporting use in the current academic term. At present, it appears that most instructors have used Story informally. These formats include personal stories, anecdotes, and reporting recent historical events. Oral narratives, short texts, and short writing assignments are the most common delivery and assignment formats. One reason, perhaps, that other forms of Story are not frequently utilized is the general acceptance of Story as an effective technique on its face, but lack of scholarly coverage and empirical evidence for specific techniques.

A second goal of this project was to identify who uses Story in teaching. Our data provide some preliminary clues as to instructor and institutional variables. Psychology instructors at the high school and community
college level reported significantly higher agreement with the item “I believe Story is central to my teaching” relative to instructors at baccalaureate and graduate institutions. In addition, high school and community college instructors reported significantly higher frequency of Story use than did instructors at baccalaureate institutions or higher. We also found significant differences among instructor perceptions that their area of training and expertise lends itself to the development of stories. Perhaps due to sample size, however, planned comparisons between helping professions (i.e., Clinical) and basic research areas (i.e., Cognitive, Experimental, and Neuroscience) only approached statistical significance. Examining these trends with a larger and more diverse sample only paints part of the (preliminary) picture.

Our regression models that included instructor and institutional variables were found to explain only a very modest amount of the variance in use of story in the current academic term. Gender appears to play a role in Story usage, at least among our sample. Male instructors indicated higher self-reported knowledge of how to use Story, and a greater number of different Story formats, relative to female instructors. Interpreting this finding (i.e., that male instructors are more knowledgeable and likely to use Story) should be taken with caution, though, as it may simply be reflective of our initial sample. The implication here is that continued research on the role of gender and Story use should uncover whether this relationship holds, or that is simply an artifact of our sample.

The finding that high school and community college instructors appear to utilize Story more frequently than do instructors at baccalaureate and graduate institutions may be worth exploring further. This trend may suggest that instructors are moving further away from Story and its perceived subjectivity, and toward scientific objectivity or expository discourse at higher levels of instruction (i.e., from high school to community college, to baccalaureate, to post baccalaureate instruction). Again, securing a larger sample of teachers of psychology at various types of institutions would allow these statistical analyses to be carried out more cleanly (i.e., without combining institutional types).

A third goal of this project was to investigate instructors’ attitudes toward the use of Story in teaching. The vast majority of our respondents believe that Story is an effective tool, and have some knowledge of how to use Story in general. However, most respondents are not familiar with the literature on Story as pedagogy. The qualitative data also show that most instructors in our sample are interested in professional development opportunities in the form of conference or convention sessions, or webinars/virtual conferences. Most reported that they would utilize resources on the use of Story in teaching if these were available. This edited book was developed in response to these data.

Recommendations for SoTL
There is a need for teacher-scholars to evaluate the effectiveness of instructional practices that incorporate Story. Although the relevant literature across disciplines is expanding, most writing focuses on the theoretical benefits of Story (e.g. Bruner, 2002; Hazel, 2008) or on the instructor’s experience of the practice as implemented (e.g. Koenig & Zorn, 2002; Stoddart & McKinley, 2006). Few reports (cf., Gunther, 2011) exist that include student learning outcome data after participating in Story-based learning. If we are to promote instructional practices that rely on Story, and devote resources to training and guidance in its pedagogical use, we as professionals in the discipline are responsible for demonstrating the effectiveness of these practices. Assessing outcomes of interest along with student variables, such as background knowledge and demographic items, may not only provide assessment of one’s instruction but also uncover potential avenues for scholarship.
Opportunities for scholarship are vast. There is need not only for controlled research based on the use of Story versus other pedagogical techniques, but also for evaluating how stories are best used. More specific analyses can investigate whether some stories are more effective than others in promoting student learning. For example, knowing the story dimensions upon which cognitive scientists have focused is one way to investigate the deeper aspects of Story scientifically. In particular, a situation models approach to Story (see Zwaan, Langston, & Graesser, 1995; Zwaan & Radvansky, 1998 for reviews) could prove to be a fruitful strategy for evaluating particular aspects of stories. For instance, instructors could systematically manipulate aspects of a story (e.g., thematic title/ no title; details about the protagonist/ no details about the protagonist) and assess transportation (see Green & Brock, 2000 for the scale) and engagement, memory for story details, comprehension of concepts and most of all -- some performance-based learning outcome. With some planning, different versions of stories could be presented on course management systems as text, as an audio or video file, or in hard copy form in the classroom.

Conclusion

The education reform movement has been away from teacher-centered instruction and toward student-centered efforts for quite some time (Cuban, 1987). Although Story in some forms appears to have a storyteller at its center, this can be misleading. Storytelling is a unique instructional strategy. Stories have the power to engage, motivate, and inspire students to wrestle with content they would not otherwise process deeply. As the cognitive evidence reveals, the story format in itself is also powerful. The structure provides a semantic framework for content and the memory cues for retrieval of that learned material. That said, a pragmatic, understandable hesitancy to move to Story exists. Many instructors agree upon its general effectiveness, but yearn for hard empirical evidence supporting its use. We, too, hope for continued research that investigates more thoroughly the power of Story. In the meantime, instructors who are continually being evaluated and held accountable for their instructional practices (e.g., via Danielson, 2013) should take heed. The skills of an effective teacher are indeed the requisite skills to be a good storyteller.

References


Weaving Yarns into Good Psychological Science Education
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Stories provide a means of organizing and understanding the human experience. Stories influence our thought processes, our manner of play, even how we dream. We come to understand our lives through the remembering and telling of stories. As Barbara Hardy has suggested, a story is “a primary act of mind transferred to art from life” (Hardy, 1977, p. 12). Storytelling is a deeply ingrained cultural form and thus, we are often unaware of how storytelling engages our interest, promotes curiosity, incites fear and tension, molds expectations, and creates a sense of order.

Storytelling is also an important means of socialization (Tappan & Brown, 1989). Fables, fairy tales, parables, myths, and cultural narratives help us to understand ourselves, and our place in the world (Vitz, 1990). Stories can stimulate the imagination, promote values and ethics, and assist in developing critical/creative thinking (Sanchez, 2006). Stories are used to instruct, illustrate and guide individuals in developing culture specific values (Shweder, Mahapatra & Miller, 1987; Zabel, 1991). Stories can give purpose to life. They tell us where we came from. They tell us why we are the way we are, and why we do the things we do, while connecting us to everyone else who knows the story.

Why Tell Stories in the Classroom
As teachers we want our students to pay attention, be engaged, and remember the material being taught. A key to doing that? Storytelling. There are several benefits in using a storytelling approach to instruction.

The first benefit for students is that stories provide an emotional connection. They allow students to experience a range of emotions without the risk of going through the events that led to those emotions. Second, stories provide a means of understanding others. Stories can help us appreciate diversity and learn about other cultures, ideas and ways of thinking. They can help students connect with past generations and how earlier generations responded to challenges. Stories also allow students to see the ways in which they are not unique or alone. A well-told story will capture students’ attention as they are drawn into the character(s), plot, conflict, and eventual resolution of the story. To be effective, telling a story requires that the teacher make use of vocal inflection, gestures, and movement to further engage the learner (My students once presented me with a “medal” for the most miles walked during lectures).

In addition to these student-learning benefits, stories can be used to assist students in generating questions that form the basis for testable hypotheses. Stories can also illustrate what is considered appropriate behavior within a culture. Finally, stories can be used to promote scientific values and humanize science, taking it from the test-tube and microscope and putting a human face to the process.

Types of Stories
In his book, Tell Me a Story..., Roger Schank (1991) points out that we begin life without stories and soon after we begin acquiring them. Some stories we receive at the knees of storytellers and other stories we

² Note: All of the first person references in this chapter refer to the first author.
invent for ourselves. According to Schank, there are five basic types of stories: Official, invented or adapted, firsthand experiential, secondhand, and culturally common.

Official stories are originally told by those in authority and may represent the views of government, religion, parents, teachers, scientists or others with ready explanations that may or may not have a clear source. I can remember repeating a story told by one of my professors about why only Pepsi Cola was sold in Russia. Unaware that in my classroom was a student whose father was a Vice President of Pepsi, I was caught out the next class period when he offered a well-documented rebuttal. Official stories often leave out troublesome details that might make things clearer but detract from the point the teller is trying to make. Official stories may employ instrumental honesty, maximizing the positive aspects and minimizing the negative aspects of an event for which one could be held accountable. In the classroom, these types of stories can often form the entry point to a more objective examination of an event.

The invented story can be based on human experience but then distorted to the point that the original event is unrecognizable. Urban and cultural myths may have originated as a firsthand experience but then been elaborated on in such a way as to make them more “interesting.” For example, Odysseus is confronted with the choice of Scylla or Charybdis, which has come down to us as choosing between a rock and a hard place. Homer describes Scylla as a six-headed sea monster that crushes its victims and Charybdis as a sea monster who swallows huge amounts of water three times a day and then belches it back out again. The bases for these monsters were the rocky shoals on the east side of the strait of Messina and the whirlpool on the right side of the strait. In the classroom, the invented story can be used to illustrate a wide variety of psychological principles.

Firsthand stories are based on our own real-life experiences. To make a firsthand experience interesting as a story requires structure, which I will discuss later in this chapter. Good stories of this type are best when they are unpredictable, or describe the unusual or exotic.

Secondhand stories are based on the experiences of those we know or have heard about. In discussing the perseverance of beliefs based on firsthand experiences, I tell the story of a colleague, who despite being a clinical psychologist, could never convince his wife that the “ghost” she saw was anything but a ghost.

Schank’s final category of stories includes those that are culturally common. These can be cultural myths as well as common assumptions. When I discuss the persuasive advantage of talking fast, I note that this is true despite the persona of the used car salesman (see, for example: Miller, Maruyama, Beaber & Valone, 1976). Everyone understands the image and then wonders why the data came to a different conclusion, which usually engenders a lively discussion about the generalizability and limitations of research findings.

How to Tell a Story - Make the Students Care
The first step in telling a story occurs before the storytelling itself begins. The first step is to establish a connection between you and the room full of students. Helio Garcia does this by playing a ten second burst of very loud music. Charles Brewer did it by walking to the podium and then staring silently at his students and waiting until everyone had stopped talking and was beginning to wonder what was about to happen. Then he began his lecture.

In his TED talk, Andrew Stanton (2012) provides several suggestions on how to tell a story. Perhaps to most important is to have a goal for your story. He suggests that you should craft your story so that everything from the first to last leads towards a particular goal. In teaching, our goal is the understanding of a
concept. With that in mind, the story needs to be more than an illustration; it should be pivotal in enhancing students’ understanding. As an aid to memory and engagement, require those listening to the story to work at putting things together. As born problem solvers, we better remember things that we had to figure out. Rather than jumping to the conclusion, have students put the parts together to reach the conclusion. Don’t give them 4. Give them 2+2. If your story has a central character, make that character likeable and be sure that the story captures his or her inner motivation – a goal that he or she is striving to reach. Make sure that your story embraces change. Stories without change die, since life itself is never static. Create initial uncertainty in your story in order to promote the listeners’ anticipation about what is going to happen. A well-told story has a theme and doesn’t ramble on to secondary plots. The best stories invoke wonder, which can be done by telling stories with unexpected endings. Finally, tell stories that come from your own experiences and that express values you personally embrace, stories that illustrate what you truly care about.

Stanton also suggests that the first rule of storytelling is to make the listener care about what is happening in the story. The first key to making students care about how a story turns out is to make the story clearly relevant to the students (see McAdams, 2001). Life stories often follow clear cultural forms and help us to understand ourselves and our society. Stories that tap into the commonalities inherent in these stories are very likely to generate student interest. Second, tell stories that are relevant to others whom the students care about, which can include the professor. It is important early in the story to indicate how the topic can be intrinsically interesting and to hold their interest with a clue that this story is going somewhere. Stories that capture the challenges faced by the current cohort of students can be particularly effective.

Take Me with You
Stanton also suggests that good stories create anticipation and the desire to know how the story turns out; what he terms “take me with you.” There are several ways to do this in the classroom and I will describe four.

The Mystery Story
The first comes from Bob Cialdini, who uses the mystery story as a means of engaging and holding student interest. The advantage of this type of story is that mysteries not only require that students pay attention, they also demand explanations. Cialdini (2008) outlines the following steps in creating the mystery story.

First, pose the mystery. He uses as an example the tobacco companies that in the late 1960’s took an unexpected step that boosted consumption and reduced advertising revenues. The second step is to deepen the mystery. In his example, Cialdini points out that tobacco companies lobbied to ban their ads from being televised. The third step is to home in on the proper explanation by first providing the students with plausible alternative explanations. In his example, he suggests that perhaps tobacco companies were interested in promoting better health but then discounts that explanation by noting that tobacco companies continued to aggressively market their products, just not on television. The next step is to provide a clue to the proper explanation. Cialdini poses the question: what is so special about television and talks about the “fairness doctrine” that insists that two sides of a controversial issue must be presented. With this in mind, he is able to resolve the mystery by noting that under the law, the American Cancer Society would have to be given equal time to counter tobacco ads. The final step, and this is critical for good storytelling in the classroom, is to draw the implication for the phenomenon under study, relating it to social psychological theory and research.
A Debate
One of the most interesting graduate classes that I took was Ben Underwood’s class on Verbal Learning/Verbal Behavior at Northwestern University in 1974. It was taught in the form of a debate; an ongoing debate between his team and the other guys who disagreed about the cause of retroactive interference (RI). One explanation for the cause of RI is Competition. New associations compete with older associations and the more recent association wins out, making it impossible to remember earlier associations. The alternative explanation that Underwood favored was the Associative Unlearning Hypothesis, which explains RI by saying that new associations replace the old associations in memory, causing the participant to forget the initial associations. By looking at different processes, this debate raged back and forth in the literature for some time. It began with Briggs’ (1954) study to which Barnes and Underwood (1959) replied. (See Underwood & Postman (1960) for a description of the issues being debated). In class Underwood walked us week by week through the debate as if it was happening in real time.

A Quest for the Truth
This type of story begins with a phenomenon that is accompanied by an inadequate explanation, at least to scientists. For example, you can begin with the murder of Kitty Genovese and the explanation provided by the Press that focused on how callous New Yorkers were. From that beginning, one can trace the work of Darley and Latane (e.g., 1968) on bystander intervention. A similar story would be the Congressional explanation for why so many prisoners of war in the Korean Conflict were “brainwashed” into broadcasting anti-American propaganda. Their solution called for more attention to be given to the study of American history. From this wrong-headed approach, Bill McGuire, who had served as a military tank-driver in World War II, offered a more sensible solution that has come to be called inoculation, in which those who are vulnerable role-play resistance to the persuasive messages to which they may be subjected. In each of these cases, the story is the lead-in to the explanation of the topic to be discussed (see McGuire, 1961).

A Problem to Solve
Stories of this type build on our curiosity about something that doesn’t seem to fit in with everything else we know. For example, one story I tell goes like this: Amy sees her best friend’s boyfriend with another girl. Does she tell Amy? Of course, and quickly too. Bob sees his best friend’s girlfriend with another guy. Does he tell Bob? Of course NOT. Here is an interesting problem to solve and when my student, Anastashia Malcolm, conducted research on this topic she found a curious thing. The most common reason given by both males and females for their action was the same. To tell (Females) or not tell (Males) would jeopardize the relationship with their friend (Malcolm & Mak, 2007).

Eliot Aronson tells a wonderful story in his 2012 book, The Social Animal, about a time when he was camping in Yosemite and a disturbance at a nearby campsite caught his attention. He rushed over to offer assistance, as did many other campers. To their relief it had only been a camp stove flare up and everyone went back to their respective campsites feeling good about being good Samaritans, except for Eliot who laid awake wondering why this event seemingly contradicted all of the research on bystander intervention. With so many bystanders, why did they all rush to help? His answer came in the form of “common destiny” which added to our knowledge of this phenomenon.
Be Intentional, Have a Clear Theme and Stimulate Wonder
Stories that ramble are worse than no story at all. Construct the story so that it stays on-point and make sure that you emphasize the point at the end of the story. Some of my best stories are those that provide a framework for additional research on the topic. This provides a way for students to understand that science is a process and that one never comes to a complete answer to the questions that we pose. Finally, one way to stimulate wonder is to start with an incorrect assumption about the explanation of a particular human behavior that sounds good in the beginning and build from there to what we actually know, that might in fact contradict what we thought we knew in the beginning. Studies of cognitive dissonance lend themselves to this format as does personality versus situational explanations of behavior. For example, the media widely propagated that the reason no one helped Kitty Genovese was because of urban anonymity. This sounded reasonable, particularly to non-New Yorkers, but was ultimately found to not be the most powerful determinant of bystander intervention.

Look Inside Yourself
Some of the best stories are about you and yours. Pick stories in which you or members of your family are the main characters. In addition to being a story you probably know well, it helps humanize you to the students. Personal stories also can add to your credibility as a teacher. The story can illustrate that you have been there and not just read about what you are teaching in a book. A second technique is to pick stories in which your students are the main characters, e.g., undergraduate research projects you have mentored or interactions you have had with students. Finally, you might want to pick stories that illustrate how you came to understand something that had puzzled you. There was a time -- admittedly many, many years ago -- when I was pursued by a woman in whom I had no interest. That said, it was difficult to communicate this disinterest in a way that didn’t make me feel like the bad guy. This was especially difficult since the local town fortune-teller had convinced her that I was “the one.” Roy Baumeister’s study on gender differences in dealing with unrequited love was very helpful in understanding and coping with my feelings (Baumeister & Wotman, 1994). By the way, for those of you looking for sage advice in handling such a situation, wearing a t-shirt that says “I am NOT the one” is not particularly helpful.

Tap into Classic Stories that Illustrate Psychological Principles
Classic stories use a well-known framework that can assist students in understanding the relationship of the story to the psychological principles being illustrated. Thus Aesop’s fables, the parables of Jesus, fairy tales, cultural myths and urban legends can all be used to ground our research findings in something familiar to the students. I ask students to tell me the parable of the talents and use the conclusion that those who can be trusted with small things can be trusted with much larger things. I then suggest how this is just the kind of idea that can form the basis of a testable hypothesis.

Finish Your Story
There are two important aspects of finishing a story. First the story should end with a sense of triumph in the discovery, an “aha” moment. Second, and most critical, there should be a clear link between the story and science. It is not a viable pedagogical tool if the students remember all of the details of the story and can’t recall the point you were trying to make in telling it.

While all of this advice is well intentioned and I believe very useful, you may be saying to yourself: Show me the data. Is there evidence that storytelling actually makes a difference in student learning? I hope the next section of this chapter will begin to answer that question.
Research on the Relationship of Storytelling to Students’ Test Performance

I regularly teach a course on experimental social psychology in the fall semester. In this class, I use a variety of pedagogical techniques. To evaluate the effectiveness of different pedagogical techniques, I first categorized the way I explained material into either storytelling or non-storytelling categories.

Storytelling took the form of parables, cultural myths, fairy tales, examples of research done by my undergraduate students, a quest for truth, and personal experiences. Non-storytelling approaches included a description of research findings, focus on the research methods, straightforward definitions, factors that contribute to a phenomenon, and applications of knowledge.

Method

Students’ grades are based in part on their performance on three unit tests. Each test consists of 50 multiple-choice items plus essay questions. From the three unit exams, I randomly selected three multiple-choice questions that asked about material that was taught using each one of the pedagogical techniques. To help ensure that differences weren’t due to the difficulty of the questions, I first sorted the questions using Bloom’s taxonomy (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). This taxonomy identifies six major categories of cognitive processes, starting from the simplest to the most complex. They are knowledge, comprehension, application, analysis, synthesis, and evaluation. The categories can be thought of as degrees of difficulty.

From the 150 questions, I created three groups based on the following question types: knowledge, comprehension and application/analysis. I then sorted all of the questions that represented each of the instructional approaches into the three groups and randomly selected one question from each group that reflected each form of instruction, for a total of 33 questions. The stories selected are described below.

I used the Scantron test analysis sheet from each of the tests given in the class for the past five years. That allowed me to determine how many students got each of the selected questions correct and how many did not. My sample includes 136 undergraduate students, mostly juniors and seniors, of whom approximately 65 percent were female.

The following story types and stories were randomly selected for analysis based on the criteria listed previously.

1. Parables. I use the Parable of the Talents, which suggests that being trustworthy in small matters is predictive of being trustworthy in larger matters to illustrate sources of researchable questions. I use the parable of the Good Samaritan as a lead-in to bystander intervention studies and the Parable of the Prodigal Son to talk about love.

2. Undergraduate Research. Having mentored over 300 undergraduate research projects in my teaching career, I have student projects that cover the full range of topics in an basic social psychology course. I selected three studies for this research. The first was on the MUM effect of not wanting to pass on bad news, in this case about a cheating partner of a close friend, which I use to illustrate gender differences (Malcolm & Mak, 2007). The second was a field study of risk taking as an alternative means of coping with mortality salience (Miller & Mulligan, 2002), and the third was a study of cultural differences in the ‘holier than thou’ phenomenon that suggested that collectivists are more accurate in their appraisal of their own and others’ generosity than are individualists (Balcetis, Dunning & Miller, 2008).
3. Cultural Myths. I use the story of the *Tiger and the Lion* who learn to overcome their differences and nurture their friendship to illustrate collectivist values (Piyatissa, 1994), and the story of *Quite the Contrary Man*, who refuses to shave his beard in the face of strong pressure from his friends and neighbors to illustrate individualist values (Hyatt, 2011). I use the story of *The Boy Who Cried Wolf* in my discussion of impression formation.

4. Fairy Tales. I use the story of *Snow White* in my discussion of the physical attractiveness stereotype, the story of *Dumbo* to explain self-efficacy, and Aesop’s story of the *Fisherman and his Wife* to illustrate adaptation level phenomenon.

5. Personal Experiences. Three stories were selected that represent my own personal experience. The first is “Aunt Ruth” which illustrates the power of labeling on behavior. I spent summers with her and she complimented me on my good manners which made me try very hard to always be on my best behavior. This notion formed the basis for my master’s thesis (Miller, Brickman & Bolen, 1975). The second story was based on my experience as a union negotiator for the University of Nebraska at Kearney Educational Association. I use that story to talk about conflict resolution strategies. Finally, I tell a story about one of my own undergraduate research projects on the differences between leaders and scholars, which I use to discuss conformity (Miller, 1967).

6. Quest for Truth. The selected stories that take the form of a quest for truth were the story of how Bill McGuire came up with Inoculation Theory (McGuire, 1961), Deutsch’s work on unilateral disarmament using the Acme Trucking game (Deutsch & Krauss, 1960), and research on modern racism (see Katz & Hass, 1988).

For comparison purposes, I selected several topics for which I do not use stories as part of the teaching process. The following non-story pedagogical techniques were selected since they are techniques for which I had sufficient questions on the unit tests from which to choose three that represented the appropriate categories within Bloom’s taxonomy.

1. Description of Findings. I simply describe what the research has shown when discussing the sleeper effect (Cook & Flay, 1978), deindividuation (Zimbardo, 1970), and Calhoun’s behavioral sink (Calhoun, 1962).

2. Focus on research method. For these topics, I concentrate on how the research was conducted in order to determine the results. The topics were cognitive dissonance – Festinger and Carlsmith’s (1959) experiment, Rokeach’s (1968) study of values, and Milgram’s (1963) study of obedience.

3. Definitions. Concepts that I simply define include the hindsight bias (Slovic, 1972), foot-in-the-door technique (Freedman & Fraser, 1966), and personal space (Sommer, 1969).

4. Factors that contribute to a phenomenon. I talk about factors that contribute to the phenomenon in discussing rules related to ethical research (Miller, 2005), sources of depression (Seligman, 1975), and rumor distortion (Allport and Postman, 1947). For example, I discuss how in the transmission of rumors, the story is shaped by sharpening, leveling, and assimilation.

5. Applications. When teaching students about what research method is best for determining a cause and effect relationship, I focus on the application of the knowledge in the discussion of the fundamental attribution error (Ross, 1977) and “brainwashing” (Schein, 1956).
Results

For each of the questions, I coded the data with a 0 if the student missed the question and a 1 if they got the question correct. I performed a 0/1 repeated measures analysis of variance on the students’ correct or incorrect responses for each of the questions. The first analysis combined the mean scores for all of the story-related questions with the mean scores for all of the non-story-related questions. Students got 78.2 percent of the 18 story-related questions correct and 68.8 percent of the 15 non-story related questions correct, $F(1, 135) = 53.83$, $p < .001$. Table 1 presents the percentage of correct answers for each of the story- and non-story-related pedagogical techniques.

Table 1

<table>
<thead>
<tr>
<th>Pedagogical Technique</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Research</td>
<td>84.8</td>
</tr>
<tr>
<td>Personal Experience</td>
<td>82.6</td>
</tr>
<tr>
<td>Parables</td>
<td>78.4</td>
</tr>
<tr>
<td>Fairy Tales</td>
<td>76.5</td>
</tr>
<tr>
<td>Definitions</td>
<td>74.5</td>
</tr>
<tr>
<td>Quest for Truth</td>
<td>73.7</td>
</tr>
<tr>
<td>Description of Findings</td>
<td>69.8</td>
</tr>
<tr>
<td>Focus on Methodology</td>
<td>69.3</td>
</tr>
<tr>
<td>Cultural Myths</td>
<td>67.9</td>
</tr>
<tr>
<td>Applications</td>
<td>61.7</td>
</tr>
<tr>
<td>Factors that Contribute</td>
<td>60.5</td>
</tr>
</tbody>
</table>

Students’ scores on these questions ranged from 60.5 percent to 84.8 percent correct, $F(10, 135) = 35.96$, $p < .001$. The most effective pedagogical techniques, as measured by student test performance, were stories based on undergraduate research projects, personal experiences and parables. The least effective techniques were factors that contribute to a phenomenon, applications of research to real world settings and cultural myths. Table 2 presents the percentage of correct scores for each of the thirty-three questions related to story and non-story pedagogical techniques.
Table 2

*Percentage of Students Who Got the Questions Related to Each Specific Story Correct*

<table>
<thead>
<tr>
<th>Story</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talents - Researchable questions</td>
<td>91.9</td>
</tr>
<tr>
<td>Aunt Ruth – Labeling</td>
<td>91.2</td>
</tr>
<tr>
<td>MUM effect – Gender Differences</td>
<td>87.5</td>
</tr>
<tr>
<td>Good Samaritan - Bystander Intervention</td>
<td>86.8</td>
</tr>
<tr>
<td>Snow White – Physical Attractiveness Stereotype</td>
<td>86.0</td>
</tr>
<tr>
<td>Terror Management Theory – Risk-taking</td>
<td>85.3</td>
</tr>
<tr>
<td>Conformity – Leaders vs. Scholars</td>
<td>84.6</td>
</tr>
<tr>
<td>Foot in the Door technique</td>
<td>82.4</td>
</tr>
<tr>
<td>Holier than thou</td>
<td>81.6</td>
</tr>
<tr>
<td>Cognitive Dissonance</td>
<td>80.9</td>
</tr>
<tr>
<td>McGuire – Inoculation</td>
<td>80.9</td>
</tr>
<tr>
<td>Hindsight Bias</td>
<td>77.9</td>
</tr>
<tr>
<td>Behavioral Sink</td>
<td>77.2</td>
</tr>
<tr>
<td>Deutsch – Unilateral Disarmament</td>
<td>77.2</td>
</tr>
<tr>
<td>Conflict resolution – Union Negotiator</td>
<td>72.1</td>
</tr>
<tr>
<td>Dumbo - Self-efficacy</td>
<td>72.1</td>
</tr>
<tr>
<td>Quite the Contrary Man – Individualism</td>
<td>72.1</td>
</tr>
<tr>
<td>Fisherman and his Wife - Adaptation level</td>
<td>71.3</td>
</tr>
<tr>
<td>Deindividuation</td>
<td>70.6</td>
</tr>
<tr>
<td>Brainwashing</td>
<td>68.4</td>
</tr>
<tr>
<td>Tiger and the Lion – Collectivism</td>
<td>66.2</td>
</tr>
<tr>
<td>Boy Who Cried Wolf – Impression Formation</td>
<td>65.4</td>
</tr>
<tr>
<td>Rokeach Study of Values</td>
<td>64.7</td>
</tr>
<tr>
<td>Ethical Research</td>
<td>63.9</td>
</tr>
</tbody>
</table>
Personal space 63.2
Modern Racism 63.2
Milgram - Obedience 62.5
Sleeper effect 61.8
Rumor distortion 61.0
Fundamental Attribution Error 60.3
Testing for cause and effect 56.6
Sources of depression 56.6
Prodigal son – love 56.6

Students’ scores on these questions ranged from 56.6 percent to 91.9 percent correct, $F(32, 135) = 30.62$, $p < .001$. Again, the top three stories are ones from the top three categories: parables, undergraduate research and personal experiences.

Discussion

The results of this study indicated that those concepts that were taught using a story format were better understood, as measured by test performance, than those concepts taught using a non-story format. Further, some types of stories worked better than others. The three most effective story types were stories based on undergraduate research experiences, personal experiences, and parables. Stories based on undergraduate students’ research projects have the advantage of being personally relevant and, because my students select their topics, the studies usually address cohort challenges. The icing on the cake is that I can often include the students’ personal reasons for selecting their research topics. I select the stories that I tell about my own experiences based on their relevance to the topic being studied and for those stories, I probably do a better job making the link between the story and science. Finally, most of my personal experience stories include self-deprecating humor, which seems to enhance student interest. My use of parables immediately provides a bond to a realm that most of my students believe they understand and my interpretation tends to deepen that understanding. The least effective story form in this study was the cultural myth. This may be because these were mostly used to identify how others are different from the average American college student, and as a result students may have found that material less self-relevant.

I tried to minimize the number of possible confounds in this study. Arranging the questions according to Bloom’s taxonomy and selecting an equal number of questions from each level to represent each pedagogical technique should have helped ensure that the results don’t simply represent differences between easier and harder questions. Randomly selecting the questions from several that could have been used means that I didn’t simply cherry-pick the questions.

However, there are still reasons for concern about the generalizability of the findings. My enthusiasm for each story was not coded. The length of each story was not coded. The reasons why each story helped or didn’t help the students understand the concept under discussion was not coded or for that matter even known. Nevertheless, the data are strongly suggestive that storytelling is a valuable way of increasing
student engagement, interest and memory. Storytelling may be the oldest form of education (McDrury & Alterio, 2002) and as suggested by the research presented in this chapter, it may also be one of the more effective. That said, it should be noted that our pedagogical toolbox goes well beyond how we construct lectures – with or without stories. It would be interesting to compare the efficacy of storytelling with group work, exercises, demonstrations, and other high-engagement educational practices (cf. Miller, Amsel, Beins, Keith, Kowalewski, & Peden, 2011).

Conclusion

In reviewing the many suggestions in this chapter, I would like to make particular note of those I think most valuable. First, make sure that the link between the story and scientific concept is clear – be explicit about the conclusion you want them to draw. Second, I find that the most effective stories are those about your own life. The current generation of college students seem somewhat uninterested in classic tales, and so those sometimes fall flat. Finally, use stories that the college-age cohort can relate to. If you are going to tell a story about the joys of grand-parenting, you need to set the stage by asking the students for some anecdotes about their own grandparents.

Storytelling is common to every culture around the world. It is used as a means to educate, inform, persuade, and entertain. Welsh bards, French troubadours, West African griots, English minstrels, and Native American tribal leaders used stories to preserve their history, explain why things happen, and teach moral lessons. Stories make a difference. They allow us to pass on knowledge in a social context. As a teacher, the art of storytelling is worth pursuing in order to help our students understand the world they live in and their place in that world, and to better prepare them for the challenges they will face in the future.

References


People enjoy stories because of the rich descriptions, vicarious experiences, and the desire to see goals fulfilled (Zwaan, 1999). Narrative comprehension research in cognitive psychology has shown that people actively monitor meaningful details of story events, and they store this information by constructing a situation model in memory (Johnson-Laird, 1983; van Dijk & Kintsch, 1983). While situation models (Zwaan & Radvansky, 1998) belong to the broad category of mental models, they are specific to representations based on language (Radvansky & Zacks, 2011). However, even though situation models are language-based, these memory representations go beyond the words themselves and include people’s imaginations of what was described or experienced. People integrate information that is highly related, especially if it refers to the same state of affairs (Radvansky & Copeland, 2006). They can also elaborate on the presented information by drawing inferences to connect ideas together or to add details based on assumptions and prior experiences (Bergman & Roediger, 1999).

The purpose of this chapter is to describe the cognitive processes of story comprehension as they relate to the use of situation models. We will first examine how people store information in memory that they learn from stories; this includes a consideration of different levels of representation in memory. After that, we will explore some evidence for how people integrate common ideas based on context. The next section describes how people actively monitor information during narrative comprehension and how they organize that information. We will then present a theory that describes how people are transported into the narrative world. Finally, we conclude by summarizing the major findings in narrative comprehension and how these findings can influence the use of storytelling in instructional settings.

**Storing Information in Memory**

Research has shown that during narrative comprehension, people form three distinct types of memory representations of the information that they learn. The first level of representation is called the *surface form*. This is the memory for the exact words that were read or heard. An important point about surface memory is that under most circumstances, people do not retain this information very long. Radvansky, Zwaan, Curiel, and Copeland (2001) demonstrated that adults’ surface representations were moderately strong if tested immediately after reading, but those representations degraded quickly, falling to near chance recognition performance after days. It should be noted, however, that verbatim information can be retained in long-term memory if it is important or if someone puts sufficient effort into retaining it (e.g., Noice & Noice, 1997). For example, people can remember a verbatim definition, a speech, or a punchline for a joke (that would not be funny if the wording changed).

The second level of representation is referred to as the *propositional textbase* (sometimes shortened to *textbase*). At this level, people retain the major ideas that were expressed in a story, but these representations are not tied to the specific words that were used. For example, if someone heard, “Nicole threw the Nerf football across the room to Kris,” they may retain that basic idea, but when they retrieve it from memory, they may not be able to distinguish it from another sentence that expresses the same basic idea, such as, “Kris and Nicole were in the room playing catch with the Nerf football.” This level of representation tends to be stronger than the surface form, but degradations can also be observed after days (e.g., Radvansky et al., 2001).
The final level of representation is the situation model (Zwaan & Radvansky, 1998). This level goes beyond the words and ideas that were explicitly presented and includes elaborations and inferences that are made based on context and prior knowledge. Building on the example from the previous paragraph, someone might make assumptions such as: (a) Kris and Nicole were friends, (b) the throw was a light toss because they were indoors, or (c) the football was a certain color based on their experiences with Nerf footballs. They may even try to imagine what the two people look like or how the room looks. Regardless of the specifics, the important points are that situation models constructed from stories can be very rich representations, go beyond what was explicitly stated, and can be retained for a long period of time. Radvansky et al. (2001) demonstrated that after a one week delay, the situation model representation remained strong while the surface and textbase representations were much weaker.

While situation models can be useful because of these qualities, it is important to point out that just because information is conveyed as part of a story, it does not mean that the story information will always be remembered accurately. One reason is that people do not encode every detail of a story accurately. A popular example of this was Bartlett’s (1932) study of reconstructive memory that was later replicated by Bergman and Roediger (1999). In the basic study, participants read an unfamiliar Native American folktale called “The War of the Ghosts”. When those college students recalled the story after varying delays (i.e., 15 minutes or 1 week later), there was a tendency for them to omit details with which they were not familiar and for them to alter some ideas based on assumptions or inferences (e.g., “something black came out of his mouth” was changed to “they imagined a ghost coming out of his mouth”). In other words, people did not simply reproduce the narrative from memory; instead, they reconstructed the narrative by integrating existing knowledge or inferences in places where they had difficulty understanding events.

Story memory can also be influenced by other factors inherent to the story itself. One example of this is that the ending of a narrative can influence readers’ impressions of the story. Newman, Lockhart, and Keil (2010) described an example of this from literature - the character of Ebenezer Scrooge from Dickens’s (1843) novel, “A Christmas Carol.” Even though the Scrooge character is generally negative throughout the story, he displays positive traits at the end -- leaving readers with a more favorable opinion of the character. Research studies exploring this idea (e.g., Diener, Wirtz, & Oishi, 2001; Newman et al., 2010) have shown that evaluations of a person, based on reading a scenario, were affected by how the description ended; that is, the impression of the person was primarily based on the more recent information. Thus, the ending of a narrative has the potential to influence how people evaluate and possibly remember it.

Collectively, research with narratives shows that people are not likely to remember the exact words presented in a story, and that the ideas from the story have a tendency to become a part of a larger, more elaborate memory representation referred to as a situation model. While this could be construed as a bad thing, it is actually good because this is what allows people to make inferences and tie in their prior knowledge. Part of what makes situation models stand out is that people elaborate on what they learn and can create representations that have perceptual qualities such as imagery. While situation models can be relied on over long durations of time, it is important to note that the qualities that make them so rich (e.g., inferences, elaborations, building off prior knowledge) can also lead to alterations or inaccuracies for some details (see Foy, this volume for more on inaccurate information).

Integrating Common Ideas
An important aspect of learning is that integrating and organizing information can be helpful for later memory. Early research by Bransford and Franks (1971) showed that people are likely to integrate related information on their own, without explicit instruction from an experimenter. For example, when presented with sentences conveying individual ideas, such as, “The ants ate the jelly,” “The jelly was sweet,” and “The jelly was on the table,” people were more likely to be confident that they had experienced a sentence that
integrated all of those ideas into a single sentence such as, “The ants ate the sweet jelly that was on the table,” even though they had never heard the sentence with the combined information. More recent research by Radvansky (e.g., Radvansky, 2005) involving the memorization of facts showed that there were memory benefits for information that could be integrated into a common situation model over information that could not be integrated into a single model. For example, there was a benefit when objects or events could occur simultaneously in the same location. Additionally, there appeared to be no limit to memory capacity as long as the information could be integrated into the existing model.

The context that is provided in a story can also be beneficial for memory organization. For example, when people understand a story’s theme, they are able to construct more accurate memory representations and draw appropriate inferences more readily than when they are unsure of the theme (Bransford & Johnson, 1972). In a set of experiments, people heard a passage that was written in a way that was ambiguous if one did not know the theme or context. Bransford and Johnson (1972) demonstrated that by presenting an image or title before the passage, people remembered much more information from the passage — sometimes more than twice as much! In other words, providing people with a theme, or a foundation for their situation model, allowed people to better understand and represent the learned information in memory. Along this line, when asked to take a certain perspective while reading a story (e.g., the perspective of a thief or home buyer when reading a story about a home), people were more likely to remember details consistent with the adopted perspective (Anderson & Pichert, 1978). In other words, the context of adopting a perspective guided the construction of the memory representation.

The benefits of context for memory have also been demonstrated in other research areas. In particular, one study (Schroeder, Copeland, & Bies-Hernandez, 2012) that focused on working memory capacity had participants remember keywords from sets of sentences. Schroeder et al. (2012) manipulated the materials so that the sentences in a set either made up a mini story on their own or were unrelated to one another. Performance in the story condition was better than in the unrelated condition, indicating that people were using the story context to help them retrieve or reconstruct the keywords that they needed to report. This is an important study because it clearly demonstrates that story context can be beneficial for memory, even in a simple working memory task. However, it should be noted that when the entire task made up one long story that continued across sets, performance did not improve because people had difficulty keeping the keywords associated with the appropriate set.

These studies demonstrate that people have a tendency to integrate information that can be represented in a single situation model. Importantly, there are no costs to adding more information when it can be easily integrated into that model. However, narratives are often complex and contain several events so adding contextual information such as a title or picture can boost memory performance.

**Active Comprehension – Reading Times, Memory Probes, and Event Segmentation**

Research with narratives has shown that people actively process stories as they hear or read them. For example, a lot of reading research has examined what factors cause people to slow down while reading. First, people take longer to read for obvious and superficial reasons, such as sentences being longer or words being less common (e.g., Just & Carpenter, 1980). In addition, research has also shown that people slow down while reading due to deeper processing. If there is an inconsistency between the current information and something learned earlier, people will slow down. For example, if a character is described as a vegetarian earlier in a story, people will slow down if they read something inconsistent, such as that character eating a hamburger (Albrecht & O’Brien, 1993). Also, if an ambiguity is encountered (e.g., reading the pronoun “he” after recently reading about two male characters), people will make regressive eye movements back to the earlier text in an effort to clarify understanding (e.g., Rayner, Chace, Slattery, & Ashby, 2006).
Besides inconsistencies and ambiguities, the Event Indexing Model (Zwaan, Langston, & Graesser, 1995) has been used to explain the finding that people slow down when they encounter significant changes in an event. In particular, people seem to monitor five important dimensions of an event: space, time, entity/people, causality, and intentionality. Reading time evidence supports the idea that people track these dimensions because, while reading, people will slow down when event changes occur in those dimensions, such as the story jumping ahead in time or a new character being introduced (Zwaan, Magliano, & Graesser, 1995; although see Radvansky & Copeland, 2010 for an exploration of spatial changes). This slowdown is thought to occur because people are updating their situation model at that point of processing the story. While this reading time effect is fairly robust for some dimensions (i.e., time and entity/people), observing a reading time effect for spatial changes sometimes requires specific instructions for readers to focus on that particular dimension (e.g., Therriault, Rinck, & Zwaan, 2006).

This updating process can be thought of as a process of altering one’s current situation model to reflect the changes in the story; when this is done, aspects that have not changed may be kept in the updated situation model. However, if the changes are significant, people may store the previous situation model and create a new one. Evidence for this updating process comes from studies that have examined the accessibility of information in memory (Glenberg, Meyer, & Lindem, 1987; Radvansky & Copeland, 2001). For example, consider a scenario in which a character in a story either takes off a sweatshirt before leaving the house because it is too hot, or puts on a sweatshirt before leaving the house because it is too cold. After the character leaves the house, if a researcher asks the reader to verify whether there was a sweatshirt mentioned in the story, they are faster to reply in the latter version, signifying that the sweatshirt is more accessible in memory because it was maintained in the new, updated, situation model. In contrast, in the former scenario where the character removes the sweatshirt, that item was not kept in the updated situation model after the character left the house, making it less accessible in memory.

Other studies have also provided evidence that people mentally represent the events of a story in real time. Instead of examining reading times, these studies have interrupted reading with the presentation of memory probes where people typically have to indicate if the information in the memory probe is true or false. For example, a number of studies have asked people to read about a character who is wandering through an office building completing various tasks (e.g., Morrow, Greenspan, & Bower, 1987). When those readers are occasionally presented with memory probes asking them to verify whether two objects are located in the same room, people are faster to respond when those objects are closer to where the main character is currently located in the story. For example, if the objects are in the same room that the character is occupying, those objects are more accessible than if they were two or three rooms away. This suggests that people are constantly updating their situation models to reflect the current state of affairs in a story.

In addition to using reading times and memory probes, researchers have also examined how people explicitly segment story events from text and film (e.g., Kurby & Zacks, 2012). Based on the idea that humans make sense of the world by segmenting experiences into meaningful events that have a clear beginning and end, researchers have asked people to segment events that occur in stories (Kurby & Zacks, 2008). An event can be as simple as making a bed, washing a car, or driving home from work. Most studies that examine event segmentation have people watch a video or read a story and those people are instructed to press a button when they identify a new event (e.g., Newton, 1973).

When identifying new events, event segmentation has high agreement and reliability among readers or viewers (Speer, Swallow, & Zacks, 2003). Consistent with the reading time studies, Zacks, Speer, and Reynolds (2009) found that as the number of situation dimensions (i.e., space, time, causality, entity/characters, and goals) in a clause increased, the likelihood of perceiving an event boundary increased. Also, those who are better at segmenting events at the proper points in time (i.e., when events
are completed) are better able to remember more whole events (Zacks, Speer, Vettel, & Jacoby, 2006). Using a think-aloud procedure in which people typed their thoughts while reading, Kurby and Zacks (2012) observed that readers mentioned more situational information at event boundaries than in event middles. These findings suggest that people prefer to wrap up information at event boundaries and that the ability to organize a story into clear events is helpful for memory.

In more applied work, other investigators examined how the insertion of pauses or interruptions affects memory and comprehension. When viewing movies, people have better memory for the temporal order of events when commercials are placed at breakpoints (i.e., boundaries) of events (Boltz, 1992). Some studies (see Baldwin, Baird, Saylor, & Clark, 2001) have even shown that infants may be sensitive to events because the researchers found that they were more affected when pauses interrupted a goal directed activity (e.g., picking a dish towel off the floor) than when they were at normal breakpoints. A similar finding was reported for adults (Baird & Baldwin, 2001), where observers were more likely to remember periodic beeps that occurred when goals were completed (i.e., at an event boundary). This research suggests that people are inclined to break up information into individual events.

Together, these studies demonstrate that people are actively processing narratives as they read. In particular, people focus on factors that help them build a mental representation in memory, including a spatial-temporal framework and information related to causality, characters, and their goals. Reading time analyses demonstrate that people slow down when changes occur in a story, and memory tests suggest that information that is currently relevant is actively maintained in memory. Research with event segmentation has shown that people are fairly good at breaking stories down into smaller events. In addition, it is better for comprehension if interruptions occur at breakpoints rather than during the middle of an event.

Transportation – Drawing People into a Story

As described at the beginning of this chapter, part of the allure of reading stories comes from the reader’s ability to imagine fictional worlds and scenarios (Zwaan, 1999). In part, this is explained by the reader’s ongoing process of constructing rich mental representations of events, characters, and actions that are described. However, the usage of situation models is not restricted to stories, as people can construct situation models from other types of texts; therefore, it is not sufficient to explain why stories, in particular, can be so engrossing. Instead, researchers have proposed a separate theory to explain how and why readers get drawn into stories. This phenomenological process is referred to as narrative transportation theory.

As the name implies, the main idea is that when readers are consuming a narrative, they lose themselves in the context of the story (Green & Brock, 2000; 2002). In other words, they are transported from the real world to the world presented in the narrative. The empathic nature of narratives is part of the reason why many people have reported the feeling of being “lost” in a story (Nell, 1988) and it was Gerrig (1993) who first used the analogy of transportation to describe this phenomenon. The idea is that readers are being transported from their world of origin (i.e., the real world) to the world of the narrative. As a consequence, some aspects of the world of origin may become inaccessible. Scientists studying narrative transportation have largely been interested in the psychological level of inaccessibility, wherein readers become less aware of facts that contradict the narrative world being created (Strange & Leung, 1999). For example, readers suspend their disbelief when encountering aliens in a science fiction story, even though there is no evidence of aliens existing in the real world. However, as Green and Brock (2000) point out, this inaccessibility of the world of origin can occur on a physical level as well. For example, highly immersed readers may be so focused on the story that they may not notice when, in real life, another person enters the room.
Early studies involving narrative transportation revolved around the persuasiveness of advertisements, particularly two forms of advertisement: argument and drama (Deighton, Romer, & McQueen, 1989). An argument attempts to demonstrate the merits of some product and is characterized by an appeal to objectivity and evaluation. In contrast, drama attempts to tell a story and is characterized by an appeal to subjectivity and empathy. Indeed, as Deighton et al. (1989) found, an argument’s persuasiveness was determined by evaluative processes such as counterargument and expression of belief, whereas a drama’s persuasiveness was determined by empathic processes such as ratings of verisimilitude (i.e., realism or believability) and emotional response. On a basic level, this showed that the introduction of plot and character to advertisement actually changed the way viewers processed it.

Theories of narrative transportation emphasize two key processes through which readers are transported into a story: empathy (Slater & Rouner, 2002) and imagery (Green & Brock, 2002). In a study using short narratives, Gernsbacher, Goldsmith, and Robertson (1992) found that readers read a target sentence more quickly if that sentence described a character having a previously primed emotion (e.g., pride). If the character was described as having the opposite emotion (e.g., guilt), readers slowed down when reading the target sentence. This suggests that people are readily making assumptions about how the characters must feel in the story. Interestingly, if the target sentence matched the primed emotion’s general valence but was not the same emotion (e.g., shyness instead of guilt), reading time latencies were still observed (Gernsbacher et al., 1992). This result suggests that readers are acutely aware of the exact emotion the characters should be experiencing, rather than a simple distinction of positive or negative. When a story is successful in conveying this information, readers may begin to feel empathy for the characters.

The second important component necessary for narrative transportation is imagery. As described earlier, situation models are rich mental representations of the characters, setting, and situations described in a text (Zwaan & Radvansky, 1998). To the extent that a given text promotes the creation of this kind of mental imagery, a story can resemble a real-life experience (Green, 2006). When Green et al. (2008) showed a movie to one group that had read the corresponding text beforehand and one group that had not, they found that the group that had read the text experienced more narrative transportation. The explanation was that the readers had constructed mental imagery of the story before watching the movie, leading them to experience more transportation than their non-reader counterparts. The ability of a text to stimulate a reader’s imagination is crucial to promoting narrative transportation.

To summarize, narrative transportation theory attempts to explain the common sensation of being immersed in a story (Nell, 1988). Narrative transportation relies on two key factors: empathy for the story characters and a story’s ability to promote rich mental imagery. When a reader is transported to a narrative world, their access to their world of origin is reduced, resulting in an inability to remember contradictory facts (Strange & Leung, 1999) or even physical conditions (Green & Brock, 2000) from the real world. Narrative transportation is part of the vicarious experience of narrative comprehension, and it may explain why so many people enjoy stories.

Summary and Applications

Research from cognitive psychology has clearly demonstrated that stories can lead to rich memory representations through the process of integrating common ideas (Zwaan & Radvansky, 1998). While people can sometimes remember the words and explicit ideas conveyed in a story, they are typically better at retaining the gist (i.e., situation model), especially over longer time periods (Radvansky et al., 2001). People elaborate on what they learn from a story by drawing inferences and connecting it to existing knowledge; however, it should be noted that because people do not encode or retain every detail, the reconstructive nature of memory can lead to inaccuracies when recalling details from stories (e.g., Bergman & Roediger, 1999). Research has also shown that people actively process story information as they encounter it, monitoring information that will help them organize information into events (e.g., Therriault
et al., 2006). It has even been demonstrated that taking breaks at event boundaries is better for memory performance than taking breaks in the middle of an event (e.g., Boltz, 1992). Finally, it is important to note that people find stories enjoyable because they can feel as though they are transported into the imagined story world and empathize with the characters that are described (e.g., Green & Brock, 2000). This understanding of the cognitive processing of stories can be useful for applying storytelling to teaching practices. For starters, presenting information as part of a story can be beneficial for memory compared to presenting information as independent pieces of information. While people may try to integrate common information (e.g., Bransford & Franks, 1971), making the process easier for them by organizing information into a narrative, rather than presenting them as individual facts, can be helpful (e.g., Schroeder et al., 2012). Presenting information prior to a story, such as a title or theme, can help set a foundation for building a situation model (e.g., Bransford & Johnson, 1972). It is also important to note that an ending to a story can alter people’s impressions of that story in a way that favors the information presented at the end (e.g., Newman et al., 2010). An understanding that story comprehension is an active process in which people monitor situation changes and event boundaries suggests that instructors should organize their stories well and schedule stopping points or breaks appropriately; specifically, memory benefits are best when breaks or stopping points occur at the clear boundary of an event (e.g., Boltz, 1992). Also, knowing that people are more likely to retain the big picture over details can aid in what type of testing is used. Better gist memory suggests the use of essay exams that look at overall understanding should be preferred over exams that examine memory for verbatim wording (see Radvansky et al., 2001). Finally, research on transportation (see Green & Brock, 2000) suggests that because people imagine described scenarios and empathize with story characters, the immersion that results from this may be beneficial for drawing and maintaining attention in the classroom.

References


Green, M. C., & Brock, T. C. (2002). In the mind’s eye: Transportation-imagery model of narrative persuasion. In Green, M. C., Strange, J. J., & Brock, T. C. (Eds.) *Narrative impact: Social and cognitive foundations* (pp. 315-341). Mahwah, NJ: Lawrence Erlbaum.


Encouraging Comprehension: 
Insights from Research on Reading Stories 
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In this chapter, I will review research on how people understand stories to provide insights into the process of comprehension and to provide suggestions for how to facilitate comprehension in educational contexts. To illustrate the process of comprehension, consider the following excerpt from Bransford and Johnson’s (1972) classic study on text comprehension:

*The procedure is actually quite simple. First you arrange things into different groups. Of course, one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities that is the next step, otherwise you are pretty well set. It is important not to overdo things. That is, it is better to do too few things at once than too many. In the short run this may not seem important but complications can easily arise. A mistake can be expensive as well. At first the whole procedure will seem complicated. Soon, however, it will become just another facet of life.*

For people who do not know that this passage is about laundry, it may be difficult to determine what it is describing. Participants who were told that the topic was about laundry before reading the passage rated it as easier to comprehend and recalled the passage better than participants who were told the topic after reading the passage, or who were not told the topic at all.

The Bransford and Johnson (1972) study illustrates several important concepts that I will discuss in this chapter. Though I will focus on comprehending written texts, the processes I am describing apply to comprehending other types of information as well, such as verbal information, pictures of scenes, and movies. In any of these modalities, people must draw upon prior knowledge. For the quoted passage, readers must access prior knowledge about laundry, allowing readers to connect the actions together into a familiar sequence (e.g., sorting clothes into piles before washing) and generate inferences (e.g., that the piles refer to separating the whites and colors for washing). Importantly, learning that the passage was about laundry after reading conferred no benefit relative to never learning the topic, indicating that prior knowledge must be available during comprehension. Even if readers are told that the passage is about laundry, they may have difficulty comprehending the passage if they have never done laundry or if they are used to doing it very differently (e.g., washing it by hand in a river). Besides accessing prior knowledge, comprehension involves putting the pieces of a text together into a mental model. To construct a mental model, people must put together *local* information from nearby sentences (often considered one to three sentences away, e.g., Albrecht & O’Brien, 1993), such as that laundry will initially seem difficult but will get easier with time. Additionally, readers ideally put together parts of information that are relatively distant from each other, integrating *global information*. For readers who learned that the passage displayed above was about laundry, information about the topic could be considered global since it is not immediately adjacent to most of the sentences in the passage. Understanding this passage required people to keep global information about the topic in mind as they read each new sentence.

As illustrated by the passage above, comprehending information involves integrating prior knowledge with information from the text. Though this sounds simple enough, research on how people read stories shows how complicated these processes can really be (e.g., Cain, 2015). Readers may fail to integrate information
globally or may not draw upon prior knowledge, leading to low levels of comprehension. I will discuss how research on stories provides insight about how and when readers comprehend new information. In the first section, I will talk about factors that affect when readers integrate information locally and globally within a text. In the second section, I will discuss how readers’ prior knowledge can interfere with comprehension, and how stories also provide insight into overcoming this interference. In the third section, I will discuss when readers critically evaluate whether information comes from a good source. In the fourth section, I will discuss how information from stories can become integrated into readers’ real-world knowledge, potentially leading them to pick up misinformation. I will conclude with a discussion of some general themes about comprehension that cut across the sections, along with a few suggestions to boost comprehension.

When do Readers Integrate Information Globally?

If readers are to fully comprehend a text, they must be able to integrate different pieces of the discourse into a coherent mental representation in memory. This involves readers integrating at both a local and global level. Researchers agree that readers integrate locally, though the extent to which they integrate information globally has been debated (e.g., Graesser, Singer, & Trabasso, 1994; McKoon & Ratcliff, 1992). Graesser and colleagues (1994) characterized readers as actively constructing the meaning of texts through creating a mental model that integrates information globally. In contrast, memory-based processing posits that information is accessed through a passive, automatic memory search that is affected by factors such as the distance between parts of a text and semantic overlap between incoming information and information in long-term memory (Gerrig & O’Brien, 2005). With the memory-based processing approach, readers may fail to integrate globally if incoming information fails to activate information in long-term memory. I will not address this debate in further detail (see McNamara & Magliano, 2008, for an overview), but I will discuss research showing that readers sometimes fail to integrate information globally.

In Albrecht and O’Brien’s (1993) classic study, participants read short narratives that described a character as having a trait (e.g., being vegetarian). Later, participants read information that was trait inconsistent (e.g., ordering a cheeseburger). Even though the inconsistent actions were locally coherent, meaning they fit with the immediate context of the story, participants took longer to read them relative to consistent actions. This slowdown in reading time indicates that readers had trouble processing the information. Many studies have replicated this finding, known as the inconsistency effect. Studies using the inconsistency effect have provided convincing evidence that readers often integrate at a global level.

Other studies have found that readers may not always integrate information at a global level. Long and Chong (2001), for example, measured reading skill using the Nelson-Denny Reading Test and had participants read the stories from Albrecht and O’Brien (1993). They found that participants who scored high on reading ability showed the standard inconsistency effect, but that participants who scored low on reading ability showed equal reading times for consistent and inconsistent information. Long and Chong suggest that poor readers may fail to integrate information globally, even if they are accessing the information in memory.

Other research indicates that there are circumstances in which average readers may fail to integrate information globally. Egdidi and Gerrig (2006) had participants read stories about characters with particular goals. Here is an example of a story:
John had been in desperate need of money. He robbed a Starbucks and was driving away from the city. He thought that if he could make it to Mexico before noon, the police would not get him. He wanted to cross the border. When he stopped to buy gas, he realized that he was tired.

Notice that John has two conflicting goals. One urgent goal but relatively distant goal is to cross the border to elude the police. The relatively local, less urgent goal is that John is tired, and wants to rest. The story ended in a way that was either consistent with the local goal (e.g., John takes a nap) or with the more global goal (e.g., John keeps driving). When looking at reading time measures, readers were always faster to comprehend the ending that was consistent with the local goal relative to the global, with no effect of urgency. In contrast, when asked to stop and make a judgment about what the character would do next, participants overwhelmingly agreed that the character would complete the more urgent, global goal.

Similarly, Foy and Gerrig (2014) measured reading times to determine how quickly people comprehended information in narratives. We found that reading times for sentences in narratives were more affected by local context than global context. We had participants read stories in which a character had a goal (e.g., finding a parking spot). The story described the goal as successfully completed or made no mention of completion. Two sentences later, the character either thought about the consequences for not completing the goal successfully (e.g., getting a ticket for parking illegally) or made no mention of the goal. The sixth sentence described the character checking whether they completed the goal (e.g., running out to their car to check the parking signs). Participants read this faster when the character worried about completing the goal, regardless of whether it had actually been completed. However, when asked to judge whether the character should check, both local information about characters’ emotional state and global information about goal completion affected judgments.

Taken together, these studies provide evidence that readers may not always integrate information globally while reading. Readers may fail to integrate globally even for texts that are as short as six sentences (e.g., Foy & Gerrig, 2014), which are far shorter than texts that students routinely encounter in educational settings. However, research also suggests several factors that may influence whether readers integrate information globally.

Prior knowledge plays a strong role in integrating the parts of a story, as illustrated by the Bransford and Johnson (1972) study (see also, Recht & Leslie, 1988). At a basic level, prior knowledge allows readers to understand the concepts being referred to, but it also allows readers to draw inferences that are necessary to make a text coherent. For example, in the passage about laundry from the beginning of this chapter, readers may have inferred that sorting into two piles referred to separating clothes into whites and colors, though this was never stated in the text. Such knowledge-driven inferences occur during reading all the time, and drawing them is necessary to fully comprehend a text.

Though prior knowledge is a prerequisite for generating inferences, it is not sufficient on its own (Cain, Oakhill, Barnes, & Bryant, 2001). Poor readers may have sufficient prior knowledge, but fail to generate inferences without guidance. There are a number of reasons why such failures may occur. Cain et al. (2001) suggest that possibility that some readers may not activate relevant knowledge. This may be true in some cases, but there have been studies showing that information is activated in memory but does not seem to affect reading times (Long & Chong, 2001; also Kendeou, Smith, & O’Brien, 2013). Other possibilities, also raised by Cain et al., (2001) is that both relevant and irrelevant information may be activated during reading, but poor readers may have difficulty selecting the relevant information. Also,
poor readers may also assess their comprehension differently, leading them to use strategies that do not facilitate inferences (Paris & Myers, 1981).

Another important factor that influences global comprehension is task focus (Rapp & Mensink, 2011). Text processing researchers often distinguish between online processes, which occur during the process of reading, and offline processes, which occur when the reader stops to consider the text. Gerrig and colleagues (Egidi & Gerrig, 2006; Foy & Gerrig, 2014) have suggested that offline tasks, such as asking participants to make judgments about what will happen or reflect upon the story, encourage people to integrate information globally.

Related to task focus, readers’ goals while reading may also affect how deeply they process the text. McCarthy and Goldman (2015) had participants read a story, and they were given one of four sets of instructions: write about the plot, come up with a specific theme, evaluate the validity of a particular theme, or instructions to simply write about the story. These participants were novice readers. Still, these readers adopted an interpretive stance when asked to think about the themes or generate and argument, and they used global information within the story to get to a deeper meaning (McCarthy & Goldman, 2014). In contrast, when novice readers were instructed to write about the plot, they adopted a more literal stance, focusing only on the surface level events of the story (for related findings, see also Goldman, McCarthy, & Burkett, in press). These findings are also encouraging in light of prior research suggesting that novice readers often miss key aspects of literary narratives and have a hard time developing deep interpretations of texts (e.g., Graves & Frederiksen, 1991). They suggest that with proper goals and sufficient knowledge, novice readers may be able to comprehend a text at a deeper level than when they read without a goal (Goldman et al., in press; McCarthy & Goldman, 2015). Additionally, the studies by Goldman and colleagues suggest that having readers engage in an offline task may encourage more global processing, but may not on its own be sufficient to elicit deeper comprehension. Instead, readers may benefit from having goals to guide their reading and an offline task that encourages deep processing.

When Does Prior Knowledge Get in the Way?
As the passage about laundry illustrated, prior knowledge is a prerequisite for comprehension. However, as many researchers and instructors have noted, prior knowledge can also be a hindrance to learning. For example, after taking a class on physics, students still use their incorrect lay intuitions for how objects move through space (McCloskey, 1983). Research on stories may provide insight into how people are affected by prior knowledge when encountering new information.

Consistent with the research that students often hold onto prior knowledge even in light of conflicting but more accurate prior knowledge, readers may be affected by outdated or incorrect information within a text. For example, when readers were told that a character named Mary used to be a vegetarian but was not any longer, they still took longer to read about her ordering a cheeseburger than when she was described as a loving junk food (O’Brien, Rizella, Albrecht, & Halleran, 1998). Longer reading times here suggest that readers were having more difficulty comprehending the information. The inconsistency effect persisted even when Mary’s vegetarianism was qualified by her tendency to order meat at restaurants, and, interestingly, even when the information about Mary being a vegetarian was part of a joke and was never considered true (See also O’Brien, Cook, & Guéraud, 2010). When participants were asked to rate whether Mary was a vegetarian, most participants agreed that she wasn’t, showing a separation between how people process information while reading and when they stop to make judgments, reflecting the dissociation between online and offline processing that I discussed in the previous section.
These results may seem to paint a bleak picture of how prior knowledge can persist, but other studies have shown that these effects may be mitigated or even eliminated under certain circumstances. Gerrig (1989) demonstrated that textual context can affect the accessibility of prior knowledge by having participants read short narratives about well-known historical events (e.g., George Washington becoming the first president of the United States). Participants read suspenseful contexts, in which the real outcome seemed unlikely (e.g., George Washington was tired after the Revolutionary War and was reluctant to become involved in politics) or the real outcome seemed likely (e.g., George Washington was very popular after the war and was ready to lead the country). Participants then made judgments about the accuracy statements about the real-world events (e.g., George Washington was the first president of the United States). Gerrig (1989) found that readers were slower to verify the real-world outcomes when participants read the suspenseful narratives, indicating that readers were slower to verify the information because it did not fit the story context or because the relevant knowledge was less accessible in memory. Building upon this, Rapp (2008) showed that people were faster to read real-world inconsistent information (e.g., George Washington not becoming president) in the suspenseful narratives relative to the non-suspenseful narratives, and that these effects persist even upon rereading (Jacovina, Hinze, & Rapp, 2014). Taken together, these studies suggest that context may affect the accessibility of prior knowledge during comprehension.

While context may reduce the accessibility of prior knowledge, teachers presumably would prefer to correct inaccurate beliefs rather than have students fail to access this knowledge while learning, and potentially have these inaccuracies persist. Research by Kendeou and colleagues (Kendeou et al., 2013; Rapp & Kendeou, 2007) suggests that providing sufficient causal explanations may eliminate the impact of inaccurate prior knowledge on comprehension, and possibly even prevent it from being accessed in memory when contradictory information is encountered. Rapp and Kendeou (2007) had participants read stories consisting of two parts. The first part prompted participants to generate a trait-based inference about the main character (e.g., the character is messy). In the second part, the character subsequently acted in a trait consistent (e.g., littering on a bus) or inconsistent manner (e.g., taking a newspaper off the bus so as not to litter). They tested whether simply refuting the trait (e.g., saying that the character isn’t ordinarily messy) would eliminate the inconsistency effect, but found that readers were still slower to read trait-inconsistent information even with the refutation. However, the inconsistency effect disappeared when readers were given a causal explanation for the inconsistency (e.g., their apartment was messy because they were moving).

Continuing this line of research, Kendeou and colleagues (2013) found that causal explanations not only eliminated the inconsistency effect, but that they also prevented readers from accessing outdated information in memory. For example, when Mary was described as having been vegetarian but changed her diet due to health considerations, readers no longer slowed down when they read about her ordering a cheeseburger. This effect held regardless of whether the explanation was one sentence or three sentences long. They also tested the accessibility of the outdated information by having people respond as quickly as possible to a probe that was relevant to the outdated information to test whether it was active in memory. They found that the information was still active in memory when readers encountered a one-sentence explanation, but that it was no longer active in memory following a three-sentence explanation. In sum, these studies indicate that providing a sufficiently long causal explanation may help decrease people’s reliance on outdated or inaccurate information during comprehension.
When Do Readers Trust Bad Sources?

Although most research in comprehension has focused on how readers understand individual sources (e.g., short narratives, expository texts), readers routinely are asked to critically evaluate information and to integrate across multiple sources. Recently, how people pay attention to multiple sources has garnered attention and has primarily focused on how people attend to multiple expository texts on a particular topic (e.g., Rouet, Favart, Britt, & Perfetti, 1997). Stories, however, afford a unique opportunity to exploring how people deal with sources at a different level. Stories are always told from the perspective of a narrator, and characters within texts frequently assert their opinions and perspectives on events within the story. To comprehend a story, readers must be able to critically assess these sources, the narrator(s) and characters within the story, to determine the accuracy of the information they are reading.

Are readers good at determining the reliability of a source within a text? Similar to Rapp and Kendeou (2007), Sparks and Rapp (2011) had participants read short narratives that were described as interviews from informants about individuals within a small town. In each story, an informant described a character in such a way that the reader would infer the character had a particular trait (e.g., messy). Later, a different informant described the character acting in a way that was trait-consistent or trait-inconsistent. Additionally, participants were told that each informant was either dishonest or was a good source of information. Across several experiments, participants were always slower to read trait-inconsistent information relative to trait-consistent information. Whether a character was honest did not affect reading times, suggesting that readers were not attending to source reliability. The inconsistency effect held even when the experimenters prompted participants to attend to source reliability. In contrast, when readers were asked to make a judgment about what would happen, their judgments were affected by source reliability. Sparks and Rapp show a similar dissociation between online and offline tasks as previous studies (Egidi & Gerrig, 2006; Foy & Gerrig, 2014), indicating that readers do not always attend to source information while reading.

In a set of follow-up studies, Foy and Briner (2015) found that readers did attend to source information while reading, but only when dealing with implausible information. We gave participants short stories with descriptions that led participants to infer that a character was a credible source of information (e.g., a sober individual at a party) or a non-credible source of information (e.g., somebody who took bath salts). The character asserted an implausible event (e.g., there were wolves running around their back yard during the party). Participants showed the standard inconsistency effect for information from credible sources; they were slower to read inconsistent information than consistent information. This effect was reversed for the non-credible sources; participants were faster to read inconsistent information than consistent information. In a second study, participants read stories with the same characters, but this time they asserted something more plausible (e.g., it is raining outside). With the more plausible information, the effect of source credibility went away. Participants were always slower to read inconsistent information, regardless of source. In a third study, participants read modified versions of The Telltale Heart, a short story narrated from the perspective of a murderer who is clearly insane (Foy, LoCasto, & Dyar, 2015). Participants read a story with either an implausible event (e.g., the narrator hears a dead man’s heart beating) or a relatively plausible event (e.g., the narrator sees a blood stain above where he buried his victim). Even though people agreed that the character was insane, they rated the plausible event as being more believable than the implausible event. Additionally, the researchers found a strong correlation between whether readers believed different events within the story (e.g., that there really was a murder, that the police came to investigate) and the plausibility of the events when they were rated outside the
context of the story (i.e., not from the perspective of a bad source of information), providing further evidence that people may believe information that seems plausible, even when it comes from a bad source. Taken together, these findings suggest that strongly implausible information may trigger deeper processing, and may also elicit attention to sources (Foy & Briner, 2015; Foy et al., 2015).

How do Stories Affect our Beliefs?
Stories may be unique in their ability to affect the beliefs of readers. When people read a story, they are “transported” to the world in which the story occurs (Gerrig, 1993). Some components of transportation involve becoming emotionally involved in the story, focusing one’s attention on the story at the expense of their surroundings, generating images of the characters of the story, and feeling that the story has impacted one’s life (Gerrig, 1993; Green & Brock, 2000). The extent to which readers are transported into a story world is correlated with how strongly their beliefs change to be congruent with the story (Green & Brock, 2000). For example, after reading a story in which a young girl was murdered in a mall by somebody with a mental illness, people who were strongly transported into the story more strongly endorsed the idea that people with mental illnesses are dangerous. Indeed, stories may also reduce prejudice against members of a minority group (Kaufmann & Libby, 2012). The persuasive effects of stories are robust, and have been found across many studies (van Laer, de Ruyter, Visconti, & Wetzels, 2014).

The very persuasive nature of narratives may also come at a cost. Fictional stories often contain inaccurate information about the world, and readers may acquire this information. Marsh and colleagues have repeatedly found that readers learn inaccurate information from stories (e.g., Marsh, Meade, & Roediger, 2003), and that this effect persists even when readers have prior knowledge about the topic (e.g., Fazio, Barber, Rajaram, Ornstein, & Marsh, 2013) and are told to be vigilant about encountering inaccurate information (Marsh & Fazio, 2006). Recently, though, Rapp and colleagues have found that having readers actively evaluate the accuracy of information within a text as they read may reduce the tendency to learn misinformation from stories (Rapp, Hinze, Kohlhepp, & Ryskin, 2014). Also, readers are less likely to acquire misinformation from stories that are fantastic and violate the causal rules of the real world (e.g., Rapp, Hinze, Slaten, & Horton, 2014), indicating that readers may separately store information from unrealistic stories. Readers are also less likely to acquire information that is low in plausibility relative to information that is high in plausibility (Hinze, Slaten, Horton, Jenkins, & Rapp, 2014), providing further evidence that readers are more critical of information that they view as being implausible.

Lessons Learned?
My goal has been to provide some insights into how people comprehend information by surveying some of the research conducted on how people read fictional stories. Though I have discussed very different areas of text comprehension in each section, there are some themes that connect these sections together. These themes may be useful in guiding both how stories are used in educational settings and to provide insights into helping student appropriately grapple with the information they are learning:

1. Do not take it for granted that readers are fully processing a text: Educators often give students reading assignments without providing goals or guidance, and expect comprehension. Readers may fail to consider global information even within extremely short narratives, and this becomes increasingly difficult as texts get longer. Readers may also fail to consider whether they are dealing with a good source of information, or may inadvertently learn inaccurate information. Instructors may be able to help students process a text by giving students clear goals (e.g., telling them what concepts to focus on or asking them to imagine what they would do in a character’s shoes), giving students questions that require them to explain
the content, or by instructing students to use a particular strategy while reading, such as self-explanation (e.g., McNamara, 2004) or generating questions while reading (Davey & McBride, 1986).

2. **Readers require sufficient knowledge**: Having prior knowledge allows readers to integrate information globally and assess whether a source of information is giving plausible information. Though inaccurate prior knowledge may hinder learning, providing sufficient causal explanation may allow new knowledge to supplant prior knowledge. Additionally, prior knowledge is required if participants are to actively evaluate the accuracy of information and to put it together into a coherent mental model. This means that when people encounter unfamiliar content within a text, the teacher may scaffold them by assessing students’ prior knowledge of the topic with a pre-test, and then provide additional information for students prior to assigning a reading (e.g., provide a short handout with definitions for technical words, providing a short lecture to provide background or highlight important concepts). Alternatively, teachers may set an expectation that students are responsible for understanding a given reading, and that students might need to seek out additional information on their own. Students may not seek this information out on their own and may instead settle for less than optimal comprehension with the expectation that teachers will cover the material in class. Students may resist this approach, insisting that the teacher is not doing their job because the students are teaching themselves (Weimer, 2013). Teachers may be able to deal with this resistance through conversations with students by discussing the rationale behind having students learn to handle difficult readings on their own.

3. **Provide readers with a task that encourages comprehension**: Offline tasks may encourage deeper processing. Asking participants to make a simple judgment about characters’ actions (e.g., Do you agree with the character’s choice? Do you believe what they are saying?) or events (e.g., What do you think will happen next? How could the story have turned out differently?) in the text may encourage participants to consider global information, as would providing questions that require deep processing. Similarly, instructions that focus on interpretation (e.g., What symbols does the author use to convey their meaning? What are the main themes?) provide students with goals will help students focus on the relevant information and process it deeply. And having participants actively evaluate information within a text while reading may reduce their learning of misinformation.

4. **Students may be uncritical of information that sounds plausible**: Students are more likely to pick up inaccurate information from a text if it sounds plausible (Hinze et al., 2014) and are more likely to accept seemingly plausible information from unreliable sources (Foy & Briner, 2015). Educators should carefully read over texts to look for inaccurate information that readers may learn, and might want to devote class time to providing explanations to correct any misconceptions that students glean from the readings. Alternatively, educators may ask students to evaluate specific bits of information from a text, leading to a discussion in class of the information to scaffold students’ ability to critically evaluate texts.

These suggestions to enhance comprehension must be considered carefully in light of educational objectives, characteristics of the text, and characteristics of the learners. For example, if a teacher has a goal of encouraging students to pay attention to symbolism within a story, they may ask people to focus on a particular symbol that the teacher deems important or to find their own symbols. Such instructions should encourage students to find symbols, but may cause them to shift their focus away from other elements of the story (e.g., narration, characterization, elements of the plot). Additionally, if a text discusses a many concepts, educators might want to ask students to pick out the most important concepts, and explain why they are most important. This task encourages students to learn to pick out important
concepts on their own, and the instructor may use in-class discussions to talk about how students made their choices. Educators must also consider the characteristics of their learners, such as their motivation level and the amount of time they have to devote to a task. Some tasks, such as generating explanations, may greatly lengthen the time required to complete a reading, and may be unsuitable for long reading assignments. As such, it is important to consider whether assigning students a particular task may place undue demands on their time.

As this chapter has illustrated, reading comprehension is a complicated process. At a very basic level, readers must be able to identify the words of a sentence and combine them together to comprehend each sentence. There are also a number of higher level processes involved in comprehension, some of which I have discussed in this chapter, such as integrating information locally and globally, accessing relevant prior knowledge, and assessing the accuracy of the information. Comprehension may break down at any of these levels, affecting how much people learn from a text. Research into how people comprehend narratives will continue to provide insight into how people comprehend texts and provide solutions that educators can use to boost comprehension.

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The Story of Your Life: 
Personal Mission Statements as Guiding Narratives for Young Adults 

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While the purpose of American universities is currently the subject of considerable debate (Delbanco, 2014; Nussbaum, 2010), many scholars of higher education believe that a university should provide far more than job training (Bate, 2011). Arnett (2014) indicates that for emerging adults, the four to six years spent at a college or university should be a developmental period for self-exploration. American universities are an ideal venue for identity construction. Typically, young adult college students are on their own for the first time in their lives, and must take personal responsibility for day-to-day decisions and actions.

Additionally, the structure of American higher education typically begins with two years of general education – hopefully, exposing students to marry new areas of knowledge (Arnett, 2014) and allowing them to explore other disciplines before committing to or changing a major. While perhaps overly romanticized, Arnett’s description of the college years highlights the unique value of this developmental period:

“College is a social island set off from the rest of society, the temporary safe haven where emerging adults can explore identity possibilities in love, war, and worldviews with many of the responsibilities adult life minimized, postpone, kept at bay” (Arnett, 2014, p. 167).

The Personal Mission Statement

University advisors and instructors often perceive contemporary students as being “adrift” and without a framework to guide life decisions (Arum & Roksa, 2010). At the same time, college students frequently report that between classes, employment, and social activities, their lives are so hectic that they have little time for serious reflection.

Mission statements are well-established in business and corporate settings. While perhaps not as widely known as their corporate counterparts, personalized mission statements for individuals have also been described (Covey, 2004a). For university students, addressing educational and vocational goals as well as the values underlying these personal objectives can be valuable in developing self-awareness as well as direction. As will be discussed further in the next section, abstract goals have limited motivational value. However, a self-generated narrative describing the future self is specific, personal, and meaningful (D’Argembeau, Lardi, & Van der Linden, 2012). By creating a course assignment in which students develop a personal mission statement, examination of values and aspirations becomes a required activity that is the basis of a grade. As part of several courses, we have incorporated an exercise in which students recognize and articulate personally held values and engage in critical reflection about their educational, vocational and interpersonal aspirations. A useful personal mission statement includes core values (e.g., responsible, hard-working, empathic), but is also specific enough to guide decision-making around important life issues such as choosing a major, choosing a college, use of free time or entering into a romantic relationship (Searight & Searight, 2011).

Since our original brief paper describing the development of personal mission statements among university students (i.e. Searight & Searight, 2011), Hyers and Shivde (2013), and Laird-Magee, Gayle, and Preiss (2015) have implemented this approach in psychology and business courses, respectively. Based on a qualitative survey study in which the authors attempted to elicit core content for psychology majors, Hyers
and Shivde (2013) concluded that one of the key objectives for majors was to better understand psychology as a profession. This appreciation included awareness of the number of specialties within the field as well as the educational pathway for specific psychology careers. Within this context, it was recommended that psychology students develop a career-oriented mission statement. A framework of this type could guide future planning including the selection of service learning and practicum/internship opportunities that were compatible with the student’s long-term goals.

Laird-Magee, et al. (2015) included the development of a personal mission statement as part of an undergraduate business ethics course. Surprisingly, relatively few of the students could clearly articulate personally held principles that guided their life choices with the majority demonstrating an “embryonic” to “very basic” understanding of their personal values. While 25% of the 50 students studied were able to articulate some life principles, the authors considered most of these beliefs to be uncritically incorporated parental values (Laird-Magee et al., 2015) While the majority of these students described values that the investigators characterized as superficial, those with personally held religious values met the authors’ criteria for a well-developed mission-oriented life framework. Service learning experiences, in particular, were described as helpful for prompting critical reflection on values and life goals (Laird-Magee et al., 2015).

A recent qualitative study of peer educators (Searight, Retzloff, & Narkiewicz, 2015) found that providing academic assistance to fellow students also promoted self-understanding. For example, one peer tutor found that her service learning experience helped clarify key career-related values that will guide future decision-making:

> I always thought that being like a teacher or something like that would be really really cool and I never got like a chance to experience it and through this… [the role of tutor]... I really realized that I am more of a relationship person than like a task based person, which is what this whole experience has taught me if nothing else that relating to people and talking to people and being around people is something that I need, not only for personal reasons but in a job one day (Searight et al., 2015, p. 13).

The Personal Mission Statement: Background

Our life goals are, in many respects, a story. When students are asked about people in their lives that have influenced their personal goals, the response will often be a story about the impact that a teacher, coach, or parent made on their lives. It may also be an important life experience as illustrated by the quotation immediately above. Service learning is often the source of self-knowledge conveyed through a personal narrative of providing meaningful help to someone else (Searight et al., 2015). Future personal aspirations are the story of a desired identity (“I would like to be the kind of parent who…”) (D’ Argembeau et al., 2012). Memory research suggests that these future selves, along with narratives of key events in one’s past, “…give rise to a personal senses of continuity” (D’ Argembeau et al., 2012, p. 117).

In addition to relying on developmental theory and research on emerging adulthood (Arnett, 2014) we have found that Stephen Covey’s approach to the personal mission, as described in the Seven Habits of Highly Effective People, is particularly useful for helping college students to consider core values and generate a future self. Birrell and colleagues (1998) note that Covey’s ideas have become increasingly popular in U.S. primary and secondary schools as well as in higher education. For example, Johnston and Webber (2003) describe the large scale implementation of Covey’s Seven Habits at Alabama Southern Community College. In that setting, the book was used primarily for leadership training. All faculty members received the book, the College’s continuing education programs repeatedly addressed the same content, and the Seven Habits became a recurrent theme in classroom instruction. Some of Covey’s (2004a) concepts are also used in the On Course text and curriculum (Downing, 2014) which focuses on specific
skills for academic success in college. Among other topics, Downing (2014) includes discussion of time management skills and a description of the “informal curriculum” of college while linking this content to students’ life goals (Downing, 2014).

Guidelines for the Personal Mission Statement

While Covey’s (2004a) approach encourages certain elements of virtue-based ethics such as honesty and personal responsibility, the model centers around specific actions. Key behaviors include being proactive rather than reacting to external circumstances (“The space between stimulus and response”); beginning projects with a clear vision of the desired goal (“Begin with the end in mind”); establishing priorities (“Put first things first”); finding common ground when disputes arise (“Thinking win-win”); active listening (“Seeking to first understand and then to be understood”); looking for ways to successfully collaborate with others (“Synergize”) and intentionally maintaining both physical and emotional well-being (“Sharpening the Saw”) (Covey, 2014). Developing one’s mission is not a task to be completed with an hour but is the result of significant introspection and reflection. Some key questions to initiate the process—

- “Imagine Attending Your 80th birthday party—Are you satisfied with the life you have lived? “Imagine attending your funeral—what is being said about you?” Are you currently living a life that is guided by your core values?” Covey’s approach to personal development, while frequently raising “big picture,” existential questions about a meaningful life, does include specific skills such as active listening.

Since it may seem that any adult can readily answer the question, “What is important to you?”, a discussion of values may appear to be superfluous. However, to prompt critical reflection, it often is necessary to begin the discussion with questions about principles and objectives that are important to others in the students’ lives. For example, in response to the question, “What is important to your parents?” responses included: “money, honesty, everyone at the table for dinner at 6:00, good grades, sharing, and taking responsibility.” From that discussion, students seemed better able to begin to articulate some of their own values: “girlfriend, nice car, being trusted by my friends, sleep, money, and good grades.”

Suggested questions to guide mission statement development include: 1. “Identify one person who had (knowingly or unknowingly) had a positive influence on your life. What are the qualities you most admire in this person? What qualities did you gain from this person?” (Covey, 2004a, p. 45); 2. “Imagine it is twenty years in the future. You have achieved all you ever hope to achieve. What is your list of accomplishments? What do you want to have, done, and be?” (Covey, 2004a, p. 45); 3. “What are the ten things that are most rewarding to you today?” (Covey, 2004a, p. 46). Written answers to these questions serve as the basis for constructing the personal mission statement. While adaptations of Covey’s ideas to university students often focus on educational and career goals, Covey assumes that dimensions such as relationships, including family and friends, as well as spirituality are all components of a comprehensive personal mission. For example, a non-traditional student, recently returned from military duty, discussed the mission statement assignment with his wife. After a discussion of their plans for the next five years, he returned to class with a rather concise, yet important, goal: “My mission over the next five years is to complete school successfully while assisting my wife to raise our children to become decent human beings.” Emphasizing the importance of religion in her life, a young woman began her statement with “I want to be sure that everyone I meet over the next five years will know me as Christian.” As is evident from these examples, while the relative emphasis may change throughout the life course, the core dimensions of importance remain consistent.

Relationship dimensions may be particularly important foci for first-generation college students. These students may be experiencing conflicting commitments to individual career and educational development with loyalty and responsibility to their family (Baxter Magolda, 1998, 2014). As indicated at multiple points in his writing, Covey does not see these two domains as in conflict but as mutually supportive—a point that is likely to make the mission exercise more acceptable to first-generation students.
It is often helpful to expose students to others’ mission statements such as Gandhi’s

'Let the first act of every morning be to make the following resolve for the day:
I shall not fear anyone on earth.
I shall fear only God.
I shall not bear ill toward anyone.
I shall not submit to injustice from anyone.
I shall conquer untruth by truth.
And in resisting untruth, I shall put up with all suffering' (as cited by Covey, 2015)

or the often quoted poem of Bessie Anderson Stanley (1905) (frequently misattributed to Ralph Waldo Emerson):

He has achieved success who has lived well, laughed often, and loved much;
Who has enjoyed the trust of pure women, the respect of intelligent men and the love of little children;
Who has filled his niche and accomplished his task;
Who has never lacked appreciation of Earth’s beauty or failed to express it;
Who has left the world better than he found it,
Whether an improved poppy, a perfect poem, or a rescued soul;
Who has always looked for the best in others and given them the best he had;
Whose life was an inspiration;
Whose memory a benediction.

A common flaw in mission statements is that they are often idealistic abstractions without grounding in actions. An inspiring description of goals and values is of little value when it fails to form the basis of day-to-day decision making (Maloney, 2012). This incongruence is certainly evident in many commercial or corporate mission statements. A retailer’s framed, publicly posted mission stating that “customer service is our highest priority” rings hollow when potential customers seeking assistance must wait for an extended period of time only to be greeted by a harried and surly clerk. Covey (2004a) does periodically allude to the importance of integrity. In his model, integrity is reflected in consistency between one’s values and their actions. Similar to their corporate counterpart, personal mission statements may have little influence on behavior if values are compartmentalized from actions.

Covey (2004b) makes the connection between word and deed through the Time Management Matrix. The Matrix is best thought of as a set of four boxes of tasks laid out on a grid—each box is associated with a particular level of urgency from “needs to be done today” (Quadrant I) to (upon reflection) “non-essential trivia and time waster” (Quadrant IV), In between are longer-term tasks that are associated with significant life goals (Quadrant II) and less significant but “part of life” tasks that, if left undone, will eventually lead to practical consequences and disruption in one’s daily routine (e.g., failing to empty the cat’s litter box) (Quadrant III). Rather than being a conventional schedule that is filled in with tasks, the four quadrant matrix serves to organize daily activities according to real-world demands as well as mission driven objectives. Students readily understand that in order to carry out their mission it is often necessary to address urgent demands that while, perhaps not personally meaningful, can have significant adverse consequences if neglected. For example, for an aspiring attorney, completing an application for educational financial aid may seem to be less important than tomorrow’s U.S government exam. However, if the documents are not filed on time, one’s mission-driven future career may not materialize. Quadrant II should primarily reflect activities that are directly tied to one’s personal mission. Covey notes that Quadrant I crises are often created (waiting until the night before a term paper is due to begin working on it) through procrastination and distracting tasks that my appear to be urgent but which, in reality, can be delayed for a reasonable time period without significant consequences (e.g. doing one’s laundry; vacuuming the dorm
Quadrant III reflects tasks such as the dirty dishes piling up in the sink—eventually the pile will become a significant inconvenience when there are no clean dishes but will not “make or break” achieving one’s life goals. Quadrant IV activities are often the activities that one carries out to avoid more pressing duties, such as procrastinating on the term paper by playing endless computer games and spending three hours on Facebook. As they fill in the matrix, students often become uncomfortably aware that their use of time, often including multiple hours on social media, is not congruent with their core values. This discrepancy, if fully recognized, is likely to elicit anxiety. However, as the literature on motivational interviewing principles suggests, the associated discomfort when actions and core values are incongruent may trigger dissonance that induces behavior change (Miller & Rollnick, 2012). See Figure 1 below.

There are several useful questions for sensitizing students to Quadrants III and IV. I (HRS) will occasionally ask a classroom of students about the number of text messages they have sent or received that day (The record holder was a student, who, at 2:30 pm, reported having received and sent over 200 text messages since awakening). I follow immediately with the question, “How many of those messages were meaningful?” The students’ nonverbal responses are best described as embarrassed smiles. Students are also invited to examine how projects such as papers and cumulative exams which may originate in Quadrant II, through procrastination and with looming deadlines, often progress to urgent Quadrant I activities. Many university students exhibit self-defeating perfectionism—-in the words of Voltaire (1772/2010), “The best becomes the enemy of the good.” This perfectionism is often a form of self-handicapping that aligns with procrastination. If the resulting exam or paper is not of top quality, the
such, was not representative of their true talent (Ferrari, 1991).

**Developmental Theory, Self-Authorship, and Mission**

Given the findings from Laird-McGee et al. (2015), suggesting that the vast majority of traditional undergraduates do not have clearly articulated and personally-held values, instructors may want to consider the personal mission statement in the context of developmental theory. While Erikson’s (1994) classic theory of development indicated that creating a stable identity was a central task of adolescence, current theorists (e.g., Arnett, 2014; Baxter Magolda, 1992) suggest that identity creation, while to some extent lifelong, is a particular concern of early adulthood. The prolonged period of formal education has been a major contributor to an extended moratorium on identity consolidation. Baxter Magolda (1998) argues that emerging adulthood is a process of self-definition in which a unique life narrative is created: [The] “capacity for self-authorship—the ability to collect, interpret and analyze information and reflect on one’s own beliefs in order to form judgments” (Baxter Magolda, 1998, p. 143). Emerging adulthood is also a period of further cognitive development. Theorists such as Perry (1999) and Baxter Magolda (1998) describe young adults as developing more complex reasoning culminating in the ability to appreciate the relativism of knowledge as well as the role of values and social context in decision-making.

With some conceptual overlap with Erikson (1994) and Marcia’s (1966) descriptions of the moratorium phase of identity development, Baxter Magolda (1998) describes a cognitive trajectory among university students in which they move from externally imposed values to an internally constructed life philosophy. This emergence of critical self-reflection often parallels how students respond to university instructors as they move through their undergraduate careers. Baxter Magolda (1998) and Perry (1999) both describe incoming college freshmen students as cognitive dualists; students are typically looking to the authority figures who possess absolute knowledge.

However, during the first one to two years of college, young adults realize that authorities do not have all the answers or that multiple authorities provide conflicting information (Perry, 1999). With the realization that knowledge is uncertain, students’ reasoning may take them in one of two directions— all perspectives are equally valid or a type of nihilism in which truth is non-existent. However, while perhaps promoting a superficial tolerance, this stage does not facilitate important life decisions. This realization of relativism, coupled with the growing necessity of making major life decisions (e.g., choice of college major), creates dissonance which, in turn, must be resolved (Arnett, 2007; Perry, 1999). Both recent research as well as developmental theory suggest that critical thinking – the eventual ability to see knowledge as relative to a context, coupled with the judicious use of evidence to evaluate knowledge (King & Kitchener, 2004)— is heavily dependent upon a well-developed sense of one’s own values (Baxter Magolda, 1992). Critics have argued that unfortunately, universities still emphasize absorbing information from authorities (“the sage on the stage”) (Johnston & Webber, 2003) rather than assisting students to develop their own authority. This final step—self-authorship or in Perry’s (1999) scheme, commitment within relativism —is often neglected in higher education. In her study of college women, Baxter Magolda (1992, 1995) describes the process of constructive knowing as involving the integration of one’s own life experience with external information to form a life structure.

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3 Anecdotally, as an illustration of dualism, my (HRS) own experience may be useful. Having taught psychology for over 30 years, I would suggest that contemporary college students exhibit a more sophisticated dualism than the students I encountered early in my career. A memory I have from teaching introductory psychology in the distant past is that after presenting the various theoretical perspectives (e.g., psychodynamic, behavioral, humanistic, etc.), a student would invariably ask me “Which one of those theories is right?” I have not received that question in many years leading me to believe that high school instruction—particularly with attention to cultural diversity—is moving students cognitively forward from dichotomies such as “right versus wrong.”
Since many students may be in an “embryonic’ (Laird-Magee et al., 2015) stage of values clarification, questions that encourage students to reflect upon their current or recent college experiences may be useful for initiating preliminary self-reflection:

1. Since coming to college, have you encountered people with very different backgrounds than yours? How have those experiences affected you?
2. How do you think college has changed the way you see yourself? How have you changed?
3. How do you think that college has affected your own beliefs and values?
4. Did you have any experiences that surprised you? What were they?
5. Do you see yourself as the same person today as when you began college? How are you different? (Baxter Magolda & King, 2008).

Conclusion and a Caveat

We have included an exercise on personal mission statements in both basic and advanced psychology classes. While perhaps limited in higher education experience, first semester freshmen students have been introduced to the topic in a required “University Seminar.” 1 (HRS) teach a section of this course specifically for psychology majors and introduce exploration of values and mission about midway through the semester. While not all first year college students are able to thoroughly articulate a personal mission, introducing the concept encourages reflection about the reasons for being in college and goals for the next 4-5 years. Covey’s (2004b) workbook has also been assigned as part of a senior capstone course to encourage students to consider goals for the next phase of their lives. In a very different vein, the second author (BKS) has included mini mission development workshops in the context of courses in human resources and organizational behavior. In these sophomore and junior-level courses, Covey’s material is presented as an example of staff development training that often occurs in large organizations. Finally, mission statement development has been an assignment for education majors in one of their early professional courses.

While the type of self-examination culminating with an internal values-based compass is an important aspect of adult development that sensitive faculty can facilitate, some students may be less than open, and perhaps, even fearful of this process. As indicated earlier, developing a personally valuable mission statement may, for some students, trigger emotional turmoil. Among today’s university student, the multiple demands of work, family, athletics, relationships, etc. are often held together in a very tenuous balance. Serious examination of one’s own values may threaten the psychological stability required for meeting multiple demands. As I (HRS) have suggested aloud to some classes, perhaps the unexamined life is well worth living—at least until final exams are over. For faculty who adopt mission statement construction, it may beneficial to some students to clearly convey that implementation of the personal mission may warrant deferral. A “future self” can be the focus of the newly developed mission. Reassurance can be provided with the message that students need to find their own way and time to act upon their new self-knowledge. This permission to temporize life changes is typically enough to comfort students. While students may experience the disjunction between stated values and lived reality, faculty should convey that this awareness by itself is important.

References


Hyers, L.L., & Shivde, G. (2013). Building a solid foundation for our majors with the introductory psychology course. Psychology Learning & Teaching, 12, 147-158.


Voltaire (2010). *La begsueule: Conte moral*. Whitefish, MT: Kessinger Legacy Reprints. (Original work published 1772)
In many human development courses, the hook is Dr. Freud. It is surprising that so few students know anything about this towering figure who has been an icon of psychology. His presence is also felt outside the field of psychology with many references in popular culture. Though of course interesting in their own right, Freud’s theories really come to life for students when presented within the context of his life story. Initial intrigue turns to awe when students learn that he chose celibacy as his method of birth control, sacrificing sexual expression, while continuing to indulge in smoking cigars even after losing part of his jaw to cancer and suffering years of pain. How could a man chiefly associated with the study of the libido abandon sexual expression but maintain a tobacco addiction? The real lights go on when students draw comparisons from their own experiences. What would they be willing to give up in life? What are their addictions? What do they do with their theories of the world? It is in that moment that students are ready to invoke their lived experiences as a source of knowledge, a “text” that they can use to discover their own hidden intellectualism as characterized by Graff (2003).

The lives-as-text model of teaching and learning stems from sociology. C. Wright Mills (1959) developed the concept of the sociological imagination which allows us “to comprehend the links between our immediate, personal social settings and the remote, impersonal social world that surrounds us and helps to shape us” (Schaefer, 2012, p. 3). By this, Mills means that all human experience needs to be contextualized such that understanding the larger history of an era always informs understanding the lives of those who live during that era. We see ourselves and others in terms of the issues of our day and how they impact our various trials and challenges, what Mills termed individual troubles. This juxtaposition of social issues and personal troubles provides the framework by which we guide our students to unlock their hidden intellectualism (Graff, 2003). Graff (2003) tells us that, “we associate the life of the mind too exclusively with subjects and texts that we pre-categorize as weighty in themselves...Real intellectuals turn any subject into grist for their mill through the thoughtful questions they bring to it” (p. 47). We believe that this process begins with the stories students bring to the classroom - their histories, dreams, beliefs, experiences, and personal myths.

The pedagogical use of storytelling has several benefits. Green (2004) points out that “stories are a powerful structure for organizing and transmitting information, and for creating meaning in our lives and environments” (para. 4). As a learning technique, Abrahamson (1998) notes that “…the sharing of experiences through the device of storytelling enables individuals to build the bridge of understanding with one another. This facilitates commonality and the shared resonance of experiences” (p. 441). In addition to creating a sense of community and trust among learners, storytelling can enhance the actual learning experience. Lives-as-text provides a rich context for understanding concepts and principles because of the relevance of personal experiences to course content. For example, Onorato (2014) connected microbiology class content with students’ lived experiences by designing a class project in which students reported on a microorganism that personally affected them in an electronic portfolio, which was then read by classmates. Personal engagement with the content and identifying with classmates’ similar experiences enhanced microbiology learning and course satisfaction. Narrative has also been successfully used for teaching by scholars and practitioners in disciplines such as education (Baloche, 2014; Tracy, 2014; Kramp & Humphries,
The positive impact of narrative extends beyond discipline-specific learning. Nordstrom (2015) embedded narrative into a unique class assignment called The Voices Project (TVP) to improve prejudicial attitudes toward racial groups among students in a mostly White introductory psychology class. Students interviewed an individual from a social group that they had rated unfavorably and attended a cultural event representative of the group. Students then wrote a memoir of the interviewee’s life in first-person with the goal of increased empathy toward the member of the other group. The stories were collated and shared at a campus-wide event. TVP significantly reduced prejudicial attitudes among the students and created teachable moments regarding students’ own “cognitive filters” that influenced the re-telling of particular interviewees’ stories. Thus, narrative can provide a means for sharing experiences between teller and listener – in TVP specifically, the experience was intimately shared in the re-telling of another’s narrative.

TVP provides an example of how narrative can benefit student learning outcomes. In a similar vein, we employed the use of lives-as-text in classes offered to psychology, behavior science, social work, and child and family studies majors to enrich their academic experience. In two foundational child development courses (one theory-based and one biopsychosocial in approach) the use of lives-as-text afforded students opportunities to understand concepts within the context of their own life experiences. In a senior capstone course (an internship) we incorporated lives-as-text by asking students to reflect on their own significant life experiences and influences before and while embarking into the professional world. The reflections provide evidence of both personal and professional growth and serve as a continuation of students’ life story. Thus, our goals were to improve learning outcomes (in all three courses) and provide a mode for finding meaning in life experiences in the context of vocational choice (in the capstone course).

The Lives-As-Text Pedagogical Approach

The Child Development (CD) Course: Self Theory and Biography

The introductory child development (CD) course, designed to be taught in the second year, focuses on the theoretical origins of the field. Assignments in the CD course use lives-as-text first in the process of theory building. We ask students to examine the functions of their routine behaviors (for instance, why they get out of bed in the morning or why they eat meat). They then begin to build the story of who they are and how their behaviors influence their self-acceptance or rejection. Through this process, students begin to theorize about their own behaviors - what underpins their sense of self and how they order their world. We intentionally exclude the use of religious theories because they are often used to ascribe meaning to one’s actions. Thus, a lives-as-text approach helps students understand how theory works - what differentiates theory from individual thought? How can theory be “proven?” They are then tasked to continue adding elements of theory building (delineating symbols, definitions, propositions, and hypotheses) to make their theory generalizable to other contexts. By the end of this process, students are able to share rich experiences with theory building. One student noted, “Until I looked at why I do the things I do, most things were routine, without purpose or intent. Now I know why theorists look for answers to questions. I question why I do the things I do.” Through self-narrative, students comprehend the value of theory to describe, categorize, and explain behavior.

The next assignments in the CD course require students to write brief biographies on the lives of classic social and behavioral theorists (Freud, Erickson, Pavlov, Watson, Skinner, Piaget, Maslow, Vygotsky, Kohlberg, and Gilligan). The content for class is divided into units defined by study of each of the theories.
developed by these pioneers. At the beginning of the unit, we discuss in depth the life story of these individuals from information garnered from student assignments. Next, we discuss the theory itself and then draw parallels between the personal lives of these pioneers and their theoretical constructs. At the conclusion of each unit, students are required to interpret their own lives in terms of that particular theory, providing examples from their experiences or experiences of those close to them. One of the most poignant student reflections came after completing the unit on Erik Erikson:

It was amazing to me that someone as famous and important as Erik Erikson gave himself his own name, that he is literally Erik, the son of Erik. Sometimes I wish that I had the strength to do the same thing. I spent most of my childhood afraid of my father and would really like to reinvent that scared kid into a brave kid. Maybe I need to rewrite my story too.

Through studying the narratives of academic “giants,” some students give themselves permission to experiment with new ideas and possibilities. Like Watson who moved from academia due to personal scandal to the world of advertising or Maslow who moved away from behaviorism to humanism, students begin to realize that they can change their path to overcome shifts in philosophy or obstacles that arise from adversity. They can open themselves to diverse conversations and ideologies. Thus, using lives-as-text allows the opportunity for students to consider revising their own stories.

The Human Development (HD) Course: Cultural Autobiography

The human development (HD) course, part of a two-semester sequence designed to be taught in the third year, applies the biopsychosocial approach to human behavior from young adulthood through death. Lives-as-text was implemented in the HD course to assist students in understanding developmental stages. From the beginning of the course, students use the lenses of eight theoretical paradigms (such as Social Constructionism, Conflict Theory, Systems Theory) as they move through life stages. They also use their life experiences as points of reflection or reference to help them understand their own development. The variety of stories shared in class illustrates the presence of variance in human experience. Class assignments prompt students to consider the impact of the primary caregiver, the nuclear family, and local institutions upon their development. In one such assignment (see Table 1 below), students write a cultural autobiography, broadening the scope of factors and influences upon why they do what they do, that are then shared with classmates in small groups. They are asked to identify the norms and unspoken expectations from their families and communities, drawing connections to their own experiences, choices, and decisions. Thus begins the process of contextualization identified by Mills (1959).

Table 1

Cultural Autobiography Prompts

I. How My Culture Influenced My Childhood
   A. Describe where you grew up
   B. Describe some of the values, beliefs, taboos, and norms of behavior that you were taught as a child
   C. Describe expectations your family and community had for you when you grew up

II. My Connections to the World
   A. Describe your experiences with other countries and cultures as a child
   B. Describe what were you taught as a child about the world or global issues
C. Describe what were you taught about desirable or undesirable places outside of your own country
D. Describe another country or region you wanted to visit as a child

III. My Educational and Work Background
A. Describe your education, degrees, and relevant travel or work experiences, especially as they relate to learning about cultural diversity, educational equity, or global interconnectedness
B. Describe any expertise or interest in a particular culture
C. Describe any interest in issues related to multicultural or global education (immigrants, ability grouping, global issues, etc.)

IV. My Experiences with Cultural and Linguistic Diversity
A. Describe what the term “diversity” means in your life
B. Describe any experiences with diversity using specific examples

V. My Experiences with Prejudice, Inequality, Injustice, Privilege
A. Describe two to three profound experiences with inequity, prejudice, discrimination, or injustice that you, a friend, or family member experienced
B. In what ways does your skin color, education, religion, nationality, gender, sexual orientation language, income (or other earned or unearned characteristics that you possess) lead to privilege, or lack of it, in your life compared to other people living in your community, or in the rest of the world?

As part of their cultural autobiography, students are asked to identify the place and location of their birth and upbringing. One wrote the following:

*I grew up in a sheltered home where we didn’t travel, had few friends of a different race, and went to church weekly where we hung out with like-minded people. To write on paper my multi-cultural biography helps me to stop and think about where I came from.*

This process helps students to “speak” that which before had been assumed as given in human experience, understanding that they come from some particular place. They are asked to identify beliefs, taboos, and norms that they were taught. This requires them to tease out the spoken and unspoken beliefs about their own beliefs, how they learned to view the other, be that defined by religious, class or racial diversity. As one student reflected:

*I recognize that my church community is very segregated. I now have a better belief system about the LGBT community, the importance of diversity, and my views of other religions. I understand the prejudiced views they have to deal with. I now have compassion when I see injustice towards those populations.*

As a means of values clarification, identifying the issue of what is “normal” is powerful, as it relates to that which often we do not question until we see something outside of that paradigm. This student is describing the bridge to understanding her own experience (Abrahamson, 1998), which then allows her to see others from a different perspective as well.

Rather than using their own experience as the measuring stick against which other’s stories are judged, another student responded:
It has been an eye opening experience into the way others live. For me, I am less judgmental toward other people because I do not know the circumstances in which they grew up, or what they believe is “normal” versus what I believe is “normal.”

A classmate added:

Using my own story helps me reflect on where I came from and what makes me the person I am today. Knowing this helps me understand that everyone does not come from the same background, and realizing that, you do not come into a situation expecting a person to be a certain way. You get to know the person for who they are and find out about how their own story impacts them as a person.

Using lives-as-text in the cultural autobiography assignment helps students understand their choices and decisions in a much broader context, opening the door for them to view the experiences of others from a perspective of acceptance. Their experience of using their lives-as-text enables students to consider their relationship to their own story and enhances their ability to hear and process other people’s stories on their own merit.

The Senior Capstone (SC) Internship: Life Chapters

Students take the SC course during the semester prior to graduation after completing three service-learning courses and an exploratory second-year internship. The SC internship focuses on bringing together the skills and knowledge necessary for professional work or graduate study and the importance of self-knowledge and reflection on the same. The course allows students to synchronize their life stories with their professional experiences as interns and requires the ability to reflect and generalize. Typically, this internship is arranged such that a student works in a professional setting under a qualified field supervisor for ten hours a week, completes life chapters and weekly reflections, and meets with the class of other helping profession students (social work, child and family, psychology) in a seminar context one hour per week.

Students are assigned four different life chapters (length determined by the student) at specific points during the internship. The first chapter is entitled, “My Name and How I Came to Be.” This chapter links students’ own genesis with the experiences they face as professional neonates. Subsequent seminar discussions focus on their choice of major, selection of site, and their internship expectations as well as ethical considerations regarding boundaries and role definition. Students grasp why it is necessary to separate their own life experiences and concerns from those of their clients or co-workers. Within the helping professions, one of the hardest concepts for students to understand is that sympathy and empathy, while valuable traits, are not therapeutic tools. One student concluded her first chapter by writing, “After sharing our stories with each other, I understand why we need to separate our own experiences from the experiences of our clients. All our stories were different. My story doesn’t explain anyone else’s choices.”

The second chapter is entitled, “Early Influences in My Life.” Completed after the first three weeks on-site, this assignment prompts students to reflect on the impact of co-workers, mentors, supervisors, and clients on their introductory practice. They share these reflections in class so that students can hear classmates’ stories of coping with the juxtaposition of personal and professional experience. Most students begin this assignment with their parents as major influences and then include key teachers, ministers, or neighbors as others who influenced their life decisions. One student shared,
My father was a huge influence on my life. He left my mother when I was three and my older sister was five. I’ve never heard from him, seen him in person, or received a birthday card or gift from him. People tell me I need to respect him because he is my father. What I do is remember the questions I have about him. That furthers my resolve to never quit on anybody.

While this response is not typical, it illustrates a realization that students can rewrite their stories, contextualizing the past and finding inspiration to accept future challenges.

The third chapter is entitled, “During the Course of my Life, I’ve Spent my Time...”, with a goal toward increased awareness of the importance of discipline and dedication to life choices. Becoming a successful professional sometimes involves difficult choices, but the rewards are numerous. How students spend their time also illustrates where their passions lie and how those passions can shape vocational choice. Rather than simply reporting perceptions of what they have accomplished, we find that having students justify the time they spend in various activities results in lively narrative. An example is video gaming for four hours per day (yes, it happens) or spending significant time on social media. Typically, class discussions around this chapter are rich, fun, and challenging. After listening to others’ stories, students often come together in justification of how they spent their time, supporting one another. They come together as a young professional community. One student shared,

I thought I was really involved in good causes, I go to church and belong to (the campus service leadership organization). When I had to account for my time, I realized I spend most afternoon napping or watching recorded TV. Don’t think that’s a good cause.

Another wrote, “I love playing the piano. When I have private time, I go to the studio rooms and just play for myself. Is there a way to combine this with my major?” Reflections such as these illustrate the value of storytelling to clarify students’ passions and improve their ability to take responsibility for life choices.

The last life story chapter, entitled, “The Last Chapter of my Life,” prompts students to create a vision for themselves that is both realistic and challenging. This is life-as-text at its most creative, requiring students to “fictionalize” their outcomes. Because this assignment is reserved for the end of the internship, there are frequent overtones of change and loss that come with completion of an intimate educational experience (as they have experienced both in class and on-site in the internships) and impending graduation. One particularly creative student wrote, “...and so ends my life....just as so many chapters have ended before.....leaving behind the small things and taking the great things with me.”

Students are informed from the course outset that they have four chapter assignments (contained in the syllabus). However, they do not know the topic of each chapter until a week prior to its due date. This maintains honesty in each reflection and prevents students from writing one continuous narrative by which they may attempt to fit a preconceived notion of professor or supervisor expectations. The approach also keeps the focus on the current assignment. At the end of the semester, we ask students to review their chapters, noting both common and modified personal themes throughout. Our last class is spent discussing the process of discovery through self-narrative; we emphasize this as a life-long examination. This sentiment is echoed by Fred Rogers (2010), who noted, “Discovering the truth about ourselves is a lifetime’s work, but it’s worth the effort” (p. 13).
Assessment of the Lives-as-Text Approach

To assess the impact of lives-as-text assignments on learning outcomes, we developed a rubric on five dimensions: academic knowledge, self-knowledge, professional knowledge, relational knowledge, and applied/practical knowledge (see Table 2 below).

Table 2.
Students’ Self-Evaluation of the Use of Self-Story in Educational Development

<table>
<thead>
<tr>
<th>Knowledge Domain</th>
<th>HD Course (n = 9)</th>
<th>SC Course (n = 7)</th>
</tr>
</thead>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
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<td>Academic</td>
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</tr>
<tr>
<td>Relational</td>
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<td>0.50</td>
</tr>
<tr>
<td>Applied/Practice</td>
<td>2.67</td>
<td>0.50</td>
</tr>
</tbody>
</table>

*Note. Scores are on a 3-point scale (1 = Using my story didn’t pertain to class material or help me understand the information I received from both service and academic sources; 2 = Using my story was helpful when considering the information from both service and academic sources; 3 = Using my story was a powerful tool in understanding and interpreting the information from both service and academic sources). HD=Human Development; SC=Senior Capstone Internship; M = Mean; SD = Standard Deviation.*

Students rated each dimension on a scale from one to three. A score of one indicated that the life story did not assist in knowledge acquisition; a score of two indicated that the use of the life story was helpful in knowledge acquisition; a score of three indicated that the life story was a powerful tool in knowledge acquisition. We also asked for any personal comments on each item. We used the rubric in the HD course and in the SC course.

Mean ratings for the HD course are presented in Table 2 above. The value of employing lives-as-text is evidenced by these ratings and was most obvious for awareness of self (3.0). With respect to self-knowledge, one student wrote, “Overall, seeing my life story on paper, made me realize my true self.” Another student wrote, “I have come to understand that I am capable of doing more than what I thought I could do. I now have a better understanding of who I am as well as the passions I have within.” In the area of academic knowledge, a student commented that, “My own story and experiences have given me a unique case study to dissect and relate to the multiple theories we’ve studied.” Another theme that emerged from using lives-as-text was increased empathy: “Using my story helps me understand others differently in ways of how they were reared and what foundation they stand on…that all people have been affected or esteemed through the ways they were reared.”

Mean ratings for the SC course are also presented in Table 2. Consistent with the evaluation of the HD course, these ratings point toward the value of employing lives-as-text, particularly for the awareness of self (3.0). Using lives-as-text provided seniors with the opportunity to contextualize their own life
experiences, the materials they studied, and how they relate to others. The power of life story analysis and application is summarized by a graduating student’s comment:

I feel like in order to be successful in academic knowledge, self-knowledge, professional knowledge relational knowledge, an applied/practical knowledge, you need to be confident and knowledgeable about your own story and how it has affected you, through every aspect of life.

Another graduating student wrote:

I consider my life story a major tool in understanding and interpreting information from both field and academic sources in that I have been able to grow in terms of self and knowledge. I specifically would like to mention that I wouldn’t be the person nor the professional that I am today without really coming to understand my own story.

Conclusions

Ratings for lives-as-text as an instructional strategy encourage us to continue using this powerful technique. Overall averages for the two courses on a three-point scale for academic knowledge (2.56), self-knowledge (3.00), professional knowledge (2.60), relational knowledge (2.76), and applied/practical knowledge (2.62) were very favorable. The grand mean, representing the evaluation of lives-as-text for knowledge acquisition in personal, academic, and professional realms was 2.71. Although the sample was small, we believe that the trends noted indicate continuing to offer lives-as-text pedagogy for a number of our students in various academic contexts. Students who used lives-as-text reported feeling empowered to understand the world in which they operate and inclined to pursue more mature, independent ends for themselves. Through carefully guiding students as they reveal their own stories, incorporating their sociological imaginations, they become powerful personal change agents.

Although the use of storytelling in teaching can be powerful, Green (2004) notes that it is not without caveats. For example, when students perceive that a class consists primarily of telling stories without links to actual theory or research findings, they can quickly become dissatisfied. Personal stories of a sensitive nature (such as those with themes of prejudice, addiction, or abuse) require adept instructors to monitor the classroom climate in which they are disclosed. Caution needs to be exercised to insure that stories do not displace the curriculum, but instead become part of it (Pagano, 1991).

We find that carefully crafted assignments and firm ground rules regarding the sharing of stories in class go a long way to ensure the benefits of storytelling to students and their classmates. For example, in the CD course, students write biographies on pioneers in developmental theory in a short, fact-only format. They are not given latitude to editorialize or rationalize the pioneer’s life choices or circumstances. When brought into class conversation, the biographies inform and enlighten students by providing a life context in which to understand the theories. Also, by intentionally sequencing assignments such that students first explore the lives of others before themselves, we can diffuse students’ potential sensitivity to issues in their own lives. For example, in the CD course, when students explore the lives of developmental theory pioneers, they begin to realize that many life issues (e.g., depression, addiction, family disturbances, professional challenges, difficult childhood experiences) are quite universal. Recognition of shared struggles within the human family can help students contextualize similar challenges within their own lives.

This approach preserves the pedagogical value of storytelling and would be applicable in a number of introductory theoretical courses.
In the HD course, the cultural autobiography assignment takes storytelling a step further, requiring students to bridge the divide between cultural norms and their own personal experiences with diversity, prejudice, and privilege. This exercise can prevent students from using their own experiences as the primary foundation for their interactions with others and instead realize the value of cross-cultural exposure for professional development. Exploring cross-cultural exposure through storytelling would be applicable to courses in which learning outcomes may involve learning and applying normed experiences. Students benefit from learning to differentiate between “normed” and “normal.”

The life chapters in the SC capstone course require a deep commitment by students to understand and reveal themselves in the context of their professional work. By this time, most students are aware of their personal challenges and are building a repertoire of coping skills that will be useful in their work lives. The unstructured nature of these assignments in terms of length and format allows students the freedom to explore and interpret their feelings about their looming careers and their life circumstances. The fluid nature of the assignment allows students to work via stream of consciousness, poem, or other modes to accomplish the goal of self-knowledge and reflection. The life chapters assignment is intentionally placed the end of students’ undergraduate experience after they have had several experiences with lives-as-text pedagogy and are more comfortable and honest with self-revelatory information.

Incorporating lives-as-text into course curricula has demonstrable benefits that can be divided into personal, academic, and professional outcomes. From a personal perspective, students realize through narrating their own life experiences and hearing the narratives of others that they are capable of empathy, change, and healing. From an academic perspective, students are able to understand classic social and behavioral theories within the life-context of their authors, enhancing the ability to understand their applications. From a professional perspective, using lives-as-text connects tellers and listeners, providing a sense of mutual respect and a community of support that extends to professional settings. We think that Dr. Freud would understand, and maybe approve.

References

Harrrelson, K. J. (2012). Narrative pedagogy for introduction to philosophy. Teaching Philosophy, 35(2), 113-141.


Statistics, Research Methods, and other research intensive courses often evoke negative emotions among undergraduate students. And as Beins (1993) notes, this anxiety is nothing new. Even with prerequisite courses, and an emphasis on the skills students can hone in the research process, many students experience some anxiety about their first foray into empirical research. Thus, instructors of research-intensive courses can constrain topics and approaches to fit institutional culture and expectations for empirical products. Strategies such as treating sections of the APA style paper as discrete parts with clearly delineated deadlines may assist students in completing an empirical project. However, another productive approach may lie in allowing students to express cognitions and emotions about conducting their own studies in research-intensive courses (e.g., Research Methods, Senior Thesis). We argue that a productive outlet for this type of expression is within expressive journals that encourage students to share their thoughts and feelings. Moreover, the process of formulating a personal narrative from these journals, and the process of “telling a research story” provides multiple benefits.

In this chapter, we discuss our rationale for this pedagogical approach, describe initial implementation in the Spring 2015 semester, and comment on our tentative findings. Next, we summarize the impact of having Psychology and Counseling students tell their research stories. In closing, we provide practical suggestions for instructors, as well as open empirical questions. Before we do so, it is necessary to clarify the components of Story upon which we focus most of our attention.

**Defining Story**

In the pedagogical approach that follows, students develop their own Stories in a two-step process. The first step is accomplished with instructions consistent with classic expressive writing prompts (i.e., Pennebaker, 1989), and used in laboratory experiments and classroom interventions (see Park, Ramirez, & Beilock, 2014; Ramirez & Beilock, 2011). That is to say, when writing their journals, students were encouraged to “let go and express their deepest thoughts and feelings.” At the end of the semester, students used these weekly journals to develop a coherent Story. We conceptualize Story as containing a beginning, middle, and end, and obstacles and conflict within this sequence of events. This definition is consistent with key components of the narrative format (see Hinyard & Kreuter, 2007; Miller, this volume; Ramirez-Esparza & Pennebaker, 2006).

**Journal Writing**

**Journaling for Academic Purposes**

The practice of journal writing takes differing forms across disciplines. Historically, English instructors have assigned reflective journals to encourage students to think more deeply about course content and extract some personal meaning from it (Mills, 2008). In nursing and education, reflective journaling is a common pedagogical strategy to prepare students for their future professional lives (Dymt & O’Connell, 2010). In psychology, journal assignments often require students to apply course content outside of the classroom (Connor-Greene, 2000), or to their own experience (Hettich, 1976, 1980). Journals, in this context, tend to focus on the cognitive work germane to a particular course or program of study.

In the health and helping professions such as counseling and social work, though, journaling tends to be autobiographical. These expressive writings are often semi-structured and require the expression of emotions and sharing of thoughts about an event (Ullrich & Lutgendorf, 2002). Journaling used in the
counseling classroom with students tends to have a personal intention. For instance, students may reflect on areas of resistance or personal triggers, evaluate of their biases or ways in which they may work with a particular client (Ivey, Ivey, & Zalaquett, 2014). In each of these potential assignments, the process of journaling allows for students to expose some of their deeper concerns, struggles, fears, and hesitations that need to be addressed prior to entering the helping profession. This process, in turn, protects future clients from counselors who may not be healthy and may in fact impart harm onto their client (Rust, Raskin, & Hill, 2013).

More recently, expressive writing has been applied to learning contexts. For instance, expressive writing about graduate school entrance exams beforehand has been shown to improve exam performance and subsequent psychological health (Frattaroli, Thomas, & Lyubomirsky, 2011). Similar effects have been observed for expressive writing about mathematical problems (Park et al., 2014). Park and colleagues found a positive relationship between the number of words related to anxiety and performance on math items. Expressing both positive and negative emotions can foster cognitive and health benefits; consequently, actively holding back or inhibiting our emotions and feelings can be hard work (Pennebaker, 1997).

**Journaling to Express Emotions**

Holding on to our emotions can have lasting effects on our body, not solely psychologically, but also physically and mentally. Confronting our deepest thoughts and feelings, regardless of format, can begin to neutralize our mind and body and the stressors associated with that level of stress. This type of confession has been shown to encourage both short and long-term positive outcomes (Pennebaker, 1997). Meta-analyses (see Frattaroli, 2006; Frisina, Borod, & Lepore, 2004; Smyth, 1998) provide robust evidence for the effectiveness of expressive writing in improving many health conditions across populations. In particular, though, writing about stressful events has been shown to be effective in decreasing stress (Donnelly & Murray, 1991). Porter (2007) also found that journaling helped the development of mental health skills for many college students. Journaling is a pragmatic technique that encourages wellness and fosters professional growth in many individuals.

Journals that involve the expression of emotions can also stimulate the types of thought processes that often lead to insight. Ullrich and Lutgendorf (2002) found that when writers focused on cognitions and emotions within their journals, they tended to become more aware of the benefits that arose out of stressful events. Similarly, when future school counselors used video journaling to describe their internship experience, Parikh, Janson, and Singleton (2012) found that the students also spent time reflecting on their feelings, reactions, and thoughts about the experience. The benefit of engaging in this type of journaling is that students start to confront their own fears about becoming a counselor and the role that is expected. This process also allows instructors to engage in dialogue with students about these concerns. Instructors exchange information and provide validation; and, from these conversations, students experience additional insight.

**Journaling to Conduct Research**

Many graduate students, especially those in applied and professional specialties, meet the process of conducting original empirical research with resistance. These students often view their own pertinent skills (e.g., quantitative reasoning, scholarly writing) as lacking or nonexistent. This tendency can be attributed, in part, to a lack of exposure to the research process as undergraduates (Wang & Guo, 2011). It is also possible that students who do not aspire to research careers fail to recognize the importance of empirical research and the process of obtaining evidence. Some students may even be inclined to dismiss the research relevance in professional practice, which may have devastating effects for their clients (Lee & Workman, 1992). In any case, a negative regard toward research presents obstacles for students' future professional work (Wheeler & Elliott, 2008). When graduate students are not motivated in research
courses, they not only conduct less research in the future—they also have greater resistance toward implementing research-based interventions (Wang & Guo, 2011). Clients will find themselves at a disadvantage when working with a counselor who lacks knowledge of best practices and empirically-supported techniques. In light of this, the process of journaling may provide instructors insight into understanding the resistance that students experience when facing the research process firsthand.

Reflective practice is a vital aspect of counseling (Collins, Arthur, & Wong-Wylie, 2010). The process of journaling is not new to the counseling community. There is a long line of populations with whom this process is used to assist clients’ emotional release. Often the result of journaling is that clients gain novel understanding of their struggle, further insight into their issues, and a way to move forward. When this technique is utilized for students who view conducting research in a negative light, it may provide insight into the areas in which students are struggling. For instance, some of the struggle may be attributed to fear of the unknown, as some students may not have engaged in this type of writing or work before. Or, resistance may root from a lack of understanding the research process. Regardless of the particular obstacles for students, the process of journaling may reveal them. In turn, processing emotions allows students to face their resistance and begin to reduce it (Wang & Guo, 2011).

**Telling Research Stories**

The process of constructing personal stories involves identifying critical life events and placing relevant experiences and commentary into a coherent sequence. In order to stimulate this reflective process, students engaged in regular journaling about their individual research projects. Journaling is a technique used across disciplines to encourage a number of student outcomes. Benefits to this variety of reflective writing are numerous and hold across multiple learning and health contexts. In this project, regular journaling was used to in an effort to help students process and understand their own semester-long journey conducting their own original empirical research. At the end of the semester, these journals were used to construct “research stories” and students shared them with members of the class.

**Implementation of the Pedagogical Approach**

Five students completed PSY 4020 (Senior Research Seminar) with the first author as instructor of record. Key course events included presenting a formal oral proposal to members of the Psychology and Counseling Department in the fifth week, and two poster sessions (reporting “expected findings” in the fifth week, and full results in week sixteen). Students electronically submitted a Senior Research Project (a 35-50 page final product) going into the final week of classes. The seminar culminated with students sharing their research stories with one another and the instructor in the conference room of a local restaurant.

**Materials and Procedure.** The course syllabus included description of journaling assignments and corresponding narratives (See Table 1 below for excerpts).

Table 1.

**Syllabus Description of Journals and Research Story**

**JOURNALING.** You will write a number of semi-structured journals that require you to express the emotions and thoughts you have about events and processes related to this project. Instructions will be provided in class. Early stages of the journal will not be subject to structural expectations or word limits, but regular time on task. Length is not important here. The degree to which you deeply focus on your cognitions and emotions will be. Some days you will be able to make better sense of them; other days you will have less insight. Some days your writing will be structured and coherent...other days, less so. This is all
acceptable. These journals should become a regimen during seminar sessions, and will be submitted via Moodle. I will mostly check for completion; there will be no evaluative component at this stage. In some cases, though, we can use these as a springboard for our consultations. Eventually these journals will be edited and combined for a final, coherent narrative product that will become the basis of your final presentation to your seminar classmates.

**NARRATIVE.** You will tell your “research story” of how you came to complete your senior research project in both written and oral form. Why is this important? Course objective #4 involves your conveying how this research experience and training has prepared you for graduate study in psychology, a career in business, government, the private sector, and so on. The more that you intentionally reflect upon and craft your story, the better you are going to be able to communicate this experience to others. It is critical to develop a coherent and polished narrative about your progression and growth in our program, as well as some discussion of the necessary skills and dispositions to complete a project of this magnitude. You will also want to think back to different stages in the curriculum at Centenary, and in the big picture context of the APA Goals 2.0 (see course objective #5). You will likely face additional obstacles and personal challenges this term; undoubtedly, these should be part of your story.

A period of fifteen minutes at the beginning of one seminar session per week was dedicated to journaling; these dates were not announced in advance. Journals were housed online at the PBworks wiki space ([http://www.pbworks.com](http://www.pbworks.com)). Individual journal entries were not graded by the instructor. However, at the end of the semester, students who submitted a complete file of journals received 5 points (1% of the course grade). Material written during the journaling sessions could be revisited within larger assignments, namely the written research story and corresponding oral presentation (75 points; 15% of the course grade), and blog post (50 points; 10% of the course grade).

Students were given a journal prompt adapted from classic work in expressive writing (Pennebaker, 1989) and recent educational interventions (Park et al., 2014; Ramirez & Beilock, 2011) (See Table 2 below).

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**Journal Prompt**

Your task is to write for 15 minutes about your very deepest thoughts and feelings about your Senior Research Project. In your writing, I'd like you to really let go and explore your very deepest emotions and thoughts. You might discuss your progress on this project to your educational aspirations, relationships with others, to your past, your present, or your future, or to who you have been, who you would like to be, or who you are now. You may write about the same general issues or experiences on all days of writing or on different aspects each day. All of your journal writing will be held completely confidential. I am the administrator of this wiki and you are given access as the writer. No one else can access our workspace.
These writing instructions were included at the top of each student’s wiki space. For each journal session, students copied and pasted this prompt along with the date of the class session. Students typed then their journal underneath the prompt. At the end of the semester, students were instructed to extract themes and specific content from these journals to construct their research stories.

Exploratory Investigation of the Pedagogical Approach
After the conclusion of the semester, a research assistant ensured no student names were present in the journals themselves and then copied and pasted the journal text into five separate word documents. Dates were included above the journal text. We then subjected the text to Linguistic Inquiry and Word Count (LIWC) software (Pennebaker, Booth, & Francis, 2007) and NVivo (QSR International, 2012).

Predictions. In this exploratory research, we predicted that linguistic, psychological, and cognitive processes expressed in the students’ journals would change over time. Specifically, we hypothesized that journal entries would become more positive and less negative over the course of the semester. Additionally, we expected personal concerns to remain through the semester. These types of analyses are possible through examining LIWC output, namely Linguistic Processes (e.g., Swear words), Psychological Processes (e.g., Affective processes; Positive emotion; Negative emotion; Anxiety; Anger; Sadness), Cognitive Processes (e.g., Insight; Causation), and Personal Concerns (e.g., Work; Achievement; Leisure).

Analyses. Due to the small sample size (N = 5) and the exploratory nature of this investigation, we focused on the journals from Weeks 1 and 16 for two particular categories. Namely, increases in the total percentage of Cognitive Processes words would suggest students are becoming more comfortable with the research process. Decreases in the total percentage of words in this category would imply students are becoming less comfortable with the research process. We were also particularly interested in examining the percentage of Anxiety words in week 1 journals and those from week 16. A lower percentage of anxiety words was anticipated in the last week of the course, relative to the first week. Word frequency queries were run to determine which themes emerged from journals from the first half of the course, as well as those from the second half. Similar queries were run for the final “Research Stories.”

Key Findings

Cognitive Processes
The percentage of words that describe cognitive processes increased from the week 1 to week 16 journals. A trend approached statistical significance, \( t(4) = -2.35, p = .07 \). This finding may be indicative of students’ engaging in the process of meaning-making at the end of the semester (see Klein and Boals, 2010 for more on this).

Anxiety
The percentage of anxiety words decreased from week 1 to week 16 journals; however, this trend was not statistically significant, \( t(4) = 1.83, p = .14 \). This pattern could suggest that students became less worried about the project by the time they nearly completed it.

Emergent Themes
Journals from the first half of the course were analyzed, and the three most frequently occurring themes involved processes related to working, the course project, and feelings (weighted percentages of 2.27%, 2.27%, and 1.43%, respectively). Journals from the second half of the course were analyzed, and the three most frequently occurring themes were related to becoming, working, and finishing (weighted percentages of 3.39%, 1.84%, and 1.70%, respectively. These themes may be indicative of students’ progress on their research over the course of the semester. That is to say, some journals appeared to include sharing and making sense of emotions in the first half of the course, and the second half was characterized by growth,
progress, and finality. A similar analysis was conducted for the final written “Research Stories.” Common themes included those related to the nature of empirical research in psychology (e.g., study, findings, participants), and themes related to emotions and feelings (e.g., support), and processes (e.g., thinking, working).

Conclusions and Recommendations
We explored the practice of journaling in the Psychology classroom, students’ construction of personal narratives from those journals, and subsequent sharing of their “Research Stories” at the end of the term. Our data from a small seminar course are preliminary and the trends should be interpreted with some caution. At present, though, these qualitative data document students’ experiences conducting their own original empirical research over sixteen weeks. It appears that students, especially during the first half of the course, made use of the journals to share and process their emotions. Students began to voice progress and change toward the second half of the course. Some indicators of lowered anxiety over time were observed. Also, linguistic analysis provided some evidence of increasing cognitive processes at the end of the semester. Additional research is necessary to investigate the student experience in research-intensive courses.

The pedagogical strategy of journaling involved a regular focus on thoughts and feelings about steps of the research process each week. Allowing students to purge the stress within their thoughts prior to focusing in class and upon the work that needs to be completed—in theory—places students in a better place mentally. In turn, they are better able to focus on what they need to learn instead of being distracted by other negative emotions (Pennebaker, 1997). Additionally, these emotions may not be connected to the class, but personal in nature, yet still block their ability to learn material that is historically perceived as more difficult. Students reviewed these journals at the end of the semester and took key events, thoughts, and emotions to formulate their own personal narratives. As students told these “Research Stories” they highlighted the struggles, triumphs, and emotions that emerged and then ultimately evolved and culminated in completion of a Senior Research Project.

Instructors who teach research-intensive courses are experts in conducting empirical research, analyzing data, writing, and presenting. Students certainly benefit from this expertise and guidance through the research process. In our experience, and a quick perusal of Research Methods syllabi (Project Syllabus, n.d.) suggests that some instructors acknowledge the negative emotions students sometimes face in research-intensive courses (e.g., anxiety, fear). However, few instructors appear to include assignments to address these obstacles to learning. To be fair, instructors may already make use of informal techniques (e.g., class discussions, conversations during office hours). Nonetheless, students need to be aware of their emotions toward research and be given an appropriate and productive outlet to express them. Holding on to negative emotions impacts physical and emotional health, and becomes another block that can prevent learning. Thus, regular journaling sessions in research-intensive course are not only for emotional release, but also to aid students in developing a plan to overcome their obstacles. As students create a plan to overcome their obstacles, they are able to move away from negative feelings and replace them with more positive ones, which then can impact their views on research and the process of conducting their own scholarly work.

The process of completing a research project of this magnitude reduces stress and replaces these feelings with relief that the project is completed. At the completion of the project, students are sometimes able to more objectively review the project and associated feelings. Over time, negative feelings fade; students no longer feel anxiety about the research project as they did at the outset. Students also begin to view future research in a more positive light because they have experienced and successfully completed it (Wang & Guo, 2011).
The ability for students to go back and read their “Research Story” is powerful, especially when the project is complete. Students are able to concretely “see” their success and understand areas that may need to be revisited as they move forward. The process of students seeing their own success can provide long term benefits. In the case of Psychology and Counseling students, we hope, as a result of this experience, that they will become more willing to engage in the research enterprise.

References


Humans are embedded in storied worlds. From the moment of birth, human infants are surrounded by fairy tales, nursery rhymes and fables, as well as stories of family, parents and grandparents, accomplishments and struggles, stories told in animated excitement, and whispered as infants are soothed to sleep (Fiese, Hooker, Kotary, Scwagler & Rimmer, 1995). What all these types of stories have in common is that they share a way of understanding lived experience through conventionalized narrative forms that provide coherent, explanatory and value-laden frameworks (Bruner, 1990; McAdams, 1993, 2001). Most important from a pedagogical perspective, stories are the entry into possible worlds, other viewpoints and perspectives, that allow individuals to transform their own personal experience, and the experiences of others, into more abstract worldviews (Monteagudo, 2011; Ochs & Capps, 2001; Ochs, Taylor, Rudolph & Smith, 1992). Stories link personal, cultural and academic ways of knowing (Brakke et al., 2015). Through stories, we learn to negotiate multiple perspectives, to explore different ways of being in the world, and critically examine alternative possibilities in order to achieve committed values. These skills are all part of critical thinking that is at the core of a liberal arts education (Rutten & Soetaert, 2013).

Our research has explored how family narratives - stories shared within and among family members - facilitate adolescents’ emerging identity, commitments, and values through elaboration, evaluation and complex perspective-taking (Fivush, Marin & Merrill, 2014; Fivush & Merrill, in press). More specifically, we argue that family stories are a springboard for transformative educational experiences by grounding abstract knowledge in lived experience. Using sociocultural narrative theory (Nelson & Fivush, 2004) and an ecological systems model of family narratives (Fivush & Merrill, in press), we argue that individual personal narratives develop within multiple ecological layers: within the current family shared experiences, within family history, and within surrounding cultural historical perspectives. Individuals connect to the larger sociohistorical culture through stories, and these stories emerge developmentally within the family. Our work has focused on heterogeneous samples of families living in the United States. After reviewing this research we address the issue of culture in more detail.

We discuss three ways in which family stories are transformative: first, family stories help transform the developing adolescents’ personal narratives into more meaningful and insightful reflections on their own lived experience; second, family narratives allow adolescents to enter into other possible worlds through stories that parents tell about the intergenerational past, vicarious experiences that help facilitate ethical models for being in the world; and, finally, family stories link personal and family experience to the larger world, creating links to more abstract historical narratives. All of these narratives, within multiple levels of lived experience, help to create a more complex perspective on how knowledge is created and evolves. We end the chapter with a discussion of how stories that emerge in family interactions set the stage for transformative educational experiences.

**Personal Narratives Within Shared Family Narratives**

Narratives are canonical linguistic forms that frame lived experience (Labov, 1982; Ricouer, 1991). Narratives move beyond a chronological recount of actions to include orientations, interpretations, evaluations, describing intentions, motivations and consequences of human action in ways that create
meaning for connecting self to others and to the world (Fivush, 2012; McLean, Pasupathi & Pals, 2007). Children are born into storied worlds and learn the cultural forms and significance of stories through participating in narrative reconstructions of their own and others’ experiences (Nelson & Fivush, 2004).

Early Childhood

Parents and children begin sharing their past experiences through narrative even before children can linguistically enter into these conversations (see Fivush, 2013, for a review). By the end of the preschool years, family narrative reminiscing is a frequent activity, with children fully participating in co-constructing narratives about their personal experiences with their parents. Importantly, mothers (most research has examined mothers, but for research on fathers, see Fivush & Zaman, 2013) show consistent individual differences in reminiscing along a dimension of elaboration, with some mothers creating more detailed, complex and coherent narratives with their children than others.

More elaborative maternal reminiscing about the shared past sets the stage for educational achievement in at least three ways. First, maternal elaborative reminiscing is directly linked to children’s literacy skills such as print concepts, vocabulary and story comprehension; in fact, reminiscing about the shared past predicts more variance on these measures than book reading (Reese, 1995; Sparks & Reese, 2013). Second, mothers who are more elaborative when reminiscing with their children indicate that one reason they share memories with their children is to teach or help solve problems (Kulkofsky, Wang, & Koh, 2009). And more elaborative narrative co-construction has been linked to children’s developing more coherent and abstract knowledge in the STEM disciplines (Haden et al., 2014). Finally, as parents and children begin to share their experiences together through narratives, children are confronted with differing perspectives (Fivush, 2012). The child remembers seeing a giraffe at the zoo; the mother does not. The child remembers being scared of the bears; the mother recalls the child was laughing. Thus family narratives provide one of the first contexts in which children begin to learn that different people may perceive and recall the world in different ways. Sharing the past through family stories helps young children enter the world of other minds, and opens the possibility of other ways of perceiving and believing (Nelson, 2001; Symons, 2004). Indeed, mother-child reminiscing has been linked to children’s developing theory of mind, the child’s awareness that all individuals have unique minds, with unique thoughts, desires and beliefs (Reese & Cleveland, 2006; Welch-Ross, 1997).

Adolescence and Emerging Adulthood

As children develop through adolescence, perspective-taking abilities become increasingly complex (Ritter, 1979; Choudhury, Blakemore, & Charman, 2006). Cognitively, adolescents develop the ability to hold multiple perspectives in mind simultaneously, as well as to take an “objective” third- person perspective that allows for comparisons across different individual perspectives. Socially, adolescents begin to spend more time with peers than they did in childhood and thus need to negotiate more complex social interactions involving groups, peer group conflict, and romantic relationships (Brown & Larson, 2004). As a result of these new demands in their social environment, adolescents increasingly rely on their perspective-taking skills. These developing skills are both facilitated by and expressed in family storytelling.

Several of our studies have focused on how adolescents and their families tell important stories about their lives together. For example, in one study we asked families with young adolescents to reminisce together about the good times and the bad times they shared as a family. Not surprisingly, families differ in how they create these stories in shared reminiscing. Some families create coherent stories, with each family
member adding information and validating other family members (e.g., “Yes, we did bake those cookies last Christmas. And then we ate way too many of them!”). Throughout the storytelling these families create a single coherent story that each family member contributes to and is a part of. In contrast, some families tell more disjointed stories, with each family member simply providing a piece of information, but little validation and building as the conversation evolves. We find that families that create more coherent integrated and validating stories have adolescents who show higher self-esteem and self-efficacy (Bohanek, Marin, Fivush & Duke, 2006). In particular, some families are able to discuss difficult emotions in ways that validate the adolescents’ experience (“Yes, that was sad when Grandpa died”), provide multiple perspectives on this experience (“I was sad too, but it was also good because he was suffering”), and ultimately create a shared perspective (“it is sad for the family; we will all miss Grandpa very much”). These families have adolescents who, two years later, show higher social competence, higher academic competence and fewer internalizing (anxiety, depression, withdrawal) and externalizing (aggression, anger, substance abuse) problems (Marin, Bohanek & Fivush, 2008). By sharing their own perspective within family stories, adolescents are transforming their understanding of their personal experiences to create shared understandings of the world, understandings that simultaneously hold multiple individual perspectives within a larger shared perspective.

This is especially apparent in narratives adolescents tell about conflicts with parents. Conflicts, by definition, involve differing perspectives on an event. Although adolescents and parents tend to hold similar core beliefs, parent-adolescent conflict increases in early adolescence, mainly around issues of personal taste and preferences (Laursen & Collins, 2009). In childhood, the parent-child relationship is one of “power-over” where the parent serves as the moral authority and the child has little negotiation power; over the course of adolescence, the nature of the parent-child relationship changes to one of equal footing. This maturation of the relationship, along with the adolescent’s enhanced cognitive abilities, may give rise to better conflict resolution skills, and the formulation of an integrated perspective in conflict narratives (Van Doorn, Branje, & Meeus, 2001). Through parent-child conflict narratives, young adolescents become more practiced with understanding others’ perspectives as they argue for their own. Thus, conversations about conflict with others provide ideal opportunities for adolescents to develop an appreciation for multiple perspectives that includes a validation of perspectives that are not one’s own (Fivush, Marin, & Merrill, 2014). For example, in this excerpt a 16-year-old girl describes a recent conflict with her mother (“…” indicates deletions for brevity):

I have a lot of activities and I can’t drive yet, so I always need her to drive me places and a lot of times my friends need rides too because their parents are working. And so a lot of times my mom has to give up doing something that she wants to do because she has to drive me and my friends ... And she was supposed to pick me up from volleyball early, but she ended up getting there at like the normal time...And so I was waiting and I was a little annoyed because I don’t wanna be late for work. And she was annoyed with me because she thought I expected too much out of ‘er because I was making her run all over the place. And she wasn’t gonna have time to get home and like do laundry and dinner and everything. And so we got into a fight with that. And then she found out that I had tennis later that night too so she was getting madder and madder at me because I had so many things that I had to have her come get me for... I guess I was being a little selfish and ... I probably should’ve tried to find another ride, but I didn’t really think about it until it was too late.
In this excerpt, the adolescent describes her own thoughts and feelings, (e.g. “I was a little annoyed because I don’t wanna be late for work.”), but she also reflects on the mother’s perspective on the situation (e.g. “she was annoyed with me because she thought I expected too much out of ‘er). By taking the perspective of the parent in the story, the adolescent realizes that she and her mother not only see the situation differently but that her mother has a valid perspective. This further allows the adolescent to engage in more local problem solving (“I should’ve tried to find another ride”). Finally, through this perspective taking the adolescent more fully realizes that her mother is an independent person with her own needs and problems, and through this, the adolescent learns something about how she is seen by others (“I guess I was being a little selfish”). In narratives of conflict, we see the processes by which adolescents are learning to argue their own side and consider the perspective of others, as well as derive lessons and insights about the world around them and how to behave in that world. We also see the beginnings of the ability to engage in exploration of the self and others that will open the adolescent to new ways of thinking.

**Intergenerational Family Narratives**

Families not only tell stories of shared experiences; they also tell stories of family members’ experiences outside of the immediate family context. Parents and children tell stories of their daily exploits; parents tell stories of experiences from when the children were younger, or even before the children were born, and parents especially tell stories of their own experiences growing up, as well as stories of the more extended family, grandparents, aunts, uncles and cousins. These stories, not directly experienced by the adolescent, still provide powerful frameworks for understanding the world and what it means to live a “good” life (Fivush, Bohanek & Duke, 2008; Norris, Kuiack & Pratt, 2004). In a study of family dinnertime conversations, we examined all the stories that emerged across a typical dinner conversation (Bohanek, Fivush, Zaman, Thomas-Lepore, Merchant & Duke, 2009). Perhaps not surprisingly, the majority of these stories were “today I” stories, catching up with the family at the end of the day. What is a bit more surprising is that, whereas half of these stories focused on the children and what they did at school and after-school activities, about half were stories parents told about their workday. Parents shared stories about social interactions at work, unusual occurrences, or even just routine activities. By sharing stories of a typical work day, parents are opening up this world to their children, allowing their children a glimpse into a world they have not yet experienced, but which will become increasingly important to them as they grow older and begin to take on adult responsibilities.

In addition to the “today I” stories told by both children and parents, about a third of the stories that emerged during dinner conversations were stories of the more distant past. Many of these stories were stories about the parents’ childhoods. Interestingly, when these stories emerged, it was just as likely that children introduced the story into the conversation as the parent, indicating that children know and want to tell and hear more about their parents’ childhood experiences. Supporting this, when these stories are told, they are not told as monologues, the parent simply talking to the child, but as interactive narratives, parents and children together engaging in co-constructing a coherent story (Bohanek et al., 2009; Merrill, Gallo & Fivush, 2015), creating a vicarious experience for the child that is emotionally salient and meaningful. Co-constructing parents’ childhood experiences allow the child to understand the world through the parent’s perspectives.
To examine these kinds of intergenerational narratives in more detail, we conducted a series of studies in which we asked adolescents and emerging adults to tell us stories they know about their parents’ childhoods (see Fivush, Bohanek & Zaman, 2011 for a review). Importantly, in all our research, adolescents are easily able to tell these stories, indicating that these stories are told and heard within families. More specifically, we examine the extent to which adolescents take the perspective of their parent in these stories through describing their parents’ thoughts and feelings (e.g., “My mom was upset because she realized how much this meant to her mother.”). Principally for girls, and for intergenerational narratives about the mother as compared to the father, this kind of perspective taking correlates with increased well-being (Fivush & Zaman, 2013; Zaman & Fivush, 2011), again indicating the beneficial aspects of the ability to engage in complex perspective taking.

Related to our interest in conflict narratives discussed earlier, we were especially interested in intergenerational transgression narratives, narratives in which the parent did something wrong. These transgression stories are especially important because these kinds of experiences challenge the sense of self as a good person, and a good narrative must resolve it, often through learning a lesson, developing a new understanding and changing future behavior. The vast majority of college students asked to tell stories they know about when their mother (and father) did something wrong (Merrill, Srivanas, & Fivush, submitted) were able to provide narratives, and many included a life lesson passed down from the parents’ experiences. For example, an Asian-American female college student shared this story:

At the time when my mom was young, China was experiencing the so-called Cultural Revolution. During her childhood, it was not possible to eat meat every day and she had to work in the land while studying. She told me that it was a difficult time not only for her but for everyone. My mom had always been a good child since she understood how hard my grandparents worked to pay for her life and study. But my mom did wrong one time. Probably when she was 10… she broke a Chinese bowl. At that time, the price for bowl was enough for several meals. She did it because she was angry; she was angry because my grandpa gave my uncle, my mom’s brother, more pocket money than her. It was common in China that boys are better treated; however, my mom was unhappy about that so that she broke the bowl. Instead of blaming her, my grandpa understood the reason why my mom [was] unhappy and gave her the same amount of pocket money as my uncle. My mom was extremely ashamed after that. She still thinks that she should [have] understood my grandpa then, after all, her brother did more work in the land too. So now, my mom reward my grandpa with best care for reconciliation.

In this example, we see that the narrator is taking the perspective of her parent, as well as other family members in the story. By describing her mother’s emotions, (e.g. “she was angry... My mom was extremely ashamed after that.”) as well as cognitions (e.g. “She still thinks that she should [have] understood my grandpa.”) the narrator is, in a way, vicariously experiencing the event and explaining how her mothers’ current behavior resulted from the event. This is one way that parents teach their children lessons from their own experiences about how to resolve problems in the real world. Note that as in the adolescent-parent conflict narratives discussed above, this narrator explicitly presents both her mother’s and her grandfather’s perspectives on this experience, and is able to provide information about how they each came to understand the other’s perspective. Although we do not know for sure, it is likely that this integrated perspective was part of how the mother shared the story with her daughter, thus modeling how differing perspectives on a difficult experience can be discussed and integrated. Finally, it is important to note that in this narrative, as with many others we have observed, the narrator situates the entire event in a greater sociohistorical perspective, the Cultural Revolution, which has implications for how the event
came about and the values within the surrounding the culture at the time motivating the characters’ actions.

**Family Narratives in Historical Perspective**

As illustrated in the example above, family stories often link to larger historical events by situating personal experience in historically meaningful time. In this way, family stories help adolescents develop a larger historical perspective on how decontextualized information is actually a deep and powerful accrual of personally lived experience. Svob and Brown (2012) have posited a transition theory of intergenerational transmission of memories, arguing that, across generations, memories are organized around critical points of life transitions. These transitions include normative events such as graduation, marriage and childbirth, but also historical events, such as immigration, war and natural disasters. They found that college students asked to report the most important memories of their parents’ lives focused on these kinds of transitions.

For families that had experienced historically important events, such as students whose families came from countries where major conflicts had ensued (e.g., Bosnia and Serbia), the students included events that had historical implications as among the most important family stories. Even when the historical context is hugely difficult, family stories are placed in history; Germans whose parents and grandparents participated in the Nazi atrocities often centered family stories around these events, although these stories were complicated and tormented (Tschuggnall & Welzer, 2002). This suggests that when reflecting on their parents’ lives, emerging adults set these events within historical context.

In our research corpus, several of the adolescents and emerging adults, both Black and White, told intergenerational narratives revolving around civil rights and racial discrimination in the wake of the civil rights movement of the 1960’s, but, of course, these stories are contextualized differently for dominant as compared to marginalized cultural groups. The historical context of family stories has particularly important implications for marginalized groups of people, who may have to work harder to preserve their own family histories in light of dominant cultural narratives pervasive in the world around them (see, e.g., Chandler & Proulx, 2008). Some of the stories we have collected are detailed, but some are more generalized historical moments, as in this example from a 15-year-old girl when asked to tell a story about when her father was young.

“It was hard for him [my father] growing up. Well, basically, the same thing as me. It was hard on him because he was the only lighter-skinned African-American in his family. And growing up in Xxxx, New York he was out of place so it was hard for him…”

(The experimenter asked, “And how do you know about that?”)

“He told me because he figured I was going through the same thing.”

This narrative, although less event-focused than others presented in this chapter, also demonstrates perspective-taking on the situation (e.g. “It was hard for him.”). Moreover, the participant draws a connection to herself in that the parent told the story in anticipation that his daughter might go through the same experience. Parents use these stories to teach their children about being the world, and these stories may be particularly valuable when the parents anticipate that their child may be vulnerable to marginalization in society.
Personal Narratives in Institutional Context

Our research suggests that family storytelling is a springboard for growth and more complex understanding of self and the world. Importantly educational and academic institutions are themselves sites of social cultural construction of specific types of narratives (Rutten & Soetaert, 2013; Spector-Mersel, 2010). Members of higher education institutions, colleges and universities, participate in and create a specific kind of discourse community. Differences in how families tell stories, and what is validated and valued, may allow students from majority white culture, for example, to enter academically privileged narrative environments more easily than for the many diverse students entering the academy today (Cooper, Gonzalez, & Wilson, 2015), including students of color, first-generation college students, and students from immigrant families. These differences may manifest in at least two ways, cross-culturally and as within-culture differences.

Cross-cultural research, mainly comparing European-American and Asian families, has shown that family storytelling is equally important across cultures, but perhaps in somewhat different ways (see Wang, 2013 for a full theoretical and empirical review). For example, Asian and Asian-American cultures focus more on community than the individual, and Asian and Asian-American family storytelling often involves explicit lessons about behaving for the social good, often emphasizing getting along over negotiating different viewpoints. Thus, the narrative of higher education may be novel, and may even conflict with narratives of family and community (Chan, 2012). This might lead to less comfort with the type of argumentation rewarded in American higher education.

Syed, Azmetia, and Phinney (2007) further propose that first-generation ethnic minority college students must negotiate conflicting identities as they navigate the university environment. When faced with conflicting narratives, some individuals take on an “oppositional identity” and simply disengage from school, whereas others rely on family stories of hardship and perseverance to fuel their educational aspirations (Cooper et al., 2015). We know little about how these individual differences emerge, but qualitative data suggests that teachers and mentors who are better able to link students’ lived experience to academic pursuits facilitate student success (Syed, Azmitia, & Cooper, 2011). As in family storytelling, these links are made through narratives that provide students ways to integrate their family stories with their emerging stories of being a scholar.

Concluding Comments and Implications

Family storytelling opens possible worlds and ways to navigate them, linking lived experience to values and commitments, as well as historical moments, and provides ways to understand and integrate multiple perspectives. These skills are fundamental to a liberal arts education; innovative pedagogies linking family stories, community values and academic discourse will help meet the challenges facing contemporary higher education. But we must remember that we, as educators, also have our own stories, and the ways in which we weave together our personal, professional and academic narratives serve as important models for our students (Brakke et al., 2015). Just as family storytelling is a springboard for learning so is academic storytelling, creating narratives that open up new ways of knowing through integrating our experiences as educators with our students’ experiences, learning from each other.

More specifically, our research on family storytelling points to critical aspects of shared storytelling that are beneficial for adolescents and emerging adults, and that can be translated to the academic community. First, it is important for stories to be told collaboratively in a validating environment to facilitate complex perspective-taking. Educators can scaffold complex stories that validate and integrate perspectives across
multiple students, and use these stories to build more abstract knowledge. Second, it is important for adolescents and emerging adults to own these stories for themselves. Stories that are told and re-told gain power. Educators can re-visit the shared narratives across a semester, highlighting how it is becoming more complex and more integrated. Important here is that the educator is very much a part of this process, sharing his or her own story as well as scaffolding student stories, and helping students to integrate these multiple perspectives. Creating more complex stories across time can also be facilitated through journal writing, where students explore their own story in a reflective way in relation to information learned in the course and then come back together to share these stories and how they have evolved. In this way, each student can provide a model for other students about how understanding personal experiences evolves over time as these personal stories are integrated with more abstract knowledge. In turn, understanding abstract knowledge is colored by individual experience.

Storytelling is a basic human activity (Bruner, 1990). All families reminisce together, although our research has demonstrated that some ways of reminiscing have more beneficial consequences for adolescents and emerging adults than others. Our research on family storytelling helps us understand both how our students come to our classrooms with their own stories, and what we can do within our classroom that facilitate growth through complex shared storytelling.

References


We often use counterfactual reasoning by thinking about what might, could or should have been. We let these thoughts of the past or future bias our judgments. For example, in one oft-cited study, a boss orders lunch with a wine sauce that causes an allergic reaction in his employee, sending her into convulsions. She dies on the way to the hospital. How guilty do we judge the boss? If the alternative menu item he had considered ordering did not have the wine sauce, he is judged as a greater cause of her death than if the alternative would have had the same wine sauce, and presumably the same dire consequence (Wells & Gavanski, 1989).

Please let me start this chapter again.

You wouldn’t believe how many concerns and decisions there are when you’re expecting. When my wife was pregnant with our daughter, Abigail, we learned about storing umbilical cord blood because it has special cells that might be useful for medical treatments someday. Should we? Like good social scientists, well versed in statistics, we pondered. What is the probability cord blood would ever be used? What is the probability other treatments will be available? What is the effect size of an alternative use of that expense that could benefit Abigail? There were just so many unknowns about this somewhat expensive possibility that seemed a little like a gimmick. We just couldn’t decide. So then my wife is diagnosed with mild “polyhydramnios” - too much amniotic fluid. What does that mean? Like good social scientists we researched it. Though 1% of pregnancies have poly-hydra-whatever, 75% of cerebral palsy births do. Then we find a single case study on the internet: a newborn with cerebral palsy was successfully treated with cord blood. Did we look for detailed scientific evidence? No! We are going to store that cord blood! Because WHAT IF Abigail is born with cerebral palsy and we COULD HAVE saved the cord blood, but we didn’t, and we COULD HAVE tried a treatment that MIGHT work, and it just wouldn’t be available to us? That would be horrific!! Obviously we stored the cord blood! Despite all our education in statistical thinking and our awareness that a single case study is not the same as an empirical study, it just didn’t matter. What mattered was some sort of more deeply ingrained way of thinking - the “what if,” “might be” or, “could be” thoughts that psychologists who study social cognition call, “counterfactual reasoning.”...

When I teach counterfactual reasoning, I begin with this personal anecdote and then continue with a formal definition and several slides describing classic studies. Should I share this personal story? After all, it ‘costs’ about 2 minutes of precious class time, when I could present yet another study. Dozens of times each semester I make the same choice – mostly personal stories, but also those shared by famous figures in the field about their discoveries, historical examples, and other compelling stories. Stories work. We see stories working in NPR’s journalism when it keeps us in the driveway learning about a topic we didn’t know
we cared about when we began driving home. We see it in the popularity of TED talks that are “ideas worth spreading.” The same ideas are commonplace in classrooms, but they’re “worth spreading” because, as TEDx founder Lara Stein elucidates, “it’s about simplified, authentic storytelling.⁴ We might compare a standard definition of the Law of Conservation of Energy that every bored high school physics student memorizes - “Energy is neither created nor destroyed; it merely changes form.” – with how Feynman, a physicist famous for his lectures once described it:

The world looks so different after learning science. For example, trees are made of air, primarily. When they are burned, they go back to air, and in the flaming heat is released the flaming heat of the sun which was bound in to convert the air into tree, and in the ash is the small remnant of the part which did not come from air that came from the solid earth, instead. These are beautiful things, and the content of science is wonderfully full of them. They are very inspiring, and they can be used to inspire others (Feynman, 1969).

For most people, examples like these and the intuition that we feel from others’ responses to our personal storytelling would be enough to convince us of its value. I have told stories in class since I began teaching, even though I had never read an empirical study of its value. Even so, the value of personal storytelling is consistent with research throughout psychology. Cognitive psychology suggests that attention increases learning (e.g., Sana, Weston, & Cepeda, 2013). Processing concepts by considering their personal relevance (self-schema) leads to better recall on a “pop quiz” than even if we intentionally tried to memorize the concepts (e.g., Hyde & Jenkins, 1969). Developmental psychology suggests our need for intersubjectivity, a deeper, more genuine connection with others (e.g., Tomasello, Carpenter, Call, Behne, & Mohl, 2005), and sharing personal stories in class feels more like everyday conversation than lecture. Social psychology suggests that we build intimacy toward communal relationships through self-disclosure (e.g., Altman & Taylor, 1973). We’re more intrinsically motivated to work with someone in a communal relationship (e.g., Clark, Mills, & Powell, 1986) and students’ intrinsic motivation helps them learn deeply and be creative (e.g., Amabile, 1985). Despite the many tangential findings suggesting the value of storytelling, teachers of science might be most convinced with direct empirical evidence.

Before returning to the overarching value of personal storytelling for class and the potential ethical dilemma for a science teacher who constantly shares anecdotes, let’s examine empirical evidence specifically relevant to personal storytelling. First, how typical is it for instructors to share stories and build personal connections with students? Second, how do narratives affect memory and learning? Third, might personal stories be unique? Fourth, how does personal storytelling affect students’ motivation and emotion? Fifth, how does personal storytelling affect students’ behavior in and out of the classroom? Finally, how does personal storytelling affect students’ perceptions of their instructors?

Do Instructors Share Personal Stories in Class?

Teachers regularly share of themselves with their students and they do so with clear purpose. Downs, Javidi, and Nussbaum (1988) audio-recorded the classes of 57 college instructors. During a typical 90-minute college class, instructors made 18 narrative statements (60% non-fiction) and shared 5 personal

stories (100% either clarified class concepts or encouraged participation), and 18.5 self-disclosures. The instructors attempted humor 24 times, including four times when they were humorous about themselves. Hosek and Thompson (2009) surveyed 41 college teachers from diverse universities, fields, and ethnicities about the strategies they used when deciding what to disclose to students. Teachers considered self-disclosure if it was beneficially relevant to class. They refrained from self-disclosure if they considered the risks unwarranted (e.g., stigmatization, credibility with students, making someone uncomfortable, or harming relationships with colleagues). McBride and Wahl (2005) had 15 college instructors from six universities and diverse fields record a total of 121 daily diary entries about their self-disclosures in class. The most common self-disclosures were about family, personal attitudes, outside-class activities, and personal histories. By far the most common reason instructors gave for self-disclosures was to serve as examples or extensions of course content (41%); the next most common reason was to relate to students (19%). Instructors purposely avoided self-disclosures about negative personal relationships, sexual activities, and anything that put themselves or their families in a bad light.

That instructors purposely avoid certain self-disclosure does not necessarily mean those self-disclosures would actually be harmful. In the summer of 1995 in the deep South, Liddle (1997) considered the risks versus benefits of coming out as a lesbian woman to her classes. National Gallup polls of the time showed 52% of Americans considered homosexuality an “unacceptable” lifestyle and 47% believed homosexual relations between consenting adults should be illegal. When separating data by region, the South had the most negative attitudes toward lesbian women and gay men. Liddle felt it might benefit society to come out, but that it also might be a risk to her instructor evaluations. Prior to coming out, she conducted mid-semester evaluations using the identical form as the official end-of-semester evaluations (allowing for pre- & post-test). She came out to two of four sections of class during a subsequent relevant course segment. There was no significant difference in evaluations due to self-disclosure. In fact, the means leaned toward self-disclosure improving her evaluations.

Teachers strategically share personal stories with goals beyond illustrating course concepts. Relating to students includes examples such as an instructor who helped her students overcome anxiety about giving class presentations by revealing that she still gets nervous before presenting at conferences (an example from McBride & Wahl, 2005). Our stories might also help students under class policies and teaching style, but helping students appreciate class from our perspectives. Rather than “teaching to the middle,” I teach just intensely enough where even the most successful students sometimes miss things. My tests challenge students with applications and connections we have not explicitly made in class. Raw scores are low, but I scale so that “excellent” students still earn A’s. I point out the Pygmalian Effect (Rosenthal & Jacobson, 1968) and how much I learned through the overwhelming tests that were the norm for undergraduate Physics classes. But I also share a more poignant lesson for me:

As an undergraduate Physics major I took computer science, and it was a breeze. I was at the top of the class because I’d taught myself, as I needed to for Physics. So then I went to grad school in Logic & the Philosophy of Math & Science. Logic is the foundation of computer science so we were required, as grad students, to take 100-level computer science classes - just several philosophy grad students and 200 freshmen. But this was Carnegie Mellon University, who regularly competes with MIT to be the world-renowned Computer Science school. So I’m not surrounded by just any 200 freshmen. These are 200

http://www.gallup.com
freshmen who’ve been computer programming since they were in diapers (probably) and these classes are really meant to weed out those who can’t cut it in the major. This course was IMPOSSIBLE! Freshmen would come into the labs hours after I’d begun my homework, program in 15 minutes, and they’d leave hours before me. I spent more time on that class than all my grad-level classes COMBINED! It actually wasn’t impossible, though by the end of the term I was the only philosophy grad student who hadn’t dropped. And I did squeak by with a B. My computer programming ability was qualitatively leaps beyond where I began. But why? I took computer science as an undergrad. Maybe my undergraduate professor wouldn’t expect everyone to program like CMU CS majors. But why weren’t we at least exposed to the advanced ideas so we’d have the option to struggle ourselves to understand more deeply? Maybe he didn’t believe in us. But I believe in you. I don’t care that we’re not at the most elite university, I will still teach you as intensely as I can. You can certainly earn an A by being conscientious, but I hope you’ll consider pushing yourself further. And I’ll help you.

My first semester as an assistant professor, I had not shared this story, taking the way that undergraduate physics classes worked as the way any undergraduate science classes must work. It turns out I was incorrect. My second semester, I added the aforementioned personal story and a short tutorial on how to prepare for tests. I did not alter my level of teaching or the rigor of tests. My evaluations on grade-related items improved 86% more than my improvement on other items (see Figure 1 below). I’ve made a connection to students with my story; they can identify with me, and even if they hate some aspects of my pedagogy, they know my practices are motivated by empathy.

Figure 1. Course Evaluation Means Pre- and Post-Story about Expectations for Students’ Learning

![Developmental Psychology Course Evaluations (First Year as an Assistant Professor)](image-url)
Do Stories Help Students Learn?

Students like stories. As Fernald (1987) revised his Introductory Psychology textbook to include more rich stories, his students rated the chapters as more enjoyable to read. Even the studies students remember most vividly are those that feel like stories. In Milgram’s Obedience Studies we have a simple conflict between authority and protagonist, vivid imagery with a shock generator, and a surprise ending in how far people will go (Kotre, 1992). But is there experimental evidence that stories foster remembering and learning?

Experiments using widely different comparisons and many kinds of students consistently show recall benefits with stories. Bower and Clark (1969) used the most simple of narratives and found the largest effect size I have seen in all of Psychology. When participants were asked to recall serial lists of unrelated nouns (e.g., “DINNER, NERVE, TEACHER, FLOOD, BARREL, RATTLE, VESSEL, HARBOR, ARTIST, CASTLE”), they recalled 13%. Participants who were asked to recall the same serial lists embedded within stories recalled 93% (e.g., One night at DINNER I had the NERVE to bring my TEACHER. There had been a FLOOD that day, and the rain BARREL was sure to RATTLE. There was, however, a VESSEL in the HARBOR carrying this ARTIST to my CASTLE.”). When Instructional Media & Technology college students were randomly assigned to learn the ASSURE model with stories of its use, they remembered more than if they received an analogous lecture (Oaks, 1995). When twenty young adults (20- and 30 year-olds) and twenty older adults (60- and 70 year-olds) read expository passages and narrative passages, participants read the narratives faster and recalled more information from the narratives regardless of age or experimental manipulation (Zabrucky & Moore, 1999). When intro psychology students listened to recordings of narratives (e.g., The Princess and the Pea) and expositions of similar familiarity (e.g., coal energy), their recognition and recall memory were better for the narratives than expositions (Graesser, Hauft-Smith, Cohen & Pyles, 1980). To illustrate these empirical findings, consider Abrahamson’s (2005) recollection of sharing a story about a pink Cadillac with his intro students. One student bumped into him 10 years later and asked if the pink Cadillac story was actually true. Abrahamson said he’d only answer if the student remembered the psychological concept it was used to illustrate. He did.

Experiments suggest that stories benefit long-term learning, skill knowledge, and depth of conceptual understanding. For example, fourth- and fifth-grade students played a computer game that involved order-of-operations. In four experimental conditions children played the games within story contexts (e.g., space adventure, treasure hunt). In a control condition they played with purely abstract numbers. Children in every story condition wanted to keep playing the game longer than those in the control condition. On a math skills post-test one week later, students who played within any story condition outperformed those in the control condition (Cordova & Lepper, 1996). Similar results were found with undergraduates. Women were asked to read technical guides about fixing car problems or stories about women solving those problems. The three story conditions ranged from a minimalist version where the protagonist faces the problem and resolves it, to a version adding dialogue and step-by-step instructions. Reading times did not differ significantly, but those who read any of the story contexts answered more questions about fixing cars correctly (Dowling, 2009). Finally, and perhaps most important for generalizing learning, when kindergartners were taught about geometry embedded within a story-context they were more capable of near- and far-analogical transfer. The story context especially helped girls (Casey, Cedar, & Young, 2007).

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6 For a collection of primary source stories organized by common topics in Introductory Psychology, I recommend Stoddart and McKinley (2006).
Are Personal Stories more Powerful than Other Stories?

Personal stories may have a stronger impact than other stories, but only when the student finds personal relevance in them. In one study participants watched a short lecture about personality in which the instructor did or did not incorporate details about himself. Those who watched the instructor make self-disclosures scored higher on the subsequent quiz, \( \Delta R^2 = .04 \) (Stoltz, Young, & Bryant, 2014). In another study, Introductory Psychology students were randomly assigned to one of three classes about classical conditioning: lecture only, lecture plus instructor’s personal story, or lecture plus instructor’s personal story and a student reflection exercise. Students who learned with the instructor’s self-disclosure and the nudge for self-reflection performed better on a subsequent test than those who only heard the lecture (LeTexier, 2008). Learning about a related concept in another study, students were randomly assigned to listen to an audio recording of a male teacher explain learned helplessness with a personal story (first-person) or the identical story in third-person. Hearing a personal narrative was helpful for students who were men, but not for women (McCarthy & Scheck, 1982). Outside the classroom, a meta-analysis found that patients’ medical decisions were impacted by the inclusion of stories with medical information. When the stories were first-person accounts, in these obviously personally relevant circumstances, the effect size of first-person stories impacting behavior was twice as large as third-person accounts (Winterbottom, Bekker, Conner, & Mooney, 2008). People are moved more strongly by personal stories when they are relevant, whether that relevance comes through experimental manipulation, gender identity, or identification with someone suffering from the same illness.

The Present Study

As described previously, even the simplest stories enhance students’ memory, and stories benefit students’ learning most when they are vividly personally relevant. Most of the aforementioned studies used between-subjects designs. Many were experiments, which manipulated experience rather than examining naturally occurring interactions as they happen in a typical class. None analyzed the consequence of the naturally occurring ebb and flow of storytelling during a class.

To further test the power of stories, I kept track of the key concepts I explained using one of several kinds of stories in one class for one semester. Students in my large lecture Introduction to Psychology class took three non-cumulative tests equally spaced throughout the semester. I recorded the key concept tested by each question. There was no class textbook. Instead I provided students with all class slides including key concepts highlighted and defined. The slides did not include any of the stories that I shared in class. Students knew that I was recording attendance, but also that it would not count in their grades. Median attendance excluding test days was 75%. I predicted that students who attended class regularly would perform better on all test items, but that the benefit of attendance would be greatest when the key concepts were taught with a story.

One hundred seventy-four (174) students completed the semester. The typical student was female (71%), a freshman (64%) or sophomore (23%), and about 20 years old \( (M = 19.58, SD = 1.97) \). Students were ethnically diverse: 41% Hispanic, 28% Caucasian, and 18% African American. The most common majors were psychology (41%), kinesiology (20%), biology (14%), and marine science (7%). The three tests included a total of 182 multiple-choice questions categorized mostly as control items on topics without a story (59%); see Table 1 (on the next page) for a summary of items.
Table 1

Classification of Test Items by Story Kind

<table>
<thead>
<tr>
<th>LTR</th>
<th>N</th>
<th>Description of Item Kind</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>107</td>
<td>Control (topic presented without a story)</td>
</tr>
<tr>
<td>I</td>
<td>6</td>
<td>Integrate across Topics (required students to integrate across concepts so no single story category could be ascribed)</td>
</tr>
<tr>
<td>S</td>
<td>8</td>
<td>Study as Story (e.g., Milgram Study)</td>
</tr>
<tr>
<td>V</td>
<td>14</td>
<td>Video as Story (e.g., watching Strange Situation videos while instructor leads discussion and narrates evidence for each attachment style)</td>
</tr>
<tr>
<td>A</td>
<td>15</td>
<td>In-Class Activity as Personal Experience (e.g., students completed original Water Jug experiment and witnessed their own use of mental set)</td>
</tr>
<tr>
<td>E</td>
<td>15</td>
<td>Extended Story Told by Instructor (e.g., Little Albert story; resolving the mystery as well as and the rise and fall of John Watson).</td>
</tr>
<tr>
<td>P</td>
<td>17</td>
<td>Extended Personal Story of Instructor (a true first-person account that was more than a single statement of self-disclosure).</td>
</tr>
</tbody>
</table>

One statistical approach is to treat each of the 182 items as the unit of analysis and the correlation of the item with attendance as the dependent variable. The one-way between-subject ANOVA revealed a main effect of item kind, $F(1,6) = 8.748, p < .0005$. Tukey HSD post-hoc tests reveal that all item kinds but the control are equivalent (p-values range from .850 and 1.000). Though most story item kinds differed from control, post-hoc tests revealed that the Integrate Across Topics items differed only marginally from control items ($p = .063$ two-tailed), and that the Study as Story items did not differ from control items ($p = .55$ two-tailed). The lack of a statistically significant difference is likely due to power, as there were only six- and eight of each kind of item, respectively. The 95% confidence intervals show the expected directions: students who attended class more often performed better on every kind of test question (including controls), but the correlation with attendance is greater when items involved stories or were more challenging by requiring students to integrate across concepts (see Figure 2 on the next page).

Figure 2. Mean Correlation of Test Performance with Attendance by Kind of Story during Class
A more intuitive statistical approach is to treat students as the primary unit of analysis and attendance as a secondary factor, with the percent answering items correctly as the dependent variable. For further intuitive clarity I treated a median split of attendance as a between-subject factor. Item kind becomes a within-subject variable, eliminating the small N for two conditions, albeit at the expense of precision. The 2 (attendance) by 7 (item kind) ANOVA revealed a main effect of test item kind, $F(6, 167) = 16.460, p < .0005$ suggesting items varied in difficulty. A main effect of attendance, $F(1, 172) = 40.852, p < .0005$, shows the benefit of attending class for all kinds of test items. A significant interaction, $F(6, 167) = 10.479, p < .005$), suggests that the benefit for attending class differs by item kind. Inspection of the 95% confidence intervals shows that the control items barely differed by attendance, probably because slides with definitions were provided to students, while the gap between those who attend regularly and those who do not is larger for all other item kinds (see Figure 3 on the next page).
Considering both statistical analyses together, an interesting pattern emerges. The test items that integrate across concepts have a much stronger correlation with attendance than control items, because these items are quite difficult for students who miss class often. In sharp contrast, the stronger correlations for the kinds of stories with attendance are explained by the fact that attendance facilitated students’ ability to correctly answer items (compared with controls).

Results of the present study are consistent with the larger body of research associating student learning with storytelling. The use of stories benefits students’ memory and learning for material. Personal storytelling by instructors is one kind of story that benefits students. But personal stories are not more powerful than others. I next consider how students perceive their learning, feel motivated, and feel a positive attitude toward class as a consequence of the emotional connection instructors make through their stories.

How Do Students Perceive their Learning when we Connect with Personal Stories?

**Figure 3. Mean Percent Correct on Test Items by Kind of Story during Class and Student Attendance**

So we packed up our entire house into a rental truck for our cross-country move. It was exhausting, but fortunately I had the foresight to leave our mattress out so we could sleep through the night and start our drive in the morning. We slept comfortably in our eerily empty house, stuffed the mattress standing up in the last few inches we had at the back of the truck, closed the rolling garage-style door to the back, and we were on our way! It turns out when you drive through the south of Texas, they stop every truck to look for
illegal immigrants. I had to open the back. But I couldn’t! I got the door about a foot up and it was stuck. The officer responded to my look of concern by saying not to worry about it. Fortunately I could get the door back down. But I did worry about it. When we eventually arrived at our new home, I tried harder to open it. No matter how hard I pulled, the door wouldn’t go up. I tried contorting my body to reach inside and push whatever was blocking the door, but that didn’t work either. I did figure out what happened. Everything jostled about as we drove and the giant piles of boxes and stuff shifted and fell in just such a way as to knock the mattress over. The weight of all of our stuff was pinning our mattress to the door! I called the rental company, but their only suggestion was a costly procedure of pulling up the roof of the truck. What could I do?

If you were in my physics class, I might genuinely ask, “what could I do?” Rather than sharing that story, I might have saved time by simply making up a problem for students:

A very heavy object sits in the back of a truck bed. How can you move it to the front of the truck bed without touching anything in the back of the truck?

Whether we use the story or the example, students apply the same physics principle in exactly the same way to analogous situations. I would teach with the personal story, not because of the specific skill students learn, but because the story means so much more as a genuine real-world application (rather than a word problem students feel is artificial even if its “dressed up” as the real world). Personal storytelling fosters a genuine connection between students and teachers as we solve the dilemma together.

We might enhance how strongly students feel connected to us with our personal stories. “Immediacy” is the psychological closeness students feel with their teacher (Gorham, 1988). Immediacy is formed nonverbally (e.g., instructor smiling, moving about, using relaxed body language) and verbally (e.g., sharing personal examples, using humor, self-disclosing, referring to “our” class rather than “my” class). Personal storytelling is a core component of immediacy. Studies consistently find that when students feel more immediacy with us, they believe they are acquiring more knowledge (“cognitive learning”), have more positive feelings about the knowledge and skills we share (“affective learning”), and observe the consequences of their learning in their actions (“behavioral learning”) (e.g., Nussbaum & Scott, 1980). The correlations of immediacy with affective, behavioral, and cognitive learning are especially strong for larger lecture classes (Gorham, 1988). The correlation is found across multicultural classrooms of Latino and Asian faculty, but it is especially strong for African American and Caucasian faculty (Sanders & Wiseman, 1990).

Though self-disclosure enhances immediacy, at times students view it as misbehavior. Two studies conducted almost 25 years apart show strikingly similar results (Kearney et al., 1991; Goodboy & Myers, 2015). In both studies, the two most frequently identified instances of instructor misbehavior were not showing up for class and making sarcastic putdowns of students. In both studies, a misbehavior often identified in faculty was, “talks too much about personal life, gets off topic, does not focus on subject” (rank #2, #11). In both studies factor analyses revealed three dimensions of instructor misbehavior:

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7 For those who are curious, I solved the dilemma using the Law of Inertia (Newton’s First Law), “An object in motion tends to stay in motion …” I left the door open a foot up, drove around the block slowly and made sure no one was around. I put on the blinkers. Then I slammed the gas pedal and got up to 20 mph for a few seconds. Then I slammed the brake. Screech!!! My external force (the brake) had stopped the truck but it didn’t stop all of our stuff. Objects, like stuff, in motion stay in motion. In this case all the stuff continued moving forward. Since the door was partially open and everything came off it for a few seconds, the truck back door slid up. When this actually happened I purposely slammed the brake while going down a hill, so I was also applying Newton’s Second Law too.

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incompetence / non-engaging style, offensiveness / antagonism, and either poor enunciation or poor organization. Straying from the topic did not load well on any of these factors. Though students are quick to identify off-topic comments as misbehaviors, they do not consider them central to what it means to be a “bad teacher.” Self-disclosure is not intrinsically “misbehavior” in students’ perceptions. When faculty self-disclose more, relevant, and positive aspects of themselves, we find the same positive correlations with affective, behavioral, and cognitive learning as we do with immediacy (Goodboy, Carton, Goldman, Gozanski, Tyler, & Johnson. 2014).

Rather than studying good versus bad instructor behavior and finding self-disclosures among those behaviors, Sorensen (1989) asked students to identify previously-gathered examples of self-disclosures as coming from good or bad teachers. Table 2 (below) contains the top 5 self-disclosures that discriminate between kinds of teachers (all Cohen’s $d > .92$, $r^2 > 17.5$).

Table 2.

*Kinds of Instructor Self-Disclosure that most Discriminate Instructor Quality*

**Good teachers are more likely to disclose the following than poor teachers:**

I care about my students.

If you cheat, you are cheating yourself.

I’d love to spend a year or two travelling around the country meeting people.

I enjoy playing with my children.

I’ve tried to teach my children race, religion, or social class shouldn’t affect their relations with people.

**Poor teachers are more likely to disclose the following than good teachers:**

Students should be seen and not heard.

I may be stubborn but it’s only because I’m right.

My spouse and I fight constantly.

I am the most knowledgeable person in my field.

I don’t make friends easily.

Students seem to infer a level of warmth from faculty self-disclosure. This is sensible as warmth is one of two cross-culturally universal attributes people like (e.g., Fiske et al., 2010), and one of the two central traits people use to infer more broadly about someone’s personality (e.g., Asch, 1946). We should consider how we’re portraying our warmth in our personal stories. The other central cross-culturally universal trait is competence, and we would probably benefit by considering what our personal stories say about our competence too. Upon reflection, I notice that many of my stories reveal incompetence in the name of humor (e.g., not always logically using statistics, not the best computer programmer, lacking foresight
about how objects shift in a truck). In part I feel this may be okay because the ideals from which I fall short are ones most students are less interested in. I also know that students tend to think I am very knowledgeable because I often make side comments about connections of Psychology to other sciences, history, philosophy, and literature. It may be that self-deprecating humor is appreciated much like the classic study in which an especially competent quiz bowl contestant goofily spills coffee in a pratfall (Aronson, Willerman, & Floyd, 1966).

If you are currently apprehensive about whether students perceive you as competent, I recommend thinking of personal stories that illustrate your competence. When discussing a famous person’s theory, you make that person seem real by embedding a personal story of your interactions with them. You can discuss your experience conducting research in an area. If you figured out how to use a new method, or how to resolve a debate, or extend a concept, you can share it as a personal story. That would illustrate the dynamic nature of science that is often lost when students merely read established conclusions in a textbook. You can share stories where you applied class concepts to solve everyday problems (e.g., negotiating to buy a car).

Applications illustrate the value of knowledge beyond the classroom. Just always make sure that the story illustrates the relevant class concept first and foremost. Otherwise students could infer that you are making one of the self-disclosures that most defines a poor instructor, “I am the most knowledgeable person in my field” (see table above).

The value of warmth is unequivocal, not only for affective, behavioral, and cognitive learning, but also for motivating students. When students were asked to rate a diverse range of instructor behaviors for how much they would motivate or demotivate them to learn, a single factor accounted for 44% of the variance. Motivation came from a dimension defined by relevant positive self-disclosures, warmth, relating class content to personal experience, competence, and immediacy. The demotivating end of this dimension was defined by condescension, rigidity, anger, a tendency to digress, and to be unapproachable (Gorham & Christophel, 1992).

Though it is simple to say that faculty should be warm in order to foster positive feelings and motivation among students, warmth may be one of the most challenging qualities for faculty to exhibit. Ironically, in my observation, it is new faculty who have the warmest personalities who end up faltering most with warmth in the classroom - falling into a sarcastic, condescending, angry style that students find so demotivating. These instructors become engrossed in how much they care for their students and the subject, only to find their teaching met with a sea of emotionless faces staring back at them. It’s easy to become listless yourself when responding to bored-looking students. I often make a joke about this when I teach about emotion contagion. We need to inhibit absorbing lethargy, and instead transmit enthusiasm in hopes that we can spark more student engagement. One way to make this less difficult is to realize that students’ faces may reflect an unfortunate norm of the classroom rather than genuine affect. Many times a student who looked utterly disinterested during class spoke with me later expressing great enthusiasm. A second way to make this less difficult is to embed stories in which we’re warm so students think of us as warm. I have found that sharing sincere, funny stories gradually turns even students in the largest lecture hall into enthusiastic participants. What does research say about how self-disclosure and storytelling alter students’ behavior?
How do Self-Disclosure & Storytelling Impact Students’ Engagement, Attitude, & Behavior?

Teacher self-disclosure correlates with students’ behavior in class. When instructors self-disclose irrelevant and negative stories, students engage in more uncivil behaviors (Trad et al., 2012). When instructors self-disclose relevant and positive stories, students engage in less uncivil behavior like texting during class, packing up before class is over, and complaining about class (Trad et al., 2012; Goodboy et al., 2014). Positive and relevant self-disclosures by faculty also predict greater student motivation (Goodboy et al., 2014), more class participation (Goldstein & Benassi, 1994), and more self-disclosures by students that are relevant to class, such as how they are struggling with class material (Cayanus, Martin, & Goodboy, 2009; Goodboy et al., 2014). Additional evidence suggests that instructors are not merely a correlate, but a cause of student behavior. DeWine, Bennett, and Medcalf (1978) randomly assigned instructors to either make at least four self-disclosures each class or to limit their stories to third-person narratives. Students who heard their instructors self-disclose were more likely to self-disclose to classmates, friends, and instructors in class-relevant ways.

Better classroom behavior may be the result of greater student engagement through storytelling. For example, when I share the story of counter-factual thinking that I began with, I sometimes forget to finish (like here). Ten minutes later as we switch to a new concept, a student will ask, “Is Abigail okay?” She is! She was born happy and healthy, and today she’s a happy, healthy, thriving first grader. Thank you for asking! Empirical research shows the same pattern of engagement. Coal miners watching 15-minute safety videos especially appreciated how the videos went beyond procedures by including other miners sharing personal stories (Cullen & Fein, 2005). Similarly, farmers learning about the value of installing roll-over protection devices on their tractors were especially engaged by stories of other farmers’ experiences and found those stories just as persuasive as statistical evidence (Morgan, Cole, Struttmann, & Piercy, 2002).

We might worry that serious students would construe stories as a distraction or find it condescending to imply that they need stories to understand course material. But I can find no studies supporting that impression. Instead, at the conclusion of a semester where the teacher had shared many personal stories of her nursing experiences with nursing students, she asked about their attitudes toward the stories with a variety of statements on a Likert scale. The students most strongly agreed that the stories made class more interesting and that the vivid context made remembering content easier. They most strongly disagreed that the stories were inappropriate, a waste of time, or were unneeded by professional students (Davidhizar & Lonser 2003).

Stories lead to more positive attitudes about the class subject. In a 9th grade chemistry class, students were randomly assigned to learn about covalent bonds in one of two conditions. Students in the control condition learned the traditional description about pairs of electrons shared between atoms such that the attractive and repulsive forces balance. Students in the experimental condition heard an analogy with a narrative about “boy” electrons and “girl” protons. A pre-/post-evaluation found that students in the narrative condition learned more and increased their positive attitudes toward chemistry more than students in the control condition. Similarly, 228 fourth and fifth grade history students were randomly assigned to a conventional history lecture with either extra note-taking instruction or the addition of oral narratives. When students listened to and participated in oral narratives, their affinity for history increased (Watts, 2008). Using a correlational design, Nussbaum and Scott (1979) found that when their students rated them as higher in self-disclosure, introductory interpersonal communication instructors had students who rated their own attitudes toward the subject and their instructor more positively.
When students are engaged and have positive attitudes, they might be more likely to feel that they can apply course concepts in their everyday lives. Storytelling helped African American adults in a disadvantaged neighborhood learn about diabetes and high-blood pressure, in addition to increasing their self-efficacy (Bertera, 2014). We also find evidence for changing behavior by systematic manipulation of elements in stories. Diekman, McDonald, and Gardner (2000) rewrote romance novels to incorporate safe sex practices. Women who read the revised novels reported more positive attitudes toward condom use and greater behavioral intentions to follow safe sex practices. Through personal storytelling, students are more engaged, more positive about the subject, and more likely to apply class concepts in their actions. Do these intellectual and emotional benefits to students lead to better evaluations of instructors?

How do Students Evaluate Instructors who Self-Disclose?

Well thought through self-disclosures earn positive evaluations from students. For example, students evaluated their college professors more positively when their self-disclosures were: intentional (e.g., provided examples of class concepts, \( r = .38 \)), positive (\( r = .26 \)), and honest (\( r = .54 \)) (Lannutti & Strauman, 2006). The effect can be quite large, as when teacher communication style, including immediacy and the amount, intentionality, and positivity of self-disclosure, accounted for 30% of the variance in instructor evaluations (Scott & Nussbaum, 1981). These findings were replicated two decades later using a hierarchical regression model: course-relevant self-disclosure accounted for 5% of the variance in positive teacher evaluations; positivity of self-disclosure added an additional 3%, and the overall amount of self-disclosure added an additional 2% (Cayanus & Martin, 2008). Does the relationship between personal storytelling and course evaluations hold across cultural contexts or when evaluations are multidimensional?

One consideration about the power of self-disclosure may be cultural norms and values. For example, when men self-disclose insecurities in vignettes they are judged as less mentally healthy. When women in identical vignettes self-disclose the same insecurities, they are judged as more mentally healthy (e.g., Derlega & Chaiken, 1976). Self-disclosure norms across cultures are greater than gender norms. People in independent, individualistic cultures (e.g., United States) self-disclose more readily than those in interdependent, communal cultures (e.g., China). Even so, across cultures people self-disclose more to those with whom they have greater intimacy. When American male professors made more self-disclosures, their American male students rated them more negatively, \( r = -.419 \), whereas there was no significant correlation between Chinese male professors and their Chinese male students, \( r = -.081 \). When the American professors made more intentional (\( r = .255 \)) and honest (\( r = .338 \)) self-disclosures they were rated more positively by their students; ratings of Chinese professors showed even stronger positive effects, \( r = .461 \) & \( r = .688 \) (Zhai, 2012). Despite diverse cultural differences the value of relevant personal stories is surprisingly similar.

Unlike course evaluations that tend to vary from negative to positive, a more nuanced measure may be instructor credibility. Instructor credibility is comprised of three related but separable dimensions: competence, caring, and character. Three independent groups of students described what differentiated a professor as high or low in a single dimension of credibility. Each group arrived at the same conclusion about self-disclosure: as long as self-disclosure is course-relevant, it enhances credibility (Myers, Brann, & COMM-600, 2009). A study using a correlational methodology arrived at the same conclusion. When instructors self-disclosed more, relevant to course content, and without making students uncomfortable, students rated their instructors as more credible across all three dimensions (Schrot, 2013). Using an SEM
model, Miller, Katt, Brown, and Sivo (2014) replicated the finding that more relevant and positive self-disclosures led to high ratings of credibility. In turn, these perceptions of credibility led students to engage in less incivility (e.g., arriving late, engaging in side conversations, rolling their eyes, packing up and leaving class early). Carefully considered personal storytelling benefits students’ learning, attitude, engagement, and behavior. It also benefits instructors on evaluations. Perhaps the only concern we may have with sharing stories is whether it’s a style antithetical to science.

The Plural of Anecdote is not Data

The use of personal storytelling, or any storytelling, might raise ethical considerations for faculty of psychology and other sciences. We have seen that vivid stories are compelling and that sharing anecdotes might augment our data as well as help shape public policy and behavior for the better (e.g., Dahlstrom, 2014). Even so, stories can hinder scientific communication. Medical doctors have been alarmed by falling immunization rates as once vivid personal stories of epidemics fade into history (e.g., polio) and the rise of personal stories of harm due to vaccines become widespread. Scientific data are usually more complex than the simple messages commonplace in advertising and politics (e.g., some people do suffer adverse reactions to vaccines). Some in the medical community have reacted with vivid accounts of modern-day true stories of death or loss-of-limbs due to vaccine-preventable diseases (Cunningham & Boom, 2013). That storytelling worked. Yet the persuasive power of anecdotal evidence is independent of scientific evidence. To convey a conservative policy on welfare-reform, then presidential hopeful Ronald Reagan often told the true story of Linda Taylor, who fraudulently manipulated the welfare system to live in luxury.\(^8\) Not surprisingly, presenting people with a story about such a “welfare queen” and labeling it typical of people on welfare, reduced participants’ support for traditional welfare policies. Perhaps surprisingly, when participants were presented with the same story and told it was atypical of welfare recipients, their attitudes were still swayed against welfare (Hamill, Wilson, & Nisbett, 1980). Vivid stories work, and they work whether they support or refute the statistical and scientific evidence.

Some scientists suggest we reduce our credibility if we use anecdotes like journalists, instead of remaining pure in our descriptions of the empirical evidence (e.g., Katz, 2013). Clearly it would be immoral to tell false stories to counter scientific truth. Beyond that, there may be no easy answer. I personally feel no moral conflict between teaching science and storytelling. From my perspective, when we teach science, we should neither aim to school students into accepting a particular truth nor aim to persuade them of a particular public policy. For example, I do not share my story about counter-factual thinking to convince anyone of the “right” answer about storing cord blood. Education is not about bringing students to conclusion, but opening them up to thinking more deeply and broadly than they might otherwise. In this respect, storytelling might be the most profound way to teach.

Sharing personal stories can mimic the process of scientists observing reality, pondering questions, and proposing hypotheses. Usually we sharpen and level details of our stories to make the principle that we’re teaching perfectly clear. But on the last day of class I tell stories in the opposite way – I allow once pure stories to be messy, like reality. At any one moment in a single story, many psychological processes together explain a phenomenon. Within a single story I’ll highlight how neurological and biological processes below conscious awareness work; how perceptions can differ from reality; how I recall events from memory, however imperfectly; and how I solve problems and behave within a cultural context. As

\(^{8}\) e.g., ‘Welfare Queen’ becomes issue in Regan Campaign (1976, February 15), *New York Times*, p. 51
scientists, our explorations often wash over the complexity of the real world by controlling every variable except the experimental manipulation of interest, which we highlight. We arrive at well-established, replicable, and generalizable truths. Yet it can be challenging to recognize how these pure truths fit a messy reality. By sharing stories with students, we can highlight this oft forgotten last step in our theorizing.

Appreciating the dynamic nature of scientific inquiry and complex systems are two of the most challenging aspects of science to convey to students. Storytelling works. These benefits of personal storytelling complement what we have seen in the opening literature review: students remember more, learn more, engage more, feel more positively toward the subject, behave in a more scholarly manner, and more often apply course concepts to their own lives.

References


For millennia human *beings* have both entertained and taught one another through story. Although it is not the only effective way to teach, storytelling endures due to its timeless nature. From the stories told in pre-literate societies to the stories we share through sophisticated technologies today, stories have remained an important part of the human experience. It seems as though stories are a part of who we are as a species (Diekelmann & Diekelmann, 2009).

When we look at human characteristics that allow for the power of stories, we find that human beings are creatures of imagination and memory (Martin & Sugarman, 1999). Imagination entails the ideational creation and re-creation of the possible. In other words, by exercising imagination, human beings can ideate something they have experienced before (a re-creation), ideate it in new ways (a creative re-creation), or ideate something altogether new (a new creation). We imaginatively re-create, for example, when we revisit a conversation we had with someone through recalling the exchanged words. We re-create imaginatively when we think about those things we wish we would have said and how that might have played out. We create anew when we imagine events or experiences like Einstein’s *Gedanken* (thought experiments) or even fantastic ideas like the experience of riding a unicorn. Even in this colorful example, the imagination of this experience we create from memories of what a unicorn is, what riding an animal is, and what we know about light speed informs how we would imagine the sensations. From these examples we see that memory and imagination are not separate but intimately co-constituted processes. In the case of revisiting a conversation we’ve had before, we rarely remember every exact word or nuance. Instead, we re-create the experience and meaning of the conversation through the imaginative process of piecing together bits of the experience to form a whole (or partial) memory. This is similar to the theory of *scripts* relative to memory. Bower, Black, and Turner define “scripts as “action stereotypes” or the predictable unfolding of events based on personal experience or the flow of a story (1979, p. 183). For example, our memories of going to the doctor’s office or riding the bus to school follow a certain predictable pattern but remain subject to variation. These memories are not static storage items, but are rather actively constructed to varying degrees of accuracy. Increasingly, researchers have discovered that memories are reconstructions of events rather than recordings of events (Walker & Skowronski, 2014), and even eyewitnesses who observed an event firsthand demonstrate varying levels of accuracy when questioned due to the process of faulty re-creation (Thompson et al., 2014). Although perfect recall and clarity may not prove a realistic goal, sharing meaningful experiences with our students can help their memories and retention of core concepts in our psychology courses by capitalizing on the relationship between memory and imagination.

**The Body In–Relation**

We have two fundamental characteristics of *Being* human (from a phenomenological frame) to thank for allowing us to utilize the dynamic relationship between memory and imagination. The first characteristic is our shared world and our inseparability from that world. The second is the dialogical nature of human relationships. In terms of our shared world, Heidegger developed the compelling notion that we are Beings-in-the-world with others and alongside things (Heidegger, 1927/2008). Further, he defined the awareness of the meaning of Being as *Dasein* (an awareness both shared and particularized). This awareness is shared in the sense that all humans are aware of their own *Being* and particularized in the sense that the
immediate experience of Being might prove highly variant. The implications of this philosophy reach past simple notions of shared physical space (such as individuals sharing a classroom or a clinical office). His idea that we are co-beings of Being and that the shared world is as much a part of us as we are a part of it stands in stark contrast to an individualistic perspective. As Mensch describes, “From conception onwards we are in relation to others. We are dependent on them and almost immediately after birth begin our efforts to bind our caregivers to ourselves” (Mensch, 2003, p. 12). In the case of a classroom, professors and clinical trainers serve as simulacrum of the caregiver in the shared world of the classroom. The students and teachers are Being students and teachers within that shared world, and that room informs their Being, their in-relation selves. In the classroom, the teacher’s role is clearly defined. Outside of that space, the definition is not so clear. If a student happens to see a teacher in the store a couple of hours after sending the teacher an email indicating that the student was too sick to attend that day the student may well feel some confusion, because in that setting the power and role of “teacher” is unclear.

James Mensch (2001; 2003; 2009), building on the phenomenology of Heidegger, Husserl, Merleau-Ponty and Levinas, notes that a significant part of our shared world transcends mere external physical space to include the in-common experience of embodiment. Our bodies, in essence, are a significant part of our shared experience (Mensch, 2003; 2009). This may seem odd to many of our students who come from a cultural tradition in which the body both separates and locates us distinctly from one another, but a few examples of embodiment may help them appreciate a more nuanced understanding of our shared Being-in-the-world. When we share a graphically vivid story with students (like hitting our hand with a hammer), we can easily elicit an empathic response, thus creating a shared moment in the classroom. They have empathy for the characters in the story, and for the teller. In the field of nursing, for example, trainees who shared personal stories and who heard them in turn experienced a greater increase in empathy and learned vicariously from the mistakes and triumphs of the other students. In essence, they co-shared some of the experience and reacted in a connected fashion to the stories of others (Brown, Kirkpatrick, Magnum & Avery, 2008). This reaction, “...is a living as another by a living in the other. It is a sharing of the other’s embodiment. It is ‘empathy’ in the sense of feeling or experiencing in the other’s body” (Mensch, 2003, p. 39) [emphasis in original]. The root of empathy comes from the Greek “en-pathein” which means “to suffer, or undergo” and indicates a willingness on the part of the listener to undertake the experience of the characters in the story. For example, from our own experience as instructors, it is not uncommon that as we tell a vivid story (like striking a hand with a hammer), many students flinch and demonstrate pained expressions on their faces. When we then process the source of those flinches and pained expressions, they share their imagined experiences from their created or re-created memories (like times they have injured their hands, or their imagination of what such a hand injury could feel like). We then discuss how this experience of the body, even in this simple example, demonstrates that we all have embodiment in-common. This in-common experience arises not from some supernatural or metaphysical connection, but due to the ways in which memory and imagination are embodied processes. The speaker of stories and listeners to stories are connected rather than separate in the sharing of the experiences told in the story (at least to a degree). As Mensch (2003) describes the process,

The type of understanding functioning here involves embodiment. The self, in this action, takes on, embodies, the features of what it understands. The paradigm is one where, instead of saying ‘I observe heat,’ I affirm that ‘I am hot.’ This ‘am’ signifies that the selfhood that engages in this sort of understanding is itself a function of the embodiment it imaginatively takes on (p. 13).

This idea may seem similar to the phenomenon of embodied cognition examined by cognitive psychologists, and at first reading it certainly is. In particular cognitive scientists have found that cognition is situated in particular places at particular times, and that much of our “offline” cognition is based in the body (meaning that the processing that goes on outside of explicit conscious awareness and processing is deeply informed
by the state of the body) (Wilson, 2002). From a phenomenological frame, the situatedness of thought and the very layered nature of thinking proves accurate. The context in which we think co-constitutes what we think and how we think about it. We think differently in different situations than in others, as certain issues seem more salient than others depending on our context. For example, some researchers found that subjects, when told to push or pull levers after hearing “positive” or “negative” words pulled faster than they pushed after hearing positive words and pushed faster when hearing negative ones (Markman & Brendl, 2005). Likewise, our immediate environment affects cognition in consistent but subtle ways. Some researchers, for example, varied the indoor lighting conditions and temperature and then tested the moods and cognitive performance of their subjects and found that temperature and lighting did indeed affect mood and cognitive performance (Knez, 1995).

As phenomenologists we do not feel surprised at these findings, and would add that (when it comes to the power of narrative) bodies are not singular but fundamentally relational phenomena. It is through the body that we connect to the narrative and to our students. We know, for example, what a chill breeze on our skin feels like, and can recall the stench of rotten meat. Our lives are filled with memories imbued with emotions of joy, rage, or sadness. These various sensations and emotions permeate our history and help us connect to the stories of others, enabling shared experiences. Although it is conceivable that we could meet someone who has not had these particular experiences, they have had approximate and related experiences that will help them co-experience the story with the teller. A student from the tropics who had never experienced a Midwest winter could still approximately relate because she had felt many cool breezes before. Likewise, another student, though never experiencing the death of a loved one, could relate because she would be able to recall similar experiences of sadness. Because of this, a storyteller will emphasize each part of the embodied experience in the story (the sensations and emotions) in order to bring the students into that shared world. Once the students have entered this world, their understanding is not the understanding of someone who has heard a lesson, but someone who has lived an experience. Because of this, the most effective stories will touch on multi-sensory processes arising from the body (emotions, physical senses, etc.). Although not reducible to neural processes, the embodiment of experience proves deeply ingrained in us as storytellers and listeners. Hsu (2008, August/September) found that when listeners hear a vividly-told story, the same neural networks are active as when they experience the same phenomenon directly. Such narrative experiences transform understanding (both biologically and experientially) and allow for a deeper level of learning.

As we articulate the teaching power of stories, we find that phenomenon of embodiment offers necessary insights into the imagination and memory that lends meaning to stories. However, embodiment alone proves insufficient because “different bodies shape different selfhoods” (Mensch, 2003, p. 42). The body of a child provides a different embodied experience than the body of an adult. A sighted person experiences distance visually while a visually-impaired person might do so through sound or touch. Likewise, cultures inform embodiment differently. The “I am” experienced by two individuals of differing heights is shaped not only by their physical variance, but also by the value their culture places on height. If a sighted person tells a story to a visually-impaired person, or a short person to a tall person, they may create some misunderstanding due to the differences in embodiment. For example, when walking with two guards into the wing of a maximum-security prison, one of the inmates splashed a cup full of liquefied urine and fecal matter onto one of the guards, some of which also splashed onto the psychologist. In this particular case, the psychologist did not have a sense of smell, so his experience of the event (although the event was disgusting) probably proved less disgusting than it was for the guards who could also smell it. In the moment, that co-embodied experience shows a great deal about the experience of this fluid assault and the importance of caution when walking down a cellblock in prison, as well as how differences in embodiment inform the nature of the experience both in real-time as well as in the story shared through the medium of language with others after the event.
The Body in Dialogue

Language, as we learn from Bakhtin and Levinas, has the power to transform Being when language takes the form of a *dialogue*. A distinction between dialectics and dialogics may prove helpful at this point. Sometimes we teach dialectically, which entails the making of a particular reasoned argument (thesis), hearing the students differing reasoned argument via class discussion or papers (antithesis), and through our arguments coming to a mutual understanding or agreement on the topic (synthesis) (Kaufmann, 1966). For example, when working through case studies of patients diagnosed with Bipolar I Disorder, the instructor can assert potential causes of the symptoms. The students then argue for other causes in class discussion and assignments, and together they can come to an understanding of the contributing causes of Bipolar I Disorder for that case.

Dialectics entails argumentation and agreement, along with the bracketing away or devaluing of anything that would decrease or threaten the rationality of an argument such as emotion. Dialectical approaches can be effective teaching tools because they can help change minds. Dialogics, on the other hand, not only changes minds but also changes what concepts mean and who we are in relation to these concepts and even who we are in relation to other people in the world (Witherell & Noddings, 1991). Whereas dialectics seeks synthesis in understanding and agreement, dialogics remains much more open-ended, and a given dialogue can have different meanings over time and may offer multiple opportunities to transform our Being (Morson & Emerson, 1990). Bakhtin (1981) defined “dialogue” as a process which entails multiple voices engaging simultaneously, which he referred to as “heteroglossia”. According to Bakhtin, “Dialogism is the characteristic epistemological mode of a world dominated by heteroglossia. Everything means, is understood, as a part of a greater whole—there is a constant interaction between meanings, all of which have the potential of conditioning others” (1981, p. 426).

Whereas dialectics does not take context (historical, ideological, and relational situatedness) into account, dialogics situates meaning within these contexts (Gillespie, 2006; Bakhtin 1981; 1990; 1993). As Bakhtin stated “a word, discourse, language or culture undergoes ‘dialogization’ when it becomes relativized, de-privileged, aware of competing definitions for the same things” (Bakhtin, 1981, p. 427). For example, when teaching psychotherapy approaches, an instructor could share an intricate and difficult case dynamic narratively. The students and instructor would then visit and re-visit the case repeatedly as their mutual understanding of the case transforms over time. They would look at how the suffering of the client evolved within a particular context, how therapy evolved over time, and what implicit processes inform the client’s suffering, which implicit processes inform what the practice of therapy is and what it means, and how that informs the therapists’ relationships with their clients. Their use of the case, rather than seeking synthesis, would provide opportunities to re-think what happens in therapy, what it means, what the endeavor of therapy is, what we as therapists are, etc. in an ongoing and open-ended manner. The task of this storytelling dialogue, as Ironside (2003) described, “is not for students to necessarily answer questions (although answers may be posited) but to persistently explore the meanings and significance of practice and to make visible the underlying assumptions embedded in practice and education” (p. 513). These narratives, when emotionally engaging, have the effect of fostering the students’ imaginations and engaging them viscerally. Some students report that the story excited, frustrated, or engaged them to the point that when they thought about the story again later they would once again experience those feelings. This then caused a perpetuation of their internal dialogue, thus continually reshaping their understanding of the lesson.

Granted, stories may be used dialectically to great effect to prove a point as we seek synthesis of understanding. However, dialogically-told stories may provide greater opportunity for new understandings because dialogic stories entail the very visceral, emotional, and subjective experiences that dialectics seeks to exclude in the name of logical argumentation. Dialogical stories are not always logical, but are often
emotionally meaningful and can prompt us to question (or at least acknowledge) the assumptions and contexts that frame the narrative (Gillespie, 2006; Savvidou, 2010; Passila; Oikarninen & Kallio, 2013). When the authors Matthew and David tell a dialogical story in class about a particular case, they do so in a manner that leaves the conclusion open (the client may or may not have left therapy). They highlight the lingering issues in the case and the students and instructor wonder together about possibilities, both in terms of what could have unfolded differently in therapy and what might come next in the shared story. The open-endness of this approach continues rather than concludes the story (Black, 2008). The emphasis here, of course, we place on the word shared. A dialogical story entails active imaginal participation on the part of the teller and listener (Baxter, 2004). If both speakers and listeners embody an attitude of openness, transformation of both can take place even in difficult settings (Polizzi & Draper, 2014). What this means for the teacher is that the same narrative given to a class can be both dialectic and dialogical, based on each individual student’s perspective. One student may be having an incredibly enlightening moment, where their attitudes towards people or ideas shift and transform. However, a different student may not be affected in the same manner. They may simply find the story entertaining and a helpful example of the concepts in question. Students who are open, who listen intently and participate in the story, can then perpetuate the power of the narrative by creating emotionally effective stories of their own to then share with their colleagues and other faculty (Gazarian, 2010). As Christopher (2001) offers, when we are open to the dialogue it potentially gives us a “better way to make sense of our situation. The rigorous application of our newfound understandings to our own concrete situation helps us decide which of these insights to retain and which to set aside” (p.123).

These stories we tell collectively (faculty and students together), we situate within the context of a shared world, a degree of shared history, and a degree of shared embodiment. Because of this shared foundation, new possibility and understanding might arise. As Mensch argues, we should move from a model “of understanding through observing and abstracting to one of understanding through embodying and particularizing” (Mensch, 2003, p. 39). Understanding (which comprises both memory and imagination), according to Mensch, is an embodied phenomenon. Embodiment alone, however, cannot account for the varied ways in which human beings understand. We understand in part due to the shared experience of the body, both through direct observation as well as in the imagination, but embodied phenomena in the imagination cannot occur without language. When our students hear a course concept shared in class, they do so through this medium of language. Likewise, when we share stories of cases in our clinical work, the experiences these stories evoke do so through the medium of language. As Mensch argues “[T]o say that the intersubjective world is linguistically structured is to point to the fact that its objects are clothed with the common meaning language provides” and that “Being in this world is mediated by language and the objects within are drenched in linguistic meaning” (Mensch, 2003, pp. 164- 165). In essence, Mensch argues that language alone does not account for this form of understanding because without the shared connection of the body, many experiential mutual events could not unfold. In essence, understanding of a narrative sort requires an embodied dialogical imagination.

When we listen to a compelling story, our Being, while remaining embodied and particular, is joined in the imagination of the storyteller through the words and the visceral experience they convey. The teller and listener cease to be isolated entities, and instead become co-beings of Being through this embodied imagination. Compelling stories capture the listener’s attention, while time flies by seemingly unnoticed until the end of the story, just as it has for the storyteller. When these stories remain open to interpretation and meaning, both teller and listener may find themselves transformed through the shared narrative as their sense of Being shifts subtly or overtly through this dialogue (Tappan & Brown, 1991). The meanings of these stories unfold in a co-constituted way when both the listener and the teller take them up in new ways as possibilities unfold. For example, when we tell our students compelling stories about a psychotherapeutic concept, like the experience of what Rogers called “unconditional positive regard”
(Rogers, 1961, p. 52), the students sometimes report understanding their role of therapist in a new way. Likewise, when conversing with the students about the concept, the teacher’s understanding of what positive regard is, what it means, and how it manifests may also shift. This is very different from the technocratic and empirical approach to learning and measurement of learning which presumes that one answer and only one answer is “correct” (Egan, 1989). It instead embraces the vital role of imagination in learning by situating the students in the story through embodied dialogue. As with the nursing students mentioned above, some new psychotherapy trainees report that the “narrative approach helped them learn about the meaning of caring” (Brown et al., 2008, p. 284). Although researchers have found these differences in nursing education, it is unclear if an embodied dialogue would prove as effective in psychology education. Further research is needed to determine if the same effects could be seen in psychology education.

The first step in researching the transformative power of embodied dialogue is to determine whether or not students retain dialogical narratives more than discursive communication of information. We decided to assess this by comparing quiz questions that assessed student’s knowledge of textbook information alone with quiz questions that required students to also recall narratives on related subjects discussed in class. We hypothesize that the dialogical engagement with the embodied narrative would further increase students’ retention of the course concepts shared via the textbook and class definitions. In essence, we hypothesized that embodied dialogical narratives would have an additive effect on student learning of psychological concepts.

Method

In this study, we used in-class quizzes to check for simple mean differences in retention between didactically shared information and the concepts presented in dialogical narratives. We used multiple choice quiz questions to test basic knowledge of class information (such as definitions and theories), and free response questions to assess narrative retention respectively. The students would initially take an online assessment of learning over the assigned book chapters one to two evenings per week to verify that they read the assigned chapters (this served only to verify that the students read the chapters, the online quiz scores are not part of the data analysis). The next day they would take a second quiz at the end of class. This second quiz would entail five to six new multiple choice questions over the chapter material that was also briefly touched on in class, and five to six free-recall questions (short answer or fill-in-the-blank) covering concepts taught through the narrative of the embodied dialogue. We did not compare these questions separately, but rather looked at how narratives in the class supplemented stereotypical methods of instruction to increase and inform student retention of course topics. A sample of a course concept and a related narrative can be found below.

Sample Outline for a Teaching Narrative

Course Concept: Positive Reinforcement and Behavioral Shaping via the Method of Successive Approximation.

Student Reading: A chapter on behaviorist theory of behavior modification.

Narrative Goal: To increase student retention of this concept and to offer that reinforcement ten times more powerful than punishment in creating behavior.
Step 1: Review the definitions of Reinforcement, Behavioral Shaping, and the Method of Successive Approximation

Step 2: Matthew tells the story of potty training his autistic son Jotham, with an emphasis on the sensory descriptions, and he attempts to utilize multiple sensory domains.

“Let’s talk about how these concepts of Positive Reinforcement, Behavioral Shaping and the Method of Successive Approximation apply to real-life situations. As some of you know my oldest son was diagnosed with Autism at a young age, which has presented certain joys and challenges. One challenging moment of his toddlerhood was potty training. At first, he learned to use the toilet very quickly. One day, as Jotham played with his little plastic dinosaurs on the floor my wife smelled something quite foul and after some searching realized it was her little brown-headed boy. She checked him and found that he had defecated inside his pants. She immediately took him into the bathroom to bathe him and to clean his clothing, and as she did so she asked him why he had done so, his bright blue eyes never made eye contact with her (some autistic children avoid eye contact in general), and he did not respond verbally. From that day forward he would not use the toilet, and after two weeks my wife gave up and put diapers on him again. She lamented to me ‘It’s like he’s figured out that he can get me to clean him up and he can keep playing and not deal with the inconvenience of stopping what he’s doing and going to the toilet. I’ve tried taking away his toys and putting him in his room when he makes a mess of himself, but nothing is working’.

[At this point, Matthew breaks from the story and brainstorms with the class about why the negative punishment might not have worked (taking away the toys, putting Jotham in his room), and what might work better. Often, the students share that reinforcement works better than punishment for new learning.] Then Matthew continues the story.

“Like you all, I realized that reinforcement might be more effective than punishment in teaching new behavior. The trick became assessing which reinforcer might be most salient for this particular organism (my son). For a week we went through a process of trial-and-error. I attempted a frosted shredded wheat cereal (his favorite) but only elicited a mild response. I then tried various other treat-like foods, with minimal response. Jotham would often gladly accept the treats when given to him, but when enticed with a potential reinforcer to interrupt his play and walk across the room to get the treat, Jotham did not respond. Through sheer serendipity I stumbled upon a highly salient stimulus. As I sat and watched Jotham play one day I noticed a die-cast miniature car sitting on the top of the book shelf. From the slight dust upon it I could tell that it had been there for some time, and I took it down and admired the detail of the paint when suddenly I found an excited little boy jumping in front of me grunting reaching up for the mini car as though begging. Intrigued, I handed him the toy and he immediately bent down and started to roll it across the floor. Wondering if I had finally found a sufficiently salient stimulus to help shape his behavior, I went into the toy room and found several more at the bottom of the toy box. Finding Jotham enthusiastically still playing with the original car, I sat on the opposite side of the room and held up the new mini car. When I called his name he looked up, saw the mini car in my hand and sprinted up to me, and while jumping up and down he held his hands out with grunting pleas for the new car. Heading to the bathroom,
with him very close behind still animated, I waited until we stood within the bathroom before I gave him the car. Grinning, he ran back to his area of the living room while I went back to the toy room to retrieve what few cars were there before heading back to the bathroom. About ten minutes later Jotham peeked around the door frame of the bathroom as I sat uncomfortably on the cold tile. Seeing a mini car in my hands he stood at the doorway reaching and grunting for it. Smiling I waited until he crossed the threshold into the bathroom before I gave it to him. The next time he came back, around ten minutes later, he walked across the threshold to where I sat on the tile without pausing”.

[At this point Matthew breaks again and dialogues with the class about how to proceed with the Method of Successive approximation. He asks them to imagine themselves in that same situation of attempting to potty train an autistic child and the whole class wonders together about the utility and feasibility of the various methods they develop.] Then Matthew continues the story:

“After a trip to the dollar store, I had many packages of inexpensive die-cast miniature cars. To continue his learning, I would immediately reinforce his approximate behavior to the desired behavior. What this means is that when Jotham came into the bathroom, BAM! Minicar. Then Jotham would walk into the same spot, hold up his hands expectantly but I would wait. In frustration, Jotham would start to pace, and as he walked closer toward the toilet, BAM! Minicar. Soon he knew where to stand (directly in front of the toilet) in order to get his mini car”.

[At this point Matthew breaks the flow of the narrative again to brainstorm with the class about how to transition from one behavior (walking into the bathroom) to three different behaviors coming in the sequence, namely Jotham pulling his pants down (first behavior), sitting on the toilet (second behavior) and actually urinating and defecating (third behavior).] Then Matthew continues the story:

“The next step, Jotham pulling his pants down, proved very lengthy and arduous in terms of learning. Jotham would come in and stand right in front of the toilet to receive his minicar. I wish I had your creativity (motioning to the class) because the best I could come up with is to pull his pants down and hand him a minicar, hoping he would catch on. It took $10 worth of cars before he would come in and pull his pants down. Surprisingly, the next two steps (sitting on the toilet and eliminating waste) only took a few reinforcers each”. 

At this point, Matthew breaks the narrative again and dialogues with the class about the pace and nature of the learning, and their ideas regarding the difficult steps and transitions.

Next, Matthew reviews with the class each of the terms again, relative to the narrative:

Positive Reinforcement: The application of a stimulus to increase behavior. In Jotham’s case, it was a minicar. Reinforcement proved more powerful than punishment (sending him to his room, etc.) for learning.

Behavioral Shaping: The creation of new behavior. In Jotham’s case, this behavior of toilet training reflected the general technique of shaping. Particularly the reinforcement needed to be salient (he responded very well to minicars), contingent (immediately after emitting the desired behavior he received reinforcement), and consistent (every time he emitted a desired behavior he was reinforced).
Method of Successive Approximation: Reinforcing behaviors related to the desired behavior, then reinforcing relatively closer behavior to the desired behavior until that behavior is achieved. In Jotham’s case eliminating waste on the toilet was our goal, so we began by reinforcing his coming into the bathroom, then his approaching the toilet, then pulling his pants down, then sitting on the toilet, then elimination.

Matthew then sits and dialogues with the class about their ideas for application of these techniques, relative to animal training, child raising, and (in particular) counseling and psychotherapy.

Often, when time allows, he also leads a critique of this approach from a moral phenomenological frame by asking questions like:

Is this practice objectifying? If so, how? If not, how not?

If it is objectifying, is that morally okay? Do we like being treated as objects or treating others as objects?

Is there a way to utilize these techniques focusing compassionately on the relationship with the other rather than objectifying them?

Participants
Participants in this study attended an undergraduate Introduction to Counseling class at Utah Valley University. The class consisted of fifteen undergraduate Behavioral Science majors (five male, ten female). The students ranged in age between 20 and 41 (mean age of 27). Twelve students reported a Caucasian ethnicity, while two reported Latino and one biracial (African-American and Native American).

Analysis
Each quiz item was graded in a simple correct/incorrect format. Twenty book questions and twenty narrative questions were asked of students over a series of several quizzes. The quiz questions measured simply recall and recognition via multiple-choice items. The narrative questions measured deeper processing via free-recall mini-essay format. As Haladyna and Rodriguez (2013) discuss, mini-essays measure deeper learning typically than multiple choice questions. Therefore to measure the additive effect, a paired- samples T-test was then performed to determine if there was a significant increase in the average number of correct items when an embodied dialogical narrative was added to the process of teaching material covered in readings and mentioned didactically in the classroom.

Results
The analysis indicates that there was a significant difference in the number of correct answers for didactic (out of 20) \( (M = 9.5, SD = 2.32) \) and narrative (out of 20) \( (M = 16.6, SD = 1.90) \) quiz questions, \( t(9) = 8.63, p < .001 \). For a power of 90%, the projected sample size needed was \( N < 6 \). A Cohen’s \( d \) analysis produced a large effect size of 2.73. Our findings supported our original hypothesis that learning through a shared narrative increases provides additive learning of abstract ideas or concepts they have read in a text and heard defined in-class.

Discussion
Although the results of this study are statistically significant, several limitations present themselves and require follow-up. First, the researchers put no controls in place to verify that students actually read or comprehended the material from their assigned reading, relying only on self-reports. Secondly, when the students and professor engaged in the dialogic narrative about a case or concept not all students may have paid attention, which the researchers did not control. Another limitation of this study is that it does not
delve into the process behind how narratives enhance information recall, instead leaving the question open to conjecture. For the follow-up study, we propose to tightly control measures and only include data from verifiable reading and listening. In addition, qualitative questions would seek to ascertain how embodied dialogue informs students’ understanding and recall, as well as their willingness to both reflect upon and reinterpret their understanding of the information in new and ongoing ways.

The researchers utilized two different question types (multiple choice for material covered only conceptually in chapters and in lecture, and free-recall for questions from the dialogical narrative). This may seem confounding to the study and would be if the researchers chose to contrast one group (chapter and concept learning only) with another group (narrative dialogue only). However, in the case of this study the researchers examined the additive effect of the narrative to the reading and lecture concepts. As such, this additive effect needed to be measured authentically to the subject matter. Whereas basic concepts are adequately measured with multiple choice questions (simple recognition of the ideas relative to the question), narrative pedagogy provides greater depth of processing, such that students can recall substantive information when asked without possible responses to guess from.

In essence, this analysis indicates that participating in a dialogical embodied imagination through a shared narrative may increase students’ ability to recall information that they have learned through traditional lecture and text reading. From what we argue above about the phenomenology of the narrative, four qualities of effective storytelling come into focus.

Stories should encourage the imagination by capitalizing on our shared experiences of embodiment. In essence, narratives that use colorful sensory descriptions prove most helpful to students’ imagination. To say “the client appeared rumpled and unkempt” is helpful, but only utilizes one sense. Describing how “the client appeared rumpled and unkempt and smelled of mildew and sweat” creates a more vivid impression.

Stories create a vital bridge between imagination and memory that allows an instructor to teach and review important course concepts with depth. The model the instructor developed in the narratives included in the current study looked like this:

A) Introduction of course concept.

B) Story that clearly entails the concept.

C) A review that highlights the concept in relation to the narrative.

Introducing a narrative encourages (and in some cases requires) students to actively interpret the story. Students can reflect on related personal experiences or other possible related events with this new interpretation. This then goes on to inform future perspectives, perpetuating the learning process.

The narrative brings information to the level of Being, opening up a space in which students can explore their enthusiasm and care for learning. The instructor of this study established this type of dialogue on the first day of class by talking more informally with students, asking their opinions on various pop-cultural concepts that relate to concepts in class. Dialogue only happens when the participating voices are heard in a meaningful way.

References

Bakhtin, M. M. (1990). Author and hero in aesthetic activity (V. Liapunov, Trans.). In M. Holquist & V. Liapunov (Eds.), *Art and answerability: Early philosophical essays* (pp. 4 - 256). Austin, TX: University of Texas Press.


When teaching any class, obstacles such as apathy, procrastination, consumer attitudes toward education, overload, and distractions are all relatively common problems that can be student-generated or, possibly, even instructor-generated (McGlynn, 2008). Often, students think that a statistics course is merely another mathematics course, based in computations and rote calculations. In reality, statistics classes are heavily related to critical thinking, logic and judgment, analysis, application, and verbal reasoning (VanderStoep & Shaughnessy, 1997). Thus, teaching a statistics course heavily relies on teaching students to think in abstract ways – in addition to teaching the topics that make many students anxious, such as computational formulas. Despite the ubiquitous nature of some of these obstacles, statistics courses also encounter some additional hurdles. Instructors of statistics, as well as other science- and math-based courses, often face psychological obstacles when teaching such courses. These obstacles can include, but are not limited to, issues such as anxiety, significant amounts of fear, or even panic (Onwuegbuzie & Wilson, 2003). Moreover, many of these obstacles are present even before the class begins. Estimates suggest that between 60% and 80% of students experience uncomfortable levels of worry pertaining to statistics (Onwuegbuzie & Wilson, 2003). Due to this discomfort, as many as 80% of students dread enrolling in statistics courses and some may postpone enrolling in them as long as academically possible (Conners, McCown, & Roskos-Ewoldson, 1998; Onwuegbuzie, 2004; Onwuegbuzie & Wilson, 2003). Therefore, to enable students to perform better in the course and ultimately to better comprehend and apply the material, it is imperative that instructors of statistics aid students in overcoming statistics-related anxiety, dread and boredom.

Instructors of all disciplines have myriad options available to them to facilitate stimulating and pedagogically sound learning environments. Whether teaching statistics courses or not, instructors often have a barrage of items in their respective instructional arsenals to combat obstacles and improve learning, such as experiential learning, in-class activities, and/or demonstrations. In statistics courses specifically, teachers often use computer- or hand-based calculation exercises (Ricketts & Berry, 1994), data-related demonstrations (Humphrey, 2011), animated PowerPoints (Wender & Muehlboeck, 2003) and perhaps even field trips (Lesser, 2012) to present class material to students. In one example, Humphrey (2011) had students randomly and blindly choose a card from a deck that was purposefully ‘heavy’ with red or black cards. The pattern that would emerge (e.g., how many students randomly chose a black card) was analyzed statistically to determine if the deck had been altered. This innovative approach taught students the notion of randomness and p-values. Furthermore, the most notable moment in the exercise, as stated by the author, was when students would enthusiastically “cheer for their favorite color” (Humphrey, 2011, p. 19). Importantly, it was not only the uniqueness of the activity and presentation, but also the joyous and excited engagement of the students that made the demonstration, and ultimately the concept, memorable.

However, for some instructors, large scale options such as a demonstration including a ‘fixed’ stack of cards could be too time-consuming, overly expensive, or otherwise infeasible for various reasons (e.g., class size, time constraints). One potential and important pedagogical tool is to create stories regarding the statistical tests being taught. A story is defined as a series of events told through temporal or personal meaning, (Jonassen, & Hernandez-Serrano, 2002). The use of stories as a pedagogical tool has been well
documented, and has been utilized in various psychology courses, such as introductory psychology (Stoddart & McKinley, 2006) and History and Systems (Thorne, 1999). And, using stories as a teaching strategy is effective with students ranging in education levels from kindergarten (Erkut, Ceder, & Young, 2008) through high school (Yang & Wu, 2012), and college (Kaplan & Pascoe, 1977).

The purpose and style of stories can vary greatly, ranging from fairy tales to mysteries to personal narratives (Grobman, this volume; Szafron et al., 2005). They may include anecdotes from one’s life or simply be a fictional scripted story that contains elements of humor. Specifically in the statistics classroom, stories can be used to show students when to use certain statistical tests, or provide the conceptual background for an analysis. Perhaps a story simply exists to serve as a mnemonic for remembering a specific order of operations (Hackathorn, GARCZYNski, Blankmeyer, Tennial, & Solomon, 2012; Hackathorn, Thornton, Tennial, & Bolton, 2009; Ziv, 1988).

Stories, in general, provide various benefits to students, such as increased practice with problem solving, more personalized learning environment, the opportunity to participate more actively and fully in their learning, and to foster a sense of trust in their classmates and in the safety of the learning environment (Davidson, 2004; Jonassen, & Hernandez-Serrano, 2002; Kher, Molstad, &Donahue, 1999; Szafron et al., 2005). When humor is used, it can lessen student anxiety, inspire students to learn the material, keep students involved in the class, aid students in achieving a deeper understanding of course concepts, and make the class less reliant on traditional lectures (Humphrey, 2011; Lomax & Moosavi, 2002; Mvududu & Kanyongo, 2011; Schacht & Stewart, 1990; Ziv, 1998).

Instructors who utilize these types of approaches (e.g., stories) improve student performance while also entertaining students, and thus tend to be more positively rated on end-of-semester evaluations than instructors who are unable or unwilling to satisfy this expectation for entertainment in the classroom (Fortson & Brown, 1998; Hackathorn & Ashdown, 2015). More importantly, past research has shown that students prefer teachers’ use of a narrative style and that when students engage with their creative imaginations they tend to better learn important course concepts than when teachers use traditional lecture styles (Bruner, 1996; Hackathorn, 2008; Hackathorn, et al., 2012; Kraus, 2010).

Whether humorous or not, personal stories not only have the advantage of being a flowing narration, but also help students to apply statistics to real-world situations. Mvududu and Kanyongo (2011) discuss how using personal stories provides beneficial outcomes, such as lowered statistical anxiety. The authors discuss using current weather predictions, sports gambling and win/loss records, relevant television shows, and current political polls to help students understand abstract or complex concepts, such as sampling distributions and standard deviations. For example, Mvududu and Kanyongo (2011) teach the ideas of null hypothesis testing through the premise of the television show that the authors watch, called CSI. The authors guide the students through a criminal court case, using CSI as a metaphor for statistical inquiry. Much like statistics, in criminal law, the burden of proof is on the prosecution. The defendant is ‘innocent until proven guilty.’ But, the authors ask, at what point is there enough evidence for a guilty verdict? Once the parallels of hypothesis testing and the criminal justice system as depicted in this television show are described in adequate detail, then the remainder of the lecture can be spent discussing the importance and applicability of alpha levels and p-values. Please refer to Mvududu and Kanyongo (2011) for many more examples of personal stories to explain abstract concepts.

Even story-based or interactive games that focus on solving a mystery or puzzle show promise for helping students learn and maintain scientific inquiry skills (Boyle et al., 2014; Halpern et al., 2012; Szafron et al.,
Games with a compelling and evolving storyline seem to be particularly successful at helping students learn and remember topics related to scientific inquiry (Asbell-Clarke et al., 2012), such as statistics. In one example, Kraus (2010) used a fictional and humorous narrative about monsters in a statistics dungeon to teach the concepts of central tendencies. In the story, students have been trapped in a dungeon and there are three doors from which to escape. Each door is marked with a sign that indicates the size of the monsters that can be found behind the door (i.e., one is marked with mean, one with median, and one with mode). Students then choose between the doors and learn of their fate. Kraus (2010) found that students not only enjoyed the story, but also better understood the concept of central tendencies, as well as the advantages and disadvantages of each.

Although stories have been utilized to teach many different techniques in statistics courses, such as sampling (Derry, Levin, Osana, Jones, & Peterson, 2000) and basic critical thinking skills (Yang & Wu, 2012), stories can also aid students in selecting which statistical analysis to utilize in a given situation. This is, arguably, one of the more challenging skills in a statistics course for students to master (Hackathorn et al., 2009). Learning which statistical test to compute in any given research situation requires the capability to incorporate information about a specific research study’s components, such as methodology and type of variables. Understanding which type of data is better suited for a specific analysis, or which analysis is better suited to answer specific questions, is arguably more important and ultimately more challenging than calculating a mathematical equation (Hackathorn et al., 2009).

Integrating these aspects of statistical selection into a scripted story provides scaffolding for students. Students tend to find the structure of a story useful as a memory cue to aid in managing the different aspects involved in selecting an appropriate statistical test (Hackathorn & Ashdown, 2015). In fact, the story potentially acts as a mnemonic, because the break from monotony makes the material more salient (Downs, Javidi, & Nussbaum, 1988). The enhanced ability to select appropriate statistical analyses, in addition to reducing anxiety and other negative emotions (Lomax & Moorsavi, 2002; Onwuegbuzie & Wilson, 2003; Tremblay, Gardner, & Heipel, 2000), makes these types of scripted stories and humor particularly useful and important pedagogical tools for instructors. Scripted fictional stories in a statistic course allow the student to see first-hand the application and process of analyzing data in a very short amount of time. That is, the benefits of using scripted stories are that students can specifically learn statistical selection, application, computation and interpretation skills, all within the context of one overarching story.

Scripted stories can also present students with complicated ideas associated with statistical instruction. For example, stories can walk students through the research question, potential data collection procedures, the properties of the data, appropriate statistical test selection, the calculation of the test, and, finally, the interpretation of the findings. For example, Hackathorn and Ashdown (in press) recently created and tested the efficacy of a story that teaches students about the independent samples t-test. In the story, a girl named Alice is having a tea party (Note: the authors are very clever) and invites two friends. As Alice is serving the tea, her two guests begin to argue about the amount of sugar each would like added to their tea. Because both guests have disclosed that they are originally from different geographical locations (i.e., New York and Alabama), Alice becomes curious as to whether this difference in sugary tea preferences is related to geography. Thus, she travels to the northern U.S. and to the southern U.S. to collect data regarding how many lumps of sugar individuals from each area generally prefer in their tea. In the story, Alice finds that on average, Southerners like much more sugar in their tea than Northerners. Although the story itself is based in a whimsical, yet generally non-offensive stereotype, it carries students on a journey
through Alice’s question, to her mathematical calculation and, ultimately, to her interpretation of the results. Moreover, it disrupts the monotony of a traditional lecture just as in-class assignment or demonstration might do, but has the same (or even better) pedagogical impact.

The result of Hackathorn and Ashdown’s (in press) study was that students scored higher on exam items that tested content that was taught via the scripted stories than they did on items that tested content that was taught with more traditional approaches (e.g., in-class hand calculations, lecture, and even spontaneous humor). The exceptional strength of the story as we presented it is that, as the accompanying PowerPoint slides contain cartoons and the instructor has a script with humor embedded, the lesson is presented under the pretense of fiction and fun. Hence, it distracts students from the fact that they are learning about the application of statistical methods. Perhaps even more importantly, the students have fun learning statistical concepts. Thus, the authors argue that the scripted stories improved learning because students were engaged, interested, and even potentially distracted by the manner in which the material was presented.

Creating and Implementing Stories

In-class applications of data that can be related to ridiculous circumstances, such as paranormal ‘ghostly’ encounters, increases student engagement (Amoo, Friedman, & Friedman, 2000). When instructors present course material in the form of jokes, rap songs, and poems, they reduce boredom, amplify engagement, and ultimately augment learning (Friedman, Friedman, & Amoo, 2012). There are myriad examples of stories and narrative examples online (some mentioned previously in this chapter) and some are contained in various statistics textbooks (see Table 1 below for a list of some additional resources). Most of the stories take approximately three to five minutes to tell, and can be implemented within an already-existing lecture.

Table 1.

Resources for Teaching Statistics using Stories and Narratives

1. “The Data and Story Library” is a website that provides stories and datasets that can be used in class to teach various statistical topics. The library is hosted on the Carnegie Mellon University website. ([http://lib.stat.cmu.edu/DASL/](http://lib.stat.cmu.edu/DASL/))

2. The World of Statistics is an international organization that works to promote creativity in the teaching and learning of statistics, among other things. Their website has many useful resources for statistics teachers. ([http://www.worldofstatistics.org/](http://www.worldofstatistics.org/))

3. Stats+Stories is a podcast that explores the “statistics behind the stories…and [the] story behind the statistics.” Each episode explores how statistics is encountered by people daily and will provide interesting and current stories to use in the statistics classroom. ([http://www.cas.miamioh.edu/statsandstories/index.html](http://www.cas.miamioh.edu/statsandstories/index.html))

4. The American Statistical Association (ASA) refers to itself as the “Big Tent for Statistics” and has a website full of information and helpful tips for teachers of statistics at all levels. ([http://www.amstat.org/education/index.cfm](http://www.amstat.org/education/index.cfm))

5. The ASA also provides tips specifically for teachers of statistics at the K-12 levels. These can be particularly useful for instructors as starting points for their own undergraduate courses – and
especially teachers who are looking to create engaging stories. “STEW” is the STatistics Education Web online journal for this initiative. (http://www.amstat.org/education/stew/)

6. *Significance* magazine features articles written by statisticians that explore, in part, how statistics can be applied to current events and problems. (http://www.statslife.org.uk/significance/)

7. Jokes about statisticians (learn to make fun of yourself!): (http://www.workjoke.com/statisticians-jokes.html)

8. Follow “Research Wahlberg” on Twitter for various statistics and methodology based memes and jokes (https://twitter.com/ResearchMark)

9. “Teaching Statistics, eh?” is an online consortium of resources maintained by Augustin Vukov (http://www.utstat.utoronto.ca/vukov/TeachingStats.htm)

10. “Statistical Story-telling with time series data” is a blog post about using stories to teach about time series data (https://learnandteachstatistics.wordpress.com/2013/02/20/statistical-story-telling/)

What may be difficult for some instructors is writing or creating a story from scratch. Creating a story regarding statistical concepts relies on not only understanding the material, but also allowing for some time to create the story and corresponding data so that it comes out in a way that aligns with the story. For example, if one is creating a murder mystery about a detective who is trying to determine who murdered Mr. Smith, one must take care that the statistical outcome of a test points to the correct suspect. One of the main clues in the case is that the murderer has green eyes and curly blonde hair. So, let’s say the professor creates a story in which the police detective uses statistical analyses to help build a case against a suspect who has green eyes and curly blond hair. In the story, the police detective must decide how common green and curly blond hair is in the local population in order to determine whether or not this piece of evidence can be used against the suspect in a meaningful way. The detective gathers this information and then computes a chi-square test, which reveals that this combination of eye color and hair type is very uncommon in the area, increasing the detective’s certainty in the guilt of the suspect. This might be a clever way to demonstrate a chi-square test, but it will only be successful if that “data” that the detective collects do show, in fact, that the combination of green eyes and curly blonde hair is uncommon! The instructor must put in the time and effort to ensure that the data he or she creates for the story will support the desired outcome.

It would not be surprising to find that many statistics teachers already have one or two homemade examples that they use repeatedly each year and do not even realize the potential for those data to be made into a scripted story. For example, in Hackathorn’s own class I often explain the importance of avoiding type I and type II errors, by linking this notion with a pregnancy test. However, this quick parallel could be elaborated on and one could ‘walk’ students through the frustration or consequences of a young girl who takes a test only to discover that she has fallen prey to one of the errors.

Many statistics teachers, as well, probably already give students data to analyze under the pretense of a research project that was previously conducted. Herein lays the potential for a narrated story. For example, a common method that many of our colleagues use to demonstrate the concept of effect sizes focuses on the effectiveness of two different drugs, each compared to a placebo, to treat an illness or
disease. Often, instructors provide students with the relevant information to compute an ANOVA and partial-eta-squared effect size (e.g., mean, standard deviation, sample size, etc.), and students conduct an analysis to determine if there are differences among the drugs’ effectiveness and the effect size of those differences. We can envision creating a scripted story using these same data, via a fairly simple transition. The story may involve Dr. Peters, a clinical researcher who is testing his company’s new anti-depressant against a placebo and an already oft-prescribed drug. The story could include how Peter designs his study and collects data (a great review for students!), as well as his analysis of the data. Then Peter must decide, based on the ANOVA results and accompanying effect sizes, which drug is the better treatment. While technically using the same data to demonstrate the same techniques, constructing a narrative around the example will help students remember the information and its application as well as combat boredom and increase interest (Bruner, 1996; Hackathorn, 2008; Hackathorn, et al., 2012; Kraus, 2010).

Another potential source for creative stories may lie in research vignettes that exist in many statistics textbooks. As just one example, the textbook created by Tokunaga (2015), contains questions at the end of each chapter that ask students to conduct various calculations. For many of these questions, a research vignette is presented. Specifically, at the end of the chapter for central tendencies (i.e., Chapter 3), Question 11 refers students to a research project in which participants reported their levels of happiness and the amount of time spent alone or with friends/family (Tokunaga, 2015, p. 99). Then the data are presented, and students are asked to calculate the number of scores, sum of scores, and the measures of central tendency (i.e., mean, median, and mode). Rather than having students read this vignette and calculate the appropriate statistics, this vignette could be transformed into a narrative given to students in the class. Perhaps, instead of research participants reporting their levels of happiness, it occurs to ‘John’ at a family reunion that all of his maternal relatives seem much happier than his paternal side. His mom’s side of the family is very social, often gather together multiple times a year just to catch-up and hang out, whereas John’s paternal side are all loner misanthropes who avoid each other like the plague. Thus, John asks his maternal relatives how much time they actually spend with each other. Then students could calculate the central tendencies and make decisions regarding the amount of time spent together and average happiness scores. Furthermore, this particular example could be expanded and used again when teaching t-tests to determine who is happier. Then instructors could use this same example again to examine the correlation between time spent together and happiness. And, finally, instructors could expand the story once again to see if time spent together can predict happiness, through the use of regression. Using the same example throughout the whole semester not only works as a mnemonic but also scaffolds students through statistical selection, in which they must choose the appropriate analyses for various research questions.

Conclusion
Statistics courses can seem daunting and overwhelming for students. Changing the way the course material is presented can seem equally overwhelming for instructors. Dedicating time and effort into developing pedagogical methods that increase student learning while simultaneously decreasing their hesitancy and fear about the course material (with the added bonus of possibly increasing teaching evaluations) is time and effort well spent. Including scripted stories into the statistics classroom is one relatively easy way to do this – both students and instructors might be pleasantly surprised with the results!

References


The purpose of clinical education is to prepare practitioners to describe, explain, predict, and change psychopathology (Matthews & Anton, 2008). While this purpose pragmatically plays out primarily in direct intervention and research with patients and participants, operationalization in training has historically been reduced to content mastery that can be demonstrated through exams and written products – with field experiences relegated to the end of training programs. However, as psychological literacy and positive psychology have become more prominent influences in the teaching of psychology, a more holistic view of clinical preparation has emerged.

Psychological literacy, as originally defined by Boneau (1990), initially followed previous training models in focusing on content mastery, but expansion of the definition has increasingly focused on being able to apply psychological concepts to experiences and dynamics across contexts (McGovern et al., 2010). While graduate training programs in clinical psychology have emphasized immersion into field experiences, intentional efforts to teach student-practitioners to critically apply psychological science in a socially responsible way have been inconsistent; moreover, little research exists to illuminate effective models of promoting psychological literacy in clinical contexts.

Another recent trend in clinical psychology training is a “rebalancing” of sorts through more consideration of positive psychology. Research in positive psychology has reminded clinical psychologists that the absence of illness does not equate to the presence of wellness. In turn, a more holistic appreciation of clinical variables must be fostered in students of the discipline (Magyar-Moe, 2011). Research shows that the application of positive psychology in curricular training not only promotes more literate professionals, but it also has direct benefits for the trainees’ psyches as well (Maybury, 2013). In clinical practice, one’s competence is largely defined by his or her knowledge, awareness, and skills for addressing client dynamics (Sue, Zane, Nagayama Hall, & Berger, 2009). This kind of competence requires integration of both scientific knowledge and the personhood of the clinician (Corey, 2013). Although research connecting positive psychology to clinical psychology competence is limited, exploration in related fields has advised a perceived connection by applied psychology professionals (Sezgin & Erdogan, 2015).

One pedagogical strategy for promoting psychological literacy is case-based education (CBE), and it has been shown to also assist clinicians in the holistic conceptualization of dynamics advocated for by positive psychologists. Every teacher uses stories at some time in the mentoring and training of students. In abnormal psychology classes, professors share case studies or client narratives. In forensic psychology classes, teachers share stories of Dahmer, Bundy, and Manson. Social psychologists share stories of cults and groupthink. Kitty Genovese’s tragic story is shared repeatedly in introductory psychology classes. These stories can be used to break up lecture, to draw students into a learning moment, to make a concept more memorable, or to aid teaching in other ways. While the practice of using cases in clinical education is quite common, research on appropriate methods and their efficacy for training future helping professionals is extremely limited. In this chapter, the theoretical underpinnings of CBE will be discussed. Moreover, the authors will review previous research and introduce their recent research on the efficacy of CBE as pedagogical practice in clinical psychology training.
Case-Based Education: An Introduction

Case-based education (CBE) involves the use of case study stories for instructing students in their development, and the theoretical framework includes narrative, post-modern, and constructivist constructs (Sudzina, 1997). CBE has a developed set of protocols, and it has a longstanding history in a variety of clinical subfields of psychology (Leonard, Mitchell, Meyers, & Love, 2002; Tynan & Pendley, 2013). In part, CBE is an important aspect of pedagogy in clinical education because of its emphasis upon self-referencing. Therefore, the role of self-referencing in CBE will be reviewed, and its connection to retention and promotion of self-directed development will be discussed (Hartlep & Forsyth, 2000; Rogers, Kuiper, & Kirker, 1977; Tomey, 2003).

CBE: A Brief History

In medicine, the use of CBE in education can be traced back as far as 1788 at the Medical Society of New Haven (Tomey, 2003). In clinical psychology, CBE has a long and salient history of employment for transmission of knowledge. Early in the history of clinical psychology, much of what was known of psychoanalysis came from the communication of Freud’s rational theorizing, as illustrated through cases, including that of Anna O. Behaviorist principles that would undergird the understanding of phobias were initially presented through the case study of Little Albert (Watson & Rayner, 1920). As Tynan and Pendley (2013) observed, much of the early pediatric psychology knowledge communicated by its practitioners and researchers occurred in the context of case studies. In fact, Tynan and Pendley offered, “case studies are best described as the art of the clinician, tested by science” (p. 106). They indicated that case studies that provide enough information for generalizability to other cases and links to other standardized resources can be very effective in adding to the knowledge base of clinical education.

In formal education settings, such as universities and schools of professional psychology, case studies have been utilized to provide opportunities to evaluate data, highlight core constructs, and for development of conceptualization skills (McKeachie, 1999). Leonard et al. (2002) proposed that effective use of CBE involves several steps: development of goals for the exercise, selection of an appropriate topic area, development (or selection from an established resource) of the case study itself, and administration of an inquiry exercise for students. In development of the case study, Leonard and her colleagues recommended that development of cases that were rich in both obvious and subtle details that would engage students, but they recommended avoiding excessive intricacy for fear of student frustration. Sudzina (1999) further suggested that the case study itself should focus on “big picture” constructs that will be easily memorable. Researchers also generally advise that the inquiry stage is especially important, whether performed in the form of discussion or otherwise, for promoting critical thinking in the form of evaluation, integration, and synthesis.

CBE: A Constructivist and Narrative Framework

In many parts of the scientific world, professionals work from a modernist epistemology in which systematic investigation is capable of determining objective truths with sufficient scrutiny and revision. However, psychology is also heavily influenced by postmodern assumptions of social construction, and CBE’s use of narrative is very consistent with the latter theoretical framework. In postmodern thought, absolute truth does not exist, and truth is developed intimately, individually, and personally. In developmental psychology, this can be observed through Piagetian theories of cognitive development. While the Swiss developmental psychologist advanced humans go through a set of prescribed stages of development, he argued that the schemas we develop for understanding our reality are individually forged through assimilation and accommodation (Piaget, 1954). As constructivist views have become more prominent in learning theory, they too have impacted the way psychology is taught. As one invites students to actively forge their understanding of clinical dynamics, lecture and other passive content
delivery methods increasingly are paired with cases that encourage students to engage (and intermittently succeed and fail) a story for assessment, diagnosis, treatment planning, and so on (Sudzina, 1997).

In clinical circles, a practical application of postmodern theory has included narrative therapy, and the use of story has been found to be highly effective in treating patients. Underlying its effectiveness, story is a powerful way for promoting both insight and change. Narrative techniques have been used in a variety of contexts, including psychotherapy and human resource development (Nissley, 2014). As one develops understanding of his or her reality, that understanding often takes the form of stories. One’s story and its scripts may be empowering and dynamic, or one’s narrative may be limiting and unhealthy. Given the absence of objective reality, postmodern narrative techniques embracing the modification of stories and even the rescripting of new stories for the purpose of appropriate change and adaptation. Appreciation of one’s story can promote gained insight, and modification of one’s story offers a roadmap for change. These are two primary aspects of the development of clinical competence, which makes CBE and its reliance on story a promising tool for pedagogy.

The Importance of Self-Referencing in CBE

In understanding how CBE can be an effective constructivist tool for clinical education, research points to the underlying benefit of self-referencing. Self-referencing involves the interpretation of experienced dynamics and stimuli through the lens of our personal narratives, experiences, and attitudes. In social psychology, attribution theory explains that we make decisions about others based on a sense of similarity and difference in relation to the view of self. The fundamental attribution error, for example, involves making attributions of internal locus of others when we make external ones for ourselves. Furthermore, previous research has shown that people are able to recall adjectives that they self-reference more effectively than ones they do not (Rogers, Kuiper, & Kirker, 1977). In memory research as well, strategies for making information personally meaningful are advocated as more effective than general repetition and rehearsal.

CBE can be a useful tool for making information personally relevant and meaningful. When learners read a textbook, the language is not always easy to identify with on a personal level; on the other hand, learners can often engage in self-reference more easily when presented a story of an individual experiencing psychological dynamics. For example, a review of the diagnostic criteria for a disorder may seem abstract, but engaging a case study of an individual can make those symptoms more approachable and relatable. Interestingly, self-referencing techniques that involve exclusive reflection on how content is personally relevant tends to work as effectively as more elaborate study methods that involve rehearsal and review (Hartlep & Forsyth, 2000). Given the high potential of personal engagement and ability to make information meaningful, CBE is also a very effective tool for the kind of self-directed study that clinical students and practitioners are often required to engage in as part of their professional development (Tomey, 2003).

A Review of the Literature on the Use of CBE

Intuitively, CBE makes sense as a pedagogical tool based on its narrative and constructivist framework, and research offers some evidence of efficacy. As reviewed by the authors, the research in clinical psychology and related disciplines is largely descriptive in nature; moreover, the scant empirical studies often are limited by small sample sizes, the absence of control samples, limited between-groups salience, and emphasis upon self-report perceptions. However, the research does offer some evidence of CBE’s benefits. CBE appears to consistently increase course satisfaction. The method also increased perceived content knowledge, but its actual impact upon mastery is less clear. CBE also appears to improve critical thinking skills and accurate empathy. A broad review of the literature across clinical education will be presented in this section (McDade, 1995; Norcross, Sommer, & Clifford, 2001; Thistlewaite et al., 2012).
CBE Promotes Student Course Satisfaction

Research has indicated that students report increased course satisfaction when CBE is integrated. Using satisfaction rating scales, studies of abnormal psychology courses demonstrated that students respond favorably to the integration of CBE (Bibace, Crider, Demick, & Freimuth, 1979; Logsdon-Conradsen, 2004). Sheldon (2000) also reported that students in introductory psychology indicated high levels of satisfaction with the use of CBE for teaching biopsychological concepts. The inquiry stage in the latter work was conducted with small group collaboration and whole-class dialogue. The cases utilized also include a balance between obvious and subtle dynamics for salience and promotion of engagement. Of note, none of these studies utilized a control condition for demonstration of causation.

In addition to the teaching of psychology literature, research from the field of medical education also indicates a consistent theme of student satisfaction with the integration of CBE. In a meta-analysis of 104 studies, researchers found that students described their experience of CBE as positive (Thistlewaite et al., 2012). Satisfaction was linked to perception that the CBE integrated real life experiences, matched learning objectives, increased confidence in skills for applying knowledge, and helped in learning factual material. Students seemingly were more satisfied with CBE when it involved small-group instruction, was web-based, and connected to specific learning objectives and pedagogical methods used in a course. On the other hand, students were less satisfied with CBE when it unduly increased the workload, involved predominantly large-group or singular completion, and ambiguously connected to objectives of the course. Thus, CBE is seemingly most satisfying as an intervention when comprehensible, manageable, and approachable within the context of a course.

CBE and Content Mastery: Inconsistent Findings

In Thistlewaite et al.’s (2012) meta-analysis, findings revealed that students generally perceived that CBE improved content mastery, but studies objectively testing this outcome have yielded inconsistent findings. The meta-analysis suggested most reviewed studies indicated perceived improvement of content mastery in response to CBE, and the studies frequently associated such gains to role of active learning in the intervention. This theme bears out in review of literature across disciplines.

Perceived Content Mastery. In addition to finding CBE was associated with course satisfaction, Sheldon (2000) also reported student perception that CBE assisted with mastery of content on Likert scale probes. In a descriptive assessment of course evaluation data from nursing classes integrating CBE, researchers found 47.8% of 46 student-participants perceived that CBE promoted case-solving skills (Cassimjee, 2007). Of those students, 82.6% perceived CBE increased learning, and 93.5% perceived the use of story aided knowledge development. Of note, neither study included a control condition to allow for comparison of CBE to other forms of pedagogy directly. In contrast, Banyard (2000) found during comparisons of textbook and CBE within an abnormal psychology course that – while students perceived CBE beneficial for other aspects, such as development of empathy, diminishing stigma, and increasing interest – participants perceived the textbook more helpful in content mastery than CBE. While the latter study offers a comparative aspect (i.e., textbook learning) in evaluating learning outcomes, interpretation requires caution. Given the lack of separate experimental conditions – both CBE and discussion of textbook material occurred in the same lectures – it would be difficult to ensure that students distinguished what was learned specifically from each resource in their self-report.

Actual Content Mastery. Research in medical education yields inconsistent findings for objective measures of mastery from CBE even though perceptions of its efficacy are assumed (Eseonu, Carachi, & Brindley, 2013; Thistlewaite et al., 2012). Limited research has been performed in teaching of psychology circles on the influence of CBE on actual content mastery. In a study comprised of 69 students from two sections of abnormal psychology, researchers demonstrated with a pretest-postest design that quiz scores
improved after implementation of CBE (Lafosse & Zinser, 2002). While the study indicated improvement in actual content mastery, the design lacked a control group (i.e., a section of participants who did not receive CBE). Moreover, the same quiz was used for both collections of data in each section of the course; thus, while improvement was seen in two sections of the course, priming effects may also have contributed to performance enhancement. Pedagogical research in psychology does not offer evidence contrary to the presumption of CBE’s efficacy. However, Logsdon-Conradsen’s (2004) study on the use of CBE in an abnormal psychology course did not show a difference in outcomes related to the implementation of diagnostic worksheets on ability to diagnose when presented cases on a final exam. The researchers included three experimental conditions that differed on the number of diagnostic worksheets given each course to complete after reviewing case studies. No statistically significant differences in performance on the exam probes were found between the conditions. Thus, current research suggests that CBE may improve content mastery, but it may not do so more effectively than other pedagogical methods.

CBE, Critical Thinking, and Empathy: A Review of the Literature

Although the research on the use of CBE for promoting contenting mastery is inconsistent, many scholars agree that the most consistent findings in CBE research involve its use to increase critical thinking and empathy. As Thistlewaite et al. (2012) noted, the research consistently shows in medical education that CBE improves critical thinking and promotes the development of empathy. For example, Kaddoura (2011) found through a post-test-only design that nursing students who received CBE performed better than students who only received didactic methods on a standardized critical thinking measure. In the teaching of psychology literature, limited quantitative data exist regarding the relationship between CBE and critical thinking. Yet, descriptive research implies that CBE promotes critical thinking in the discipline as well. Both McDade (1995) and Perkins (1991) discussed their experiences and observations of utilizing case studies in psychology course work. Perkins describes an assignment in which he invites students to revise a case study to include a case conceptualization from a specific theoretical orientation. He noted that students are required in the process to think critically about the utility of the orientation they utilize, not only for conceptualization, but for treatment planning. He observed that students are also confronted with the limits of reductionistic application of a singular orientation to a case. McDade concluded that case applications promote critical thinking in eleven different ways, including generalization of knowledge to practice, emphasis on information literacy, and reinforcement of listening and collaborating in evaluation and application of data.

In addition to promoting critical thinking, research in psychology has shown benefits of CBE for increasing empathy and appreciation of context in clinical training. In the previously mentioned study, Banyard (2000) found that students perceived that CBE had more impact than the textbook on their ability to understand how a person with a disorder feels, what it would be like to have the disorder, development of empathy for individuals with the disorder, and appreciation of causes of mental health disorders. In a similar study, researchers invited students to review autobiographies in multiple sections of abnormal psychology (Norcross et al., 2001). The researchers found that students reported that CBE increased their understanding of society’s response to mental health disorders, and they noted that the “insider perspective” aided them in appreciate of the context of the individuals as well.

A Causal-Comparative Study of the Effect of CBE Integration on Satisfaction and Achievement

In addition to the previous review of the literature, the authors of this chapter present a study that investigates the impact of CBE upon learning and satisfaction in a course that looks at psychology as a social science. The causal-comparative study of archived course data demonstrated that CBE-infused course
sections promoted increased student satisfaction and performance in comparison to course sections without CBE.

Methodology

Gerald Nissley (first author) taught two sections of a course recently that focused on understanding psychology as a clinical science. Topics for the course included psychological adjustment, developmental psychology, psychopathology, and treatment planning for undergraduates at a liberal arts university in the southwest U.S.. Both courses were taught online, comprised mostly of underclassmen, and comprised mostly of psychology majors. One section of the course primarily involved relying upon the textbook for instruction, and exams and assignments were focused on addressing its material. The second section included exams that measured learning from the textbook, but assignments were focused on demonstrating understanding of a case that was utilized throughout the course for exploration. The case provided in the course was an edited account of a middle-aged female experiencing paranoid schizophrenia, and the case material included information from her childhood in addition to various domains of her life. In the CBE-infused class, the case was used each week in the course of the instruction, and information about the case incrementally shared. In turn, assignments involved applying the material learned that week in the textbook to the case. The CBE-infused course had 31 students, and the non-CBE class was comprised of 28 students. See Table 1 below for information regarding participants. Of the students in the courses, all students received final grades for the course. Thus, final grades could be used for all of the students across the two classes to assess performance. However, only 19 students completed the course evaluation in each section.

Table 1. Participant Characteristics

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<tr>
<td>Female</td>
<td>21</td>
<td>67.74</td>
<td>22</td>
<td>78.57</td>
</tr>
<tr>
<td>Psychology Majors</td>
<td>27</td>
<td>87.10</td>
<td>27</td>
<td>96.43</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>12.90</td>
<td>1</td>
<td>3.57</td>
</tr>
<tr>
<td>Freshman</td>
<td>26</td>
<td>83.87</td>
<td>24</td>
<td>85.71</td>
</tr>
<tr>
<td>Sophomore</td>
<td>5</td>
<td>16.13</td>
<td>4</td>
<td>14.29</td>
</tr>
</tbody>
</table>

Results

In this causal-comparative design of two similar courses that differed in design only on the integration of CBE into the teaching model, the authors were interested in how student perceptions of the courses were impacted; moreover, given the paucity of research on the topic, the authors were interested in whether student performance was impacted by the integration of CBE. Student course evaluations were compared between the two courses. For most questions on the course evaluation used for both classes, a 5-point Likert scale was utilized, ranging from “1 = Strongly Disagree” to “5 = Strongly Agree.” On questions related to workload and intellectual challenge of the course, the 5-point Likert scale ranged from “1 = Far too low” to “5 = Far too high.” The evaluation probe relating to overall course satisfaction also included a 5-point Likert scale, ranging from “1 = Very Dissatisfied” to “5 = Very Satisfied.” Additionally, the dependent variable of performance was operationalized as the final percentage grade for the course.

Course evaluation differences. For the comparison of course evaluation data across the two sections, Independent-Samples Mann-Whitney U Tests were completed in relation to each of the evaluation variables. Question probes, means, standard deviations, and significance are summarized in Table 2 for
mean differences found statistically significant. Of interest, no significant differences were found between the two courses in workload or intellectual challenges. Also, a bit surprisingly, no significant mean differences were found in regards to relevancy of course content between the two sections (see Table 2 below).

Table 2. A Summary of Mean Differences

<table>
<thead>
<tr>
<th>Question Probe</th>
<th>CBE-Infused Mean</th>
<th>CBE-Infused SD</th>
<th>Non-CBE Mean</th>
<th>Non-CBE SD</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The assignments in this course helped me understand the topics covered more effectively.</td>
<td>4.57</td>
<td>0.77</td>
<td>3.94</td>
<td>0.91</td>
<td>.032</td>
</tr>
<tr>
<td>The assignments in this course helped me strengthen my critical thinking skills.</td>
<td>4.58</td>
<td>0.69</td>
<td>3.95</td>
<td>0.97</td>
<td>.040</td>
</tr>
<tr>
<td>The assignments in this course helped me increase my skills for social responsibility.</td>
<td>4.42</td>
<td>0.84</td>
<td>3.84</td>
<td>0.90</td>
<td>.046</td>
</tr>
<tr>
<td>Please rate your overall satisfaction with this course.</td>
<td>4.53</td>
<td>0.96</td>
<td>3.84</td>
<td>1.01</td>
<td>.023</td>
</tr>
</tbody>
</table>

Course Performance Differences. In addition to considering the impact of CBE on student perceptions, an analysis of course performance was undertaken as well. The mean grade for the CBE-infused course was 89.87 percent (SD = 9.66), as compared to an average grade of 81.14 percent (SD = 20.73) for the comparison course section. Of note, all students initially enrolled completed the courses. A two-tailed independent samples t test was utilized to assess statistical differences in the means for the two sections. A statistically significant difference was found between the means, t(57) = 2.03, p = .04, indicating that the difference in average overall grades between the sections was not due to chance.

While the study has notable limits, some insights can be gleaned from the results. Of interest, student perceptions suggest that CBE promotes understanding of course material. Students in the CBE course also agreed more strongly that assignments promoted critical thinking and social change, which is important for developing psychological literacy and is particularly salient in teaching millennials. Overall course satisfaction was higher in the CBE course as well, even as the students in the two sections did not notice a substantive difference in workload or intellectual challenge. As noted above, beyond student perceptions, students in the CBE course performed more effectively – as operationalized by final percentage grade – as well. Although these findings are encouraging, it is worth noting that some limitations give caution. First, the study only utilizes two course sections and a relatively small sample size. Replication would benefit from larger sample sizes. Additionally, while students perceived no difference in challenge or workload across the sections, it is worth noting that a structured comparison of equivalency of the CBE assignments versus the assignments in the non-CBE course was not undertaken prior to the study. Lastly, final percentage grade is a crude measurement of performance, and future studies would benefit from use of
analogue for assessing CBE impact upon performance. Even as these are notable limits, the findings of this study add to the literature proposing benefits for the integration of CBE into teaching methodology.

**Conclusion and Recommendations**

As both the review of the literature and the causal-comparative study indicate, CBE can be a powerful pedagogical tool for promoting content mastery and the intrapersonal characteristics we seek in clinical practitioners. The current literature suggests the benefit of integration of clinical stories that match learning objectives, focus on broad concepts, and are stimulating through nuance. However, the previously reviewed studies and the one presented by the authors underscore the need for more robust designs with larger samples and more experimental controls in order to further illuminate the influence of CBE as a pedagogical intervention. In light of current research, CBE should be considered a valuable tool that augments the holistic preparation of clinical student-practitioners. However, given noted limits in research, it most conservatively should be seen as a tool to be used alongside other methods and sources of content review.

**References**


Employed as teaching tools in the classroom, stories increase the power of the instructor to impact students’ abilities to remember information and consider challenging new ideas. Stories can be told, read, or performed. Each story delivery format has unique strengths for teaching complex information.

Stories most likely began to be dramatized 30,000-40,000 years ago when the arts exploded into existence, and humans began to express thoughts symbolically (Mithen, 1996; Pfeiffer, 1982). A play is a story that has been embodied by actors for an audience. One of the basic conventions of theatre is the “willing suspension of disbelief,” through which audiences agree to pretend that for the duration of the play what happens on the stage is real (Brockett, 1969).

Dramatized stories are compelling because they are visual and three dimensional. The audience does not have to imagine the story – it is provided in vivo. Actors embody the story’s characters through physical movement and speech, which communicates emotions and ideas. Sets, props, costumes, and lights enhance performances, pulling the audience deeper into the story.

The visual system, our strongest sense, attracts attention to whatever moves. In addition to focusing on the actors’ movements, the theater audience’s concentration on the story is enhanced by bright lights illuminating the acting area while the audience sits in a darkened part of the space.

Dramatic structure streamlines a story, allowing it to be presented within a two- to three-hour time frame for a full-length play or a 30-45 minute time frame for a one act play. The story concentrates on the dialogue and the action; there are no descriptions of what people or places look like – the actors and designers physically provide that – and there are no internal thoughts shared, unless the play includes voice-overs or asides. Narrators are rarely used to tell an audience what to think; an important tenet of playwriting is “Show it, don’t tell it!” (Saldana, 2011). This draws the audience in, leaving them little time for reflection because they want to keep up with what is happening right now onstage. A well-written play will keep the audience’s attention riveted from beginning to end. A strong plot is structured so one event inevitably causes the next and that causes the next and so on until the audience reaches the final moment of the play (Butcher, 2008; Downs & Wright, 1998).

Watching performers excites the mirror neuron systems of audience members more strongly than when they are imagining a story as it is read or told (Berrol, 2006; Hagendoorn, 2003). Mirror neurons are specialized brain cells in the motor, sensory, and emotional areas of the brain that activate when a person does or feels something and when a person watches someone else do the same action or make the same face or emotional sound. This allows audience members to feel empathy with characters in a play. They are not just hearing the dialogue and watching the action, they are reproducing the actions and the feelings in miniature inside their heads. You could say they are acting with the actors. In essence, mirror neurons make performance possible (Hagendoorn, 2003). Because of the manner in which mirror neurons allow us to “put on the shoes of another,” plays can be excellent educational tools for teaching about social and interpersonal relationships in our own and other cultures, now and in the past (Gallese, Eagle, & Migone, 2005; Gallese, Keysers, & Rizzolatti, 2004).
Mirror neurons make imitative learning possible as well, because our mirror neurons provide internal insight into the actions an instructor or actor demonstrates. This particular pedagogical technique was extremely useful in pre-literate societies where many survival skills were taught through hands-on imitation (Gallese, 2005; Rizzolatti & Sinigaglia, 2006). Many aspects of education continue to use imitative, hands-on learning, including scientific instruction done in labs and medical training. Recent research has demonstrated that mirror neurons are more activated by live performance or demonstration than actions viewed on video or film (Jola & Grosbras, 2013; Ruysschaert, Warreyn, Wiersema, Metin, & Roeyers, 2013). Live theatre presentations, then, could be utilized as a very strong medium for delivering educational messages through story.

**Narrative Transportation**

Over the past twenty years researchers interested in how stories affect us have explored a concept called narrative transportation. When listeners, readers or audience members experience narrative transportation, they become absorbed by the story emotionally and cognitively. Transported into an imaginary narrative world, their awareness is diverted away from the body and the real, here-and-now, physical world to the fictional world (Green & Brock, 2000; Mazzocco, Green, Sasota, & Jones, 2010). A transported person is mentally engaged with the story and responds emotionally to the story’s content. Narrative transportation is analogous to theatre’s “willing suspension of disbelief” that happens when an audience lets go of reality and joins the fictional world on stage.

Information brought vividly to life by the play is more easily remembered because it is concrete and encased in a story. Throughout the course of a play, the characters engage in overcoming obstacles in order for the story to move forward. Some of these obstacles are already in place at the play’s beginning, but most are initiated in front of the audience’s eyes by the characters (Wright & Downs, 1998). This makes the plot of a play much more detailed than a report or synopsis of what happened and brings the witnesses into the specifics of the characters’ lives. As Michael Slater says, “…the lived experiences of others is intrinsically difficult to counterargue: One may dispute the relevance or generality of another’s experience, but not its substance” (2002, p.175). Green and Brock note that narrative transportation “is consciously experienced and absorbs much of one’s mental capacity” (2002, p. 327). As a result, audience members become more receptive to the characters’ opinions and do not block or discount the experience of the characters in the same way they might if the situation were presented through non-narrative description, statistics or facts. In this way, narratively transported audience members not only get the opportunity to experience the characters’ perspectives, they are more inclined to accept their attitudes and beliefs as appropriate and valuable (Deighton, Romer, & McQueen, 1989; Green, M.C., 2013; Mazzocco et al., 2010; Thompson & Haddock, 2012).

For instance, Shakespeare’s (1942) *Romeo and Juliet* takes the audience deep into adolescent intensity, the suddenness and subtlety of how conflict escalates, the trap of family dysfunction, and how suicide seems inevitable to someone who feels hopeless, isolated, and depressed. When the audience develops relationships with the main characters, they find it difficult to dismiss what Romeo and Juliet feel for each other as puppy love because it feels like real passion; they do not laugh off the violence between the young men of the Montague and Capulet families as adolescent over-reaction. The seriousness of intergenerational violence and trauma can be explored through characters that audience members have become attached to because of their sensitivity, wit, or righteous indignation.
While transported into a story or play, audience members can be persuaded to new points of view through their identification with characters in the story (Carpenter, 2012; Cohen, 2001). This identification is usually with the protagonist, but it could also be with a character who has a quirky charm or an actor who plays a character with deep commitment and charisma. Even if the character’s point of view is very different from the transported person’s, the new attitudes and beliefs experienced through identification with the character can be brought back into the real world by the transported person after the play ends (Green & Carpenter, 2011). A change in behavior, based on the new attitudes and beliefs, can result. At the very least, the transported person can feel a new openness to considering and valuing the attitudes and beliefs of others (Deighton et al., 1989; Green & Dill, 2013).

In a well-made play the protagonist experiences an emotional arc from the beginning of the play to the end (Downs & Wright, 1998). He starts in one state of mind and goes through an emotional journey, usually experiencing a crisis of confidence, and through overcoming obstacles learns something new about himself by the end of the play. If the play is a comedy, adventure, or melodrama, the protagonist succeeds and triumphs over his enemies. If the play is a tragedy, the protagonist’s new knowledge about himself leads to his downfall (Butcher, 2008; Downs & Wright, 1998). The character almost acts as a role model for the audience as he demonstrates the new behavior and/or change of attitude (Cohen, 2001).

For example, in Les Miserables Jean Valjean, upon release from prison, steals from a priest. When Valjean is caught in the act of thievery, the priest shows him mercy instead of turning him over to the authorities. This experience of being forgiven and given another chance when he did not deserve it begins the transformation of Valjean. Through the course of the play he becomes an honest and upright man who reaches out to help other people in need, as he had been helped. An audience member who strongly identifies with Valjean is more likely to leave the theatre believing that people are capable of change and is less likely to accept Officer Javert’s opposite belief that human beings cannot change (Hugo, 2012).

Using the Power of Story in Theatre for Education

Attending Plays

An easy way to incorporate the power of dramatized story in education is to require students to attend a theatrical production that relate to issues being studied in class and using the play as a jumping off point for class discussions or projects. For example, Shakespeare’s Romeo and Juliet could prime students for discussions about adolescent development, family relationships, depression, youth suicide, conflict resolution, women’s studies, or medieval and Renaissance History. Les Miserables could introduce aspects of 19th century French history, philosophy (e.g., Is man innately good or bad?), economics, sociology, or political science (e.g., the difficulty of climbing out of poverty from the lower class).

Performances of plays with a controversial or powerful message are sometimes followed by a “talk back” in which a panel of experts discusses the issues and answers audience questions. Often the actors and director of the play will participate and share their experiences of researching, rehearsing, and performing the play. When the play is a new play, the playwright may attend and solicit audience feedback about what is clear in the play and what is confusing. Talk backs typically are scheduled to follow a few selected performances, rather than all of them. Usually the theatre advertises these opportunities so patrons who want to engage in an in-depth follow-up discussion know to attend that evening’s show.

An ethnodrama is a play written from the words of real people (Saldana, 2011). Individuals who have an experience in common, such as surviving a disaster, being involved in a common profession, or struggling
with the same kind of oppression, give a playwright permission to interview them and record their story. The playwright transcribes the interviews verbatim and creates a play based on the stories that have been gathered. *The Laramie Project*, a play about the murder of Matthew Shepherd in Laramie, Wyoming, by the Tectonic Theatre Company (2001), is an ethnodrama. So is *The Exonerated*, a play about six people who were freed from death row when they were proven innocent (Blank & Jensen, 2004).

The performance of an ethnodrama is called ethnotheatre (Saldana, 2011). As an educational tool, ethnotheatre offers a window into the words and experiences of real people: the ultimate in testimony sharing. Audiences of ethnodramas are often deeply moved because they know everything that is onstage comes from the hearts and struggles of the interviewees/characters. Actors who portray these people take seriously their responsibility of being true to the spirit and details of the character’s personality and experience.

Most of the time the interviewed individuals do not portray themselves in an ethnodrama. One reason is that they are not trained as actors and would not feel comfortable on stage. Another reason is they may still be traumatized by the situation they were interviewed about, and it would be detrimental for them to re-live their story again and again in rehearsals and performance. Most theatrical productions are not meant to be therapy for the actors; they are meant to be aesthetic artistic expressions created to communicate truths and experiences about what it means to be human to an audience. Theatre is therapy or therapeutic if the performance is done by a drama therapy group and the director is a trained drama therapist. On occasion, however, the actual people might portray themselves in an ethnotheatre performance. This can add more intensity and verisimilitude to the performance; however, it sometimes makes audience members uncomfortable, knowing that the emotions being shared onstage are real.

**Reading Plays**

Even without the opportunity to attend a production, the power of embodied story can be integrated into the classroom. Small groups of students can prepare and read aloud scenes from plays that focus on difficult issues. Bringing scenes to life through the voice alone can be very moving and awaken an awareness of the emotions and details involved in the individual human heart and in larger interpersonal conflicts. While some ethnodramas have been crafted from interviews, a number of others, such as *The Investigation* (Weiss, 1966), *Gross Indecency: The Three Trials of Oscar Wilde* (Kaufman, 1999), or *The Chicago Conspiracy Trial* (Schultz, 2009), were edited from trial transcripts, bringing historical events to life through the drama of the courtroom. Other plays, fiction and non-fiction alike, written by participants involved in historic moments can offer unique perspectives into that moment in time. For instance, during World War II many artists wrote plays and cabarets in response to their Holocaust experiences (Peschel, 2014).

**Activities Based on Plays**

The story and characters embedded in a play can be explored more deeply to enhance understanding. Character analyses (see Appendix A) reveal the biography, attitudes, emotions, and interpersonal connections of a single character. An analysis of the special world of the play (see Appendix B) reveals details about time, place, and culture, which in turn illuminates the story and the motivations of all the characters. Analyses like these can prepare students to hold a debate between the protagonist and antagonist of a play, put a character on trial for his or her actions, or present a pivotal monologue in which a character has an important insight or reveals a secret. Discussions or papers based on these classroom activities can open up new perspectives on the choices, motivations, and frustrations that drive the
characters and the story forward. A personal experience with a fictional or nonfictional “other” unlocks new depths and dimensions of critical thinking and makes learning immediately relevant.

The Creation of Plays
The process of turning a story into a play can bring the background narrative to life in a way that is personally meaningful for students and can lead them to discover far more than they would have by reading a book, writing a paper, or attending a performance. An excellent example of this is Life in a Jar, a one-act play written and performed by four high school students about Irene Sendler. Sendler was a Polish social worker during World War II, who spearheaded saving 2,500 Jewish children from the Warsaw ghetto (Mayer, 2010). She convinced Christian families to raise the children as their own and kept records of the children’s Christian and Jewish identities in a jar she buried under a tree in a friend’s backyard. She had hoped that the records would help re-unite the children with their parents after the war. Unfortunately, many of their parents died in concentration camps. Some children grew up never knowing they were Jewish or that their parents had been casualties of the Holocaust. Sendler was an unsung hero whose story had been lost until the students at Uniontown High School in Kansas discovered her story within a single paragraph of an issue of U.S. News and World Report (Mayer, 2010), researched it and eventually contacted her. Sendler, then in her 90’s, sent the students letters, sharing more of her story. After the play had been performed and won first place in the National History competition, the students traveled to Poland to meet Sendler and learn even more about her, the Holocaust, Poland, and World War II. Certainly, this experience is an extreme case, but it shows how deeply playwrights who create ethnodramas are able to delve into and care about the material they bring to life.

Ethnodrama can be brought into the classroom as a research tool by assigning small groups of students to conduct interviews of people from the community who have certain experiences in common or who espouse specific points of view about a controversy. Students could define a set of questions, seek out interviewees, obtain permission to record them, transcribe the interviews, create a script from the first-person data gathered, and perform it for the class. If ethnodrama is chosen as an educational storytelling technique, respect needs to be given to interviewees and their words/experiences.

If you cannot find anyone to interview on a subject, ethnodramas and monologues can be crafted from primary texts, such as journals, letters, trial transcripts, or other first-person material. Plays can be developed from traditional research sources as well. Any performed research brings information to life.

Does Theatre Work as a Purveyor of Story in the Classroom?

The Current Study
Research has been done on written story and media as narrative transportation vehicles (Cohen, 2001; Green & Brock, 2002; Mazzocco et al., 2010), but no articles have been published on live theatre and narrative transportation. For the reasons discussed earlier in this chapter (i.e., the enhanced excitement of mirror neurons during a live performance compared to print or video, the extreme focus provided by staging and lighting in a theatre, and the streamlined structure of the story in dramatic form), a study focusing on theatre seems to be timely. During the spring semester of 2015 audiences attending productions produced by the Kansas State University Theatre Program were asked to participate in a study about the use of theatre as an educational tool and if they volunteered were surveyed about the amount and quality of narrative transportation they experienced while watching the production.
Method

Participants
Audiences at K-State Theatre performances consist of students, faculty, and staff from across the university and individuals from the Manhattan, Kansas community. Spring semester 2015 at Kansas State University had a student registration of approximately 24,700. The population of Manhattan, Kansas numbers about 31,300 exclusive of K-State students. The Fort Riley military base is located nearby and is home to the First Infantry Division of the U.S. Army. This adds to the population of the region.

Materials
Questions for the survey were taken from The Narrative Engagement Scale, developed by Busselle and Bilandzic (2009). The survey was based on several previous Narrative Transportation scales created by Green & Brock (2000), Kim and Biocca (1997), and Appel et al. (2002), and included a few questions from an identification scale created by Cohen (2001). Questions were re-worded to refer to a theatre performance being watched instead of a book being read. Additional questions were developed that related to knowledge of and attitudes toward certain key issues in each play. These questions were presented on a Likert scale from 1-5.

Procedure
Ushers offered the surveys, along with the programs, to audience members as they entered the theatre. The cover page was the consent form which volunteers were asked to rip off and take home with them. Pre-show questions, copied on green paper, measured tendency towards transportability and current knowledge and attitudes about issues in the play. These were stapled to the post-show questions, copied on yellow paper. The post-show survey included questions in relation to being transported into the play and about changes in knowledge and attitudes that did or did not occur. At the end was a question about which character in the play the participant identified with most and why.

The only demographic question was whether the respondent was female or male. This was asked on the first line of the pre-test of CatCalls, so audience members would be primed to watch from the perspective of their respective sex. For the rest of the plays, the question was positioned at the end in order to avoid any gender stereotype threat in the survey answers.

Three fully produced plays and three staged readings were surveyed. For the purpose of this chapter, the discussion will focus on CatCalls by Jessica Munoz. CatCalls is a one-act ethnodrama based on stories about street harassment from the international Hollaback! Website, used with permission. Created as a psycho-educational piece, the author’s goal was to contribute to lowering the incidence of violence on campus and in the local community. The play consists of short vignettes depicting women experiencing harassment because of body size (large), breast size (very developed at a young age), sexual orientation (lesbian), or religious affiliation (a Muslim woman wearing a hijab). Interwoven were a series of scenes about Todd, a male character living in a world where sexism and harassment are reversed. In this parallel universe men are the weaker sex and are hit upon and looked down on by women who have the power in the culture. The purpose of these scenes was to allow men to walk in the shoes of the one who is harassed for a short time.

An additional question was added to the end of the Likert scaled questions on the post-test, before the question about identification:
If you are male, please circle the answer to this question:
Watching Todd being harassed gave me a better understanding of what it must feel like for women who are victims of sexual harassment and discrimination.  YES  NO.

In addition to two performances on campus, CatCalls was presented to the First Infantry Division at Fort Riley in April as part of the Army’s education about sexual stereotypes and violence. The SHARP (Sexual Harassment and Rape Prevention) office believed the play was the perfect vehicle for introducing Sexual Awareness Month. We were invited to survey the military audience at four performances and hold a talk-back after each.

Results
Surveys revealed that of the men who turned in complete surveys three-quarters (75.77%, n = 227) who saw the play at Ft. Riley and three-quarters (75%, n = 16) who saw the play at K-State marked “Yes” in response to the question about having a better understanding about what women go through when they are harassed. These figures are reported separately because the male age, education level, and play-going experiences of K-State and Ft. Riley audiences were different. The soldiers were mostly young (ages 18-26) with high school degrees; some had not seen many live plays. The male university audience ranged in age from 18 to 65 and older, most were college educated, and many saw plays on a regular basis. Despite their background, it is clear that entering the fictional world of the play made an impact on the men in both audiences, showing the strength of plays as to change attitudes. Further analysis is ongoing to identify if there are patterns between amount of narrative transportation experienced and amount of change in knowledge or attitudes experienced.

Conclusion
Preliminary results of this study indicate that theatre performances are effective for evoking narrative transportation and, as a result, can be used as a tool to change attitudes and enhance knowledge. Several ingredients make theatre effective. First, theatre is embodied story and has access to all of the educational strengths of story enumerated in this and in other chapters in this book. All story delivery modes link facts, complex social skills, and other types of information through narrative to make them more easily remembered; however, the physical aspects of theatre create an enhanced, focused vehicle, allowing student points of view to be challenged and changed. By honing a story to its most active aspects through a focus on character, dialogue and action, the dramatic structure of a play intensely engages the audience for the entire length of the performance.

Beyond the gaining of knowledge, one of the stated aims of education is to enhance students’ abilities to think critically (Gardner, 2006; Mulnix, 2012; Willingham, 2007). Critical thinking involves a process of learning using meta-cognition. More than just remembering facts, critical thinking requires students to evaluate facts, situation and context. The focus in most discussions of critical thinking are on rational skills; however, more and more neuroscientists and cognitive and educational psychologists are accepting that we do not think by rational thought alone – that we need our emotions and our embodied experience for clear thought and good decisions (Cozolino, 2010; Damasio, 1994; van der Kolk, 2014). Narrative transportation can contribute to critical thinking, even though it temporarily obstructs the ability of the transported student to engage in rational evaluation while inside the world of the play. Discussion and
reflection after the transportation experience adds the rational aspects of evaluation and assist students in
taking different points of view beyond their own. The direct, embodied experience offered via the different
perspectives of characters in a play provide a deeper, more layered, more intense human understanding
and ultimately will generate more complex grappling with the ideas and issues being studied.

References


Berrol, C.F. (2006). Neuroscience meets dance/movement therapy: Mirror neurons, the therapeutic process
and empathy. The Arts in Psychotherapy, 33, 302-315.


Carpenter, J. J. M. (2012). Flying with Icarus: Narrative transportation and the persuasiveness of
entertainment. In L.J. Shrum (Ed.), The psychology of entertainment media: Blurring the lines


16(3), 335-343.

Harcourt, Brace & Co.

Gallese, V. (2005). Embodied simulation: From neurons to phenomenal experience. Phenomenology and
the Cognitive Sciences, 4, 23–48.

underpinnings of interpersonal relations. Journal of the American Psychoanalytic Association, 55
(1), 131-175.

Cognitive Sciences, 8(9), 396-403.


Green, M.C., & Brock, T.C. (2000). The role of transportation in the persuasiveness of public narratives.

Green, M.C., & Brock, T.C. (2002). In the mind’s eye: Transportation-imagery model of narrative persuasion.
In M.C. Green, J.J. Strange, & T.C. Brock (Eds.), Narrative impact (pp. 315 -341). Mahwah, NJ:
Lawrence Erlbaum Associates, Inc.

Green, M. C., & Dill, K. E. (2013). Engaging with stories and characters: Learning, persuasion, and
transportation into narrative worlds. In K.E. Dill (Ed.), The Oxford handbook of media psychology


Jola, C., & Grosbras, M. (2013). In the here and now: Enhanced motor corticospinal excitability in novices
when watching live compared to video recorded dance. Cognitive Neuroscience 4(2), 90-98.


APPENDIX A

Sample Character Analysis*

I. Given Circumstances  (The detailed description of physical, social, and emotional details given to the actor by the playwright, *If it is not indicated by the playwright, you must create your own details.*)

A. The geographical environment of the play
   1. The year, month, time of day of your scene.
   2. The exact location of the play. Include country, state, city, and/or town.
   3. The weather conditions.
   4. The personal and emotional connection of your character to every prop and set piece in your set.
   5. The emotional atmosphere surrounding the location of your scene. (Use emotions to describe)

B. The socioeconomic environment of the play
   1. Your character’s social status---as he/she perceives it, and as it really is.
      Are both the same? How much money does your character make?
   2. How intelligent is your character? (education, capacity for learning, reasoning, understanding; ability in grasping truths, relationships, facts and meanings)
   3. How does the economic environment of the surrounding society of the play affect the geographical environment of your scene?

C. List and explain the ethical values held by your character in the play
   (examples: honesty, responsibility, compassion, perseverance, respect, cooperation, courage, trustworthiness, fairness, caring, integrity, fidelity, charity, self-discipline).

D. Record every character in the play important to your character AND their relationship(s) to your character.

E. List the major themes of the play (examples: friendship, love, disloyalty, vengeance).
F. Create a specific, moment-by-moment account, in the first person, of what happened to your character immediately before the beginning of your scene(s) to create an emotional level that you can connect with for the top of each scene you are in.

III. Character Inner Monologue

The Inner Monologue is a silent conversation the character has with him/herself. Verbalize responses going on in his/her mind while the action is occurring. Write the inner monologue in relation to the action and the sequence of your scene.

In your inner monologue you should:

- Evaluate what the other character does (every facial gesture, sound, pause, breathing pattern).
- Discuss sensations that evoke feelings toward your partner brought to you by your eyes, ears, nose, and senses of taste and touch.
- Notice how you’re talking to yourself; how you tell yourself you are happy, upset, confident, worried, and angry.
- Address your character’s inner problem (what you’re worried about).

IV. Super Objective

The super objective is what your character longs for in life. Write at least a paragraph explaining your character’s Super Objective—be specific (examples: survival, safety, love, fame, or self-actualization).

V. Physical Character

Describe your character’s physical characteristics. Concentrate your description on what his/her space, energy, and alignment is. Keep in mind things that effect movement: age, injury, stress, anxiety, depression, weight, self-consciousness, sex, attitude, etc.

VI. Metaphor

Find a metaphor for your character. This can include animals, objects, a piece of
music, poem, a collage, or drawing that exemplifies your character.

*from the Kansas State University *Fundamentals of Acting* syllabus.
APPENDIX B


Given Circumstances

A. Environmental facts
   - Geographical location, including climate.
   - Date: year, season, time of day
   - Economic environment
   - Political environment
   - Social environment
   - Religious environment

B. Previous action (action before the play begins)

C. Polar attitudes of the principle characters, at the beginning and at the end.

Dialogue

A. Choice of words
B. Choice of phrases and sentence structure
C. Choice of images
D. Choice of peculiar characteristics (e.g., dialect)
E. The sound of the dialogue
F. Structure of lines and speeches

III. Dramatic Action

A. Divide the play into units of action and title each of the units
B. Detailed breakdown of the actions. Express the action of each line by using the initial of each character followed by a present-tense verb.
C. Summary of the action.

VI. Characters
Treat each character under the following headings:

Desire
Will
Moral stance
Decorum
Summary list of adjectives

Initial character-mood-intensity at the scene opening expressed as:

Heartbeat
Perspiration
Stomach
Muscle
Breathing

V. Idea

A. Meaning of the title
B. Philosophical statements in the play. Cite actual quotations.
C. Implications of the action.

VI. Tempos

Designate a rate of speed for each unit of dramatic action using a rate word.

Examples: fast, medium, slow, largo, molto.
Make a graph of the tempo changes on a horizontal line.

VII. Moods

For each unit of action list mood adjectives relating to each of the senses
For each unit of action, list a mood image.
APPENDIX C

*CatCalls* Transportation Survey

**Take this Survey BEFORE the Play *CatCalls* Starts**

I am  female  male  (circle one)

When I think, I create elaborate images in my imagination.
When I watch movies, I really get into them and lose track of time.
I can figure out what characters in books or movies are thinking and feeling.
My mind wanders when I listen to others tell a story.
I usually get mentally and emotionally involved when I read a novel *(if you don’t read novels, mark 0).*

*Items above presented on the 5 point scale below:*

Never   Sometimes   Often

-----------------------------------
1   2   3   4   5

My knowledge about sexual harassment is:
My knowledge about violence against women is:
My knowledge about discrimination against women in the U.S. is:
My knowledge of religious intolerance is:
My knowledge of body shaming is:
My knowledge of harassment of people who have a non-heterosexual sexual orientation (i.e., LGBTQ) is:
My knowledge of why people bully or harass others is:
My knowledge about what to do if I witness bullying or harassment is:

*Items above presented on the 5 point scale below:*

Low  Medium  High

-----------------------------------
1   2   3   4   5
I believe discrimination against people who are different from those in power exists:
I believe sexual harassment (against men or women) happens:
I believe bullying happens:
I believe harassment of people who have a non-heterosexual orientation happens:
I believe body shaming happens:
I believe religious intolerance happens:

*Items above presented on the 5 point scale below:*

<table>
<thead>
<tr>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

My attitude toward harassment is:
My attitude toward religious intolerance is:
My attitude toward body shaming is:
My attitude toward bullying is:
My attitude toward individuals who have a different sexual orientation than myself is:

*Items above presented on the 5 point scale below:*

<table>
<thead>
<tr>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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</table>

My willingness to intervene in a situation of harassment is:
My willingness to intervene in a situation of violence is:

*Items above presented on the 5 point scale below:*

<table>
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<th>Low</th>
<th>Medium</th>
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</table>
Take this Survey AFTER the Play *CatCalls* is over.

While the play was going on, I was only aware of the actors on stage. I found myself thinking of ways the play could have turned out differently. At key moments in the play I knew what the characters were feeling. During the performance I lost track of time. I was able to understand the events in the play in a way similar to the way the characters understood them. I understood the reasons why the characters felt the way they did. I could easily imagine myself in the situation of some of the characters. At times during the play, the world of the story was closer to me than the real world. My attention was focused more on my surroundings than on the play. During the play, my body was in the theatre, but my mind was inside the world of the play. I never really felt the emotions of the characters. The story affected me emotionally. The dialogue was realistic and believable.

*Items above presented on the 5 point scale below:*

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
</tr>
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<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

*In the following questions, please indicate if you know more than you did before the beginning of the play. If you did not learn anything, please mark N/C (no change):*

My knowledge about sexual harassment is:
My knowledge about violence against women is:
My knowledge of religious intolerance is:
My knowledge of body shaming is:
My knowledge about discrimination against women in the U.S. is:
My knowledge of harassment of people who have a non-heterosexual sexual orientation (i.e., LGBTQ) is:

My knowledge of why people bully or harass others is:

My knowledge about what to do if I witness bullying or harassment is:

*Items above presented on the 5 point scale below:*

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>N/C</td>
</tr>
</tbody>
</table>

This play was personally relevant to me.

This play will have an impact on my life.

*Items above presented on the 5 point scale below:*

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>4</td>
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</table>

In the following set of questions, please indicate if your attitude has changed. If your attitude has not changed, please mark N/C

My attitude towards harassment is:

My attitude toward religious intolerance is:

My attitude toward individuals who have a different sexual orientation than myself is:

My attitude toward body shaming is:

My attitude toward bullying is:

My willingness to intervene in a situation of harassment is:

My willingness to intervene in a situation of violence is:

*Items above presented on the 5 point scale below:*

<table>
<thead>
<tr>
<th></th>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
<th>N/C</th>
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</tbody>
</table>
If you are male, please circle the answer to this question:

Watching Todd being harassed gave me a better understanding of what it must feel like for women who are victims of sexual harassment and discrimination.  

YES  NO

Open-ended questions about the play:

Which character did you identify with the most? Why?

Is there anything not asked about that you learned from watching this play?
Those who do not have power over the story that dominates their lives, the power to retell it, rethink it, deconstruct it, joke about it, and change it as times change, truly are powerless, because they cannot think new thoughts.

Salman Rushdie

In their co-autoethnography of feminist pedagogical practices, Coia and Taylor (2013) questioned, “Would we be changed if we had no one to tell” (p. 11)? With the inception of the second wave of the feminist movement in the late 1960s, women, inspired by and situated in the midst of civil rights protests and unrest, coalesced to discuss democratically how their personal narratives had been overlooked and dismissed within dominant, patriarchal narratives in consciousness-raising (CR) groups (Cummings, 1998; Enns & Forest, 2005). In CR groups, women shared personal stories about marriage, reproduction, sexuality, and other embodied experiences. As a result of divulging stories, many women experienced heightened solidarity and gained appreciation for the similar themes of oppression woven throughout their personal narratives and for how their narratives connected to real world political structures: thus emerged the feminist mantra the personal is political (Fisher, 2001). Sharing personal stories in CR groups facilitated empowerment, transformation, and strengthened members’ resolve for social movement. Despite the centrality of story as a core strategy to advance personal and structural learning in the feminist movement, feminist pedagogical writings that specifically address the pedagogical strategy of implementing story from a feminist perspective are lacking, an omission we intend to rectify with this chapter.

Consistent with its history, feminist pedagogy is political, directiona, and enacted to elicit transformation of self and society (Conrad, Dortch, & DeNoon, 2011-2012; Cummings, 1998; Enns & Forrest, 2005; Jarvis, 2006; O’Brien, Patel, Hensler-McGinnis, & Kaplan, 2006; Sinacore & Boatwright, 2005; Sinacore, Ginsberg, & Kassan, 2013; St. Germaine-Small, Walsh-Bowers, & Mitchell, 2012). Feminist pedagogy, defined as the application of feminist values to pedagogical practices (Forrest & Rosenberg, 1997), is undergirded by critical pedagogy, a movement heavily influenced by Freire’s (1970/1993) critical emancipation pedagogical theory and practices described in Pedagogy of the Oppressed and birthed from CR groups (Enns & Forrest, 2005). The growth of multiple strands of feminism- liberal, radical, socialist, cultural, ecofeminist, poststructuralist, diversity, third wave, global, and lesbian and queer theories- has diversified feminist pedagogical theory, each of which is associated with unique pedagogical techniques (Sinacore et al., 2013). We will focus on utilizing story to achieve three core feminist pedagogical processes: developing critical consciousness, shifting power from the pedagogue to the learner, and facilitating transformation. We will provide examples of story activities to illustrate each process. Consistent with feminist pedagogy (Cummings, 1998; Enns & Forrest, 2005), our discussion will commence with situating our own stories and the story of our relationship as it applies to implementing story as a pedagogical strategy from a feminist perspective.
Jennifer

Much of my experimentation with story as a feminist pedagogical strategy has occurred in the context of being a graduate teaching assistant for an undergraduate Psychology of Women course at Texas Woman’s University (TWU), the largest public university primarily for women, nearly half of whom are women of color. I recently earned my Ph.D. in Counseling Psychology and am White, middle-class, heterosexual, able-bodied, recently married, and a mother of two young children. Intentionally utilizing story as a central pedagogical strategy emerged from a treasured friendship with a professional storyteller, a gay man who tells evocative and imaginative stories about women, some of which are ancient folktales, such as *The Mermaid Wife* (C.J.T., 1889), others of which are his inventions, such as a story about an island of superhero women.

Because Debra is a faculty member in the Counseling Psychology doctoral program at TWU, my relationship with her began as a student, supervisee, and mentee. This chapter marks my transition from invited collaborator to lead author and from doctoral candidate to early career professional. My writing process includes negotiating these emerging identities. In prior collaborative projects, Debra has modeled power-sharing by soliciting my opinion and incorporating my suggestions into our work. As lead author, I strive to follow her feminist example and do the same. Debra and I share a plethora of values, including identifying as feminists, which sustains our relationship and shapes our desire to implement story as a strategy to upset traditional, oppressive, and patriarchal classroom environments.

Debra

As a feminist educator, I embrace the importance of approaching my life’s work through critical lenses that compel me to see ways the educational system can be—and often is—complicit in reproducing widespread power inequities. I recognize that my teaching and mentoring can be catalytic to the extent I am willing to disrupt this cycle, step outside my comfort zone, and embolden students to join me. Forrest and Rosenberg (1997) urged feminist educators to honor students’ and teachers’ personal experiences, welcome and work within the intersection of affect and intellect, imbue students with the responsibility for learning, and create an environment characterized by a respect for all voices, shared leadership with students, and understanding “teaching...as a political act” (p. 182).

I have worked to achieve these lofty goals in my relationship with Jennifer, itself its own story that has evolved and deepened over time. Throughout the 7 years I have known Jen, we have worked together in many different capacities. Our early experiences together began in the classroom and over time have evolved into a relationship of professional mentorship, co-presenters, co-authors, and now, as a recent graduate, colleagues. My approach with Jen has been to work alongside her rather than teach from a position of traditional authority, encourage and support her varied interests, be present for her during professionally and personally relevant milestones, and be willing to be deeply affected by her and what she teaches me. One such example was serving on Jen’s dissertation committee. Jen’s study involved investigating the perceptions and experiences of gender-based violence in Uganda, an area of scholarship about which Jen has tremendous passion and dedication. While I am not well-versed in international studies, I recognized that by serving on her committee, I could still provide input and guidance while simultaneously learning a great deal from Jen, which I did.

Developing Critical Consciousness through Analyzing Story

Critical thinking is a widely-promoted pedagogical outcome (e.g., American Psychological Association [APA], 2011). Feminist pedagogues extend the concept of critical thinking to include the ability to deconstruct and think critically about social structures, nurturing a critical consciousness. The process of systemically thinking critically facilitates an informed awareness by way of engaging others in two
coinciding, synchronous processes: conducting a societal (as opposed to statistical) power analysis with an aim toward understanding the unequal distribution of influence and authority and the subsequent likelihood of exploitations and critical self-reflection, through which learners understand the ways they participate in and sometimes benefit from systems of power by way of their own privilege (McWhirter, 1998). We designed a pedagogical route to developing critical consciousness in psychology of women, psychology of gender, and multicultural psychology courses through the use of story in an active learning exercise involving deconstructing popular, time-honored fairytales. We customarily facilitate this exercise in the first quarter of the course to teach concepts related to human development, including gender and other sociodemographic socialization processes.

We begin the exercise by inviting students to consider the role of fairytales in their own lives. For example, what memories do they associate with being read and reading fairytales? How were fairytales presented during childhood? Which were most influential? What favorite fairytales were told and retold and what impact did these have? How else were fairytales enacted—for example, were film versions shown at home? Did students engage in dress-up or pretend play surrounding identified characters? Was fairytale clothing, toys, and other merchandise purchased and coveted? Discussing the class implications of fairytales in terms of access to books, films, toys, and specialized clothing, for example, allows students to see ways in which socioeconomic status can and does impact the stories we tell and hear.

Following a large group discussion, we divide the class into smaller groups of roughly equivalent sizes of approximately four to six students per group. In consideration of the widespread and longstanding influence of Disney on many students’ lives and upbringings, we have typically distributed selections from The Disney Princess Little Golden Book Library (2010). One student reads the story aloud, in a manner similarly to the ways these stories are often shared in a group: slowly and sharing the illustrations as they explore the book. At the conclusion of the storytelling, students discuss the following questions based on the book their group read:

• How are the boys and men in the story described and portrayed?
• Describe the main female character of the story. What do you observe about her?
• What messages are communicated (directly and indirectly) about gender and gender roles?
• What messages do you get about beauty? What is considered beautiful?
• Who in the story is considered virtuous? Who is considered evil? How do these depictions of virtue and evil relate to gender?
• What messages—subtle or not—do you observe about race/ethnicity, social class, age, and/or sexual orientation?
• Who has power in the story? How is power displayed differently for men and women in the story?
• How is the romance depicted? How and why do the characters fall in love? What messages are communicated about romance and marriage?
• Does the main female character of the story have a mother or stepmother? How is she portrayed? What is her role in the story? If the main female character does not have a mother or stepmother present, describe her relationship with other girls and women, if known. If there are none, why do you think this is?
• What are the primary themes of the story? How might they influence the children who hear the stories and their ideas about gender and romance?
As students work their way through the fairytales and accompanying questions, they begin to observe an oftentimes unsettling shift in their consciousness. For example, women especially detect the tremendous emphasis placed on seeking and attaining a narrow, unrealistic standard of beauty, one that often engenders envy and competition from other girls and women in the stories. Mothers are often absent and stepmothers are typically presented as cruel, wicked, and vain. Power is usually granted disproportionately to male characters, with female characters habitually engaged in housework and offered comparably inadequate agency and influence. Attaining a romantic (heterosexual) relationship is prevalent throughout many of the fairytales and is routinely the purview—in fact, the sine qua non—for female characters. Romantic attractions are often based largely on the female character’s ability to be physically appealing to the male character, and female characters, though longing for romance, are usually depicted as passive in these endeavors. Indeed, there are varied examples of female characters in popular fairytales shown as physically weak, sometimes unconscious, and often symbolically or literally voiceless.

When the class reconvenes as a unified group, students have the opportunity to share their experiences in the small groups and notice similarities that tend to arise between groups. Moreover, instructors can facilitate students’ awareness of how they have been inculcated with and subsequently, albeit unconsciously, internalized racist and sexist ideas (Sinacore et al., 2013); explore and help students integrate their awareness with the oftentimes strong affect that has arisen during the exercise (Enns & Forrest, 2005); and explore with students their understanding of the ways the fairytales reproduce oppression and marginalization and the implications these have for each person in the group in terms of their own relatively privileged and marginalizing identities (McWhirter, 1998; see Haase, 2004, for a collection of feminist critiques of fairytales). Our experience with this exercise suggests that the dismantling, analysis, and critique of beloved fairytales can help students better understand stories’ impact on them, more critically engage with media, and begin to re-author their own unique stories.

**Wielding Story to Shift Power from the Pedagogue to the Learner**

Gloria Steinem frequently begins her public speaking engagements by commenting on the hierarchical structure of auditorium spaces wherein audience members face other audience members’ backs while Steinem stands at the front of an auditorium, elevated and poised to impart knowledge. Of the hierarchical structure, Steinem notes, “Hierarchy is based on patriarchy. Patriarchy doesn’t work anywhere anymore” (Steinem, 2014). Similar to Steinem, feminist pedagogues view institutions and classrooms as microcosms of oppression and indicative of larger structural inequalities, such as patriarchy (Sinacore et al., 2013). Some pedagogical patriarchal legacies include the valuing of male-centered content, language, and processes, in conjunction with women being denied status as makers of meaning (Forrest & Rosenberg, 1997). Moreover, gendered socialization processes, such as women being socially rewarded for nurturance and punished for assertiveness and anger (Fiske, Cuddy, Glick, & Xu, 2002), impact how pedagogues and students engage in and construct the classroom environment (Forrest & Rosenberg, 1997).

To counteract these inequalities reproduced in the classroom, feminist pedagogical strategy includes attending to power dynamics between the educator and the learner and, when possible, decentralizing and shifting power from the teacher to the learners (Bignell, 1996; St. Germaine-Small et al., 2012), the process of which is consistent with student-centered or active learning approaches (Hennessey, 2015; Slavich & Zimbardo, 2012). Story can be wielded in several ways to accomplish this goal. First, educators can counteract the expert script by valuing other forms of knowledge, such as autobiographies of diverse people or stories that enhance both affective and cognitive learning (Hassel, Reddinger, & Van Slooten, 2011). Another strategy is to attend to the unfolding story of the class’ process and dynamics within the larger institutional context (Sinacore et al., 2013). For instance, how is the class sharing
power? Whose voices are heard? Whose are silenced? A fruitful place to enact the shifting-of-power process is by examining and constructing the pedagogue’s personal narrative with the intention of subsequently self-disclosing relevant portions of the narrative as a feminist pedagogical technique (Cummings, 1998).

Constructing the pedagogical narrative from a feminist perspective centers around attending to intersecting areas of privilege and power, establishing positionality, and considering ways in which the instructor’s positionality impacts the construction of the classroom atmosphere and content (Sinacore et al., 2013; St. Germaine-Small et al., 2012). For instance, Enns et al. (2005) proffered an admirable example of the construction and self-disclosure of feminist pedagogical narrative. In their work, feminist educators addressed the following questions about how their personal narratives interact with pedagogy and the classroom.

- What are the pedagogue’s multiple identities (e.g., socioeconomic status, race/ethnicity, gender, sexual orientation, geographic background, and ability status)?
- How do the intersections of identity correspond to areas of privilege and oppression?
- Which identities do pedagogues make visible to students and colleagues (e.g., sexual orientation or class) and which are more readily discernible (e.g., gender or race)?
- How have the teacher’s identities shifted over time?
- What contradictions exist in the pedagogue’s narrative?
- How is hierarchy constructed within the department and institution and where does the pedagogue fit within that hierarchy (Enns et al., 2005)?

We offer additional questions to consider:

- How was education conceptualized in the pedagogue’s family of origin?
- How educated are the pedagogue’s parents and siblings, and how did familial education levels intersect with other cultural variables?
- How did the pedagogue select the course material and decide on the structure of the class?
- What was the pedagogue’s educational training and how valued is the pedagogue’s specialty training within the larger subject area (e.g., counseling psychology within the larger field of psychology)?

By considering these questions, the educator can build self-reflexivity and cultural competence, the latter of which the APA (2011) recommends as a best practice in teaching psychology. Ideally, these processes will enhance intentionality regarding selecting stories, which are shared for pedagogical rather than personal reasons, of self-disclosure.

While we have provided the more applied example of including our personal and relational narratives into the content of this chapter, here we offer an additional example of how self-disclosure of personal narrative can be incorporated as a pedagogical technique prior to the introduction of the fairytale exercise. The idea for the activity originated when Jen was working in Japan as a kindergarten teacher at an international school and one of her young, Japanese, female students became engrossed with the
fairytale *Sleeping Beauty*. She requested numerous readings of *Sleeping Beauty* and began comparing aspects of her life to elements of the story and the character. At naptime, for example, she chimed, “We take naps like Sleeping Beauty did.” Her adoration of *Sleeping Beauty* became infectious and soon the other female kindergarten students developed affection for the story and similarly referenced their worlds from the *Sleeping Beauty* narrative. Successively, the students’ collective referencing of external events evolved into a moral barometer for gauging others’ actions. For example, when accosted by a classmate, one student protested, “Sleeping Beauty doesn’t hit, does she, teacher?” The *Sleeping Beauty* focus culminated in competition wherein the female students compared themselves to one another according to Sleeping Beauty’s appearance and behaviors, the former of which became prominent. The female students began competing with one another, making comments, such as, “No, I look most like Sleeping Beauty,” and eliciting authoritarian (i.e., the teacher’s) expertise about which student most physically resembled the Sleeping Beauty character. The author was saddened as she witnessed how the exportation of Westernized stories, including messages about behavioral and physical appearance ideals for women and girls, impacted her students’ schemas and constructions of meaning, and she wondered how that exportation might affect the students’ developmental process and later estimations of self, beauty, and value. The author privately acknowledged her own oppression as a woman, where qualities related to physical attractiveness and passivity are socially valued and reinforced, and her intersecting privilege as a White, Western woman, upon which beauty ideals are frequently formulated and exported.

Disclosure of this personal narrative prior to the fairytale exercise reflects several feminist intentions and helps facilitate learning in psychology courses. Disclosing demonstrates positionality and having a personal relationship with the activity and the corresponding class material, humanizing the instructor. There is additionally the introduction of alternate, transnational scripts, which might be overlooked by a privileged U.S. or more generally, Western perspective, infusing diversity into instruction, which APA (2011) documents as a guild value and promotes as an explicitly central guideline for the teaching of psychology. The Society for Teaching of Psychology (STP) Presidential Taskforce (2013) likewise operationalized the teaching of diversity throughout curricula as a model teaching competency. Moreover, the teacher models the complex ways in which identities intersect to produce different discourses around privilege and oppression. Disclosure itself depicts an alternative power structure, creating a more collaborative atmosphere, which encourages connection instead of competition, and shifts power to create a community of knowers (hooks, 1994). Educators can employ their narratives to demonstrate transparency about pedagogical strategies (Freire, 1970/1993) and disclose questions, concerns, and areas of struggle regarding course material (Enns & Forrest, 2005). Of note, through self-disclosure, the pedagogue aims not to eliminate power, but to reduce and redefine it (Sinacore & Boatwright, 2005).

**Facilitating Transformation through the Construction of Story**

Feminist pedagogues can build on the processes of critical analysis and sharing power to facilitate transformation with storied activity. Instructors can design assignments for students to reconstruct a pluralistic and increasingly flexible story, challenging the master story as they deconstruct it. For instance, students can rewrite fairytales to be more diversity affirming and present their reconstructions to the class. Reading feminist-synergistic fairytales, such as *Cinder Edna* (Jackson, 1994), presents an alternative story. Moreover, arranging for students to venture into the community to learn about organizations’ and members’ stories can motivate students to become agents of social justice and transformation (Enns & Forrest, 2005).

Feminist educators frequently facilitate transformation by constructing activities, ranging from in-depth autobiographies to brief, applied exercises that elicit and honor students’ voices and stories (Forrest &
Rosenberg, 1997; Hassel et al., 2011; Sinacore & Boatwright, 2005). There are routes to facilitate story construction for transformation. For instance, students can organize story by developmental stage (childhood, adolescence, young adulthood, middle adulthood, older age, and looking forward) to understand shifting story and envision future story. They might explore their multiplicity of identities and their identities’ intersection (Hassel et al., 2011). For an assignment assembling a gender autobiography, for example, students could contemplate messages they received in childhood, adolescence, and adulthood about being racialized, religious, sexually-oriented, and economically-stratified gendered beings. Students might consider how personal narratives fit, contradict, and are (un)accounted for by theory (Sinacore et al., 2013). Additionally, students can accumulate others’ stories, collected and interpreted through a host of lenses. Biographies of professionals or others who characterize some variable under study, especially persons whose stories tend to be overlooked within academic study, can provide fodder for reflection and growth (e.g., Scarborough & Furumoto, 1987). For example, students could interview people representing diverse citizenship status or ability status, and they can relate and contrast how interviewees’ stories analogize or contradict course material.

Following the collection of the story of self or others, encouraging students to reflect on the affective and cognitive processes (Forrest & Rosenberg, 1997) experienced while constructing and collecting story, as well as attend to new insights, can further solidify transformative processes.

Story construction techniques can engender discomfort, if they are successful in unsettling normative and privileged experiences (Do Mar Pereira, 2012; Enns et al., 2005; Fisher, 2001; Hassel et al., 2011; Sinacore & Boatwright, 2005). Feminist instructors, however, welcome and normalize discomfort situating it as catalytic for knowledge creation, growth, and self-discovery (Do Mar Pereira, 2012). Most stepped, cultural identity models, for instance, racial (Helms, 1995), sexual minority (McCarn & Fassinger, 1996), and feminist (Worrell & Remer, 2003) models identify transformation and progression, particularly in the beginning and middle stages, as being partially characterized by cognitive dissonance, conflict, and negative affective experiences, such as guilt around privilege and anger about oppression. When completing a gender autobiography, one of Jen’s students, for instance, met with her to discuss negative affective experiences elicited from the exercise and tied to the student’s gendered experiences in childhood. Following the activity and at the conclusion of the class, the same student declared, “You probably have no idea how much your class really helped me this semester. I am starting to recognize myself again.” The pedagogical task is not to eliminate discomfort, but rather to create a safe space in which students can experience and express it (Sinacore et al., 2013). Educators can provide structure and safety by demarcating discomfort as an expected process during story construction and remind students of institutional resources (e.g., office hours and counseling services) that can help support students through the transformational process (see Pasque, Char beneau, Char beneau, & Carlson, 2013, for further discussion on managing discomfort in classrooms).

Revisiting Our Story

Jennifer

As I experience my way through the transition of student and mentee to colleague, and as I continue to develop my practice of feminist pedagogy, I have found that taking the lead on the writing of this chapter has been both anxiety-provoking and empowering. I wondered, for instance, if Debra would approve of the chapter’s structure and content and consider me colleague-worthy. I experienced discomfort about inserting my personal narrative into this chapter, especially revealing my status as transitioning from student to professional, worrying that readers would question my expertise and perceive this chapter as non-academic and potentially self-involved. I simultaneously felt empowered as we produced written work that aligns with our feminist values. Moreover, as the writing of this chapter changed and transformed me, I facilitated two didactic seminars for my pre-doctoral internship cohort,
intentionally experimenting with story implementation from a feminist perspective. Anonymous feedback from my cohort included comments, such as, “Loved the stories,” and “I learned so much,” illustrating how my ongoing transformation has touched others.

Debra
A traditional view of the relationship between educators and their students suggests that teachers have knowledge they impart to their students. Revisiting our longstanding relationship that has led to the collaboration on this meaningful chapter reminds me of the ways in which the traditional perspective is ill-fitting for me as a feminist educator. Instead, I see my relationship with Jen as mutual, developmental, circular, and fluid. My hope is that I have served as one of several professors who have impacted Jen’s personal and professional development. As I read over our work here, I have a hard time distinguishing her ideas from mine and can easily point to as many ways she has influenced me as she might say I have impacted her. I can see parts of myself in Jen just as her story has resonated and become a part of me. To me, our process of moving from professor/student to colleagues/friends is emblematic of the intention of feminist pedagogy.

Conclusion
Although story has not been fully addressed by feminist pedagogy, the feminist movement began with story; accordingly, the two are congruous. In this chapter, we have outlined and provided examples for how educators can utilize story as a feminist pedagogical strategy, including using story to foster critical analysis and share power between instructors and their learners. Story constructed from a feminist perspective will change the status quo, potentially creating discomfort capable of engendering transformation. It is our hope that the transformation of students and pedagogues will help create a world that is more compassionate towards and equitable for all.

References


In an educational setting, stories can be presented in numerous ways to teach students various concepts and theories through concrete and easy-to-understand examples. One approach instructors can use is to convey information in an imaginative and entertaining way through comics that include pictures and words. According to the cognitive theory of multimedia learning, the combination of pictures and words can produce greater meaningful learning than either used alone (Mayer, 2005). Thus, comics can be a great medium for helping students understand and learn a specific subject. For instance, they have been put to good use for instructional purposes, such as teaching statistics (Takahashi, 2009) or preparing for emergencies (Centers for Disease Control and Prevention, 2015). Comics also have been used for understanding literary work, such as Shakespeare (Sexton & Lin, 2008), and historical events, such as the Holocaust (Spiegelman, 2011). Storytelling through comics provides the opportunity for instructors to communicate ideas in varied academic disciplines with no age boundaries.

While we will go into the description of comics in more detail later, at this point we want to distinguish other types of media that may seem similar to comics – textbooks, children’s storybooks, and film. In textbooks and children’s storybooks, while the text is organized separately from the images, they typically represent the same ideas according to their respective verbal and visual format (e.g., the sentences provide the same explanation as the diagram in a textbook). In contrast, comics typically avoid conveying the same information from the text and images; instead, the text and images are integrated into a conglomerate of ideas. Readers must focus on both the text and images contained in story frames (known as panels) to form a coherent and detailed story to understand what is happening as a whole. In films, the pictures involve movement and the words tend to be seen or heard. However, unlike films, students who read comics must create their own mental representations to make sense of static images, causing them to engage in their own active imaginations. In addition, although comics may not have sounds, students are able to construct their own sounds of the characters, objects, and environment based on their own mental representations. Thus, while textbooks, children’s storybooks, and films are all great resources for storytelling, comics are different from those formats because the pictures and words are uniquely organized in a way that require students to critically analyze and actively interpret the visual narrative.

The purpose of this chapter is to examine comics as a pedagogical tool for storytelling. We include four sections that address the utility of comics for teaching. In the first section, comics are defined to help explain and inform instructors about how they are organized and created. In the second section, an assessment of the effectiveness of comics in classroom activities is discussed. In the third section, a cognitive overview of how comics influence the way students process pictures and words in a visual narrative is acknowledged. Lastly, future directions and recommendations for using comics in classroom settings are given to encourage more student-instructor activities and show the flexibility of using comics as a way to teach and tell stories.

What are Comics?
Comics are stories that involve a mixture of pictures and words enclosed in bordered or borderless frames known as panels. These panels are purposefully arranged in a particular order according to different events to form a coherent visual narrative. When these panels are created, they form what is
known as sequential art (Eisner, 2008a; McCloud, 1994). Comics function as a way to communicate ideas and tell stories in a unique, artistic manner. Today, there are many options for using comics as a medium for teaching and storytelling. For example, they can be presented in a traditional format, such as a magazine or book, or in a computerized format (commonly referred to as digital or web comics). For very lengthy stories, they are often referred to as comic books or graphic novels. Although most comics are read from left to right, some comics like Japanese anime, known as manga, go from right to left. However, the panels in both types of comics usually start from the top to the bottom. People tend to be aware of the directionality of where to read based on the organization of the panels and the makeup of the comic. Very short stories with only a few panels are typically referred to as comic strips. These are commonly found in newspapers and websites but can sometimes be presented in a PowerPoint lecture or in textbooks. Regardless of the length of the graphic narrative, they can be fictional or nonfictional, and can be created to fit any age group.

Like other forms of storytelling, comics have a beginning and an ending. The events that occur in between the starting and ending points are important to get readers engaged in the story. Abel and Madden (2008) suggested that there are several elements that guide readers in the form of a narrative arc. In comics, a protagonist or main character is introduced and brings purpose to the story. Other secondary characters may be involved, but readers will identify and empathize with the protagonist to help them progress towards the ensuing events. A critical element that drives the story is the spark, or the conflict that the protagonist needs to resolve. In an attempt to reach a solution, a series of unexpected events may occur, escalating toward a climax. The climax is the apex or final outcome of resolving the problem; however, the solution reached may or may not always have a happy ending. Lastly, a closing phase of the story, known as the denouement, is sometimes added to tie up loose ends from the story and give readers a sense of closure.

In comics, pictures help to express the actions, thoughts, and emotions of a character. They can be used to assess a specific environment or perspective to get the readers engaged in the situation (Eisner, 2008a). Pictures help bring context to a story with or without words. Comic artists tend to avoid being redundant by omitting words when the readers can infer meaning through the images given (Eisner, 2008a). By doing so, details of the picture can help readers understand what is going on in a story without overusing the limited space of each panel. However, these images must be consistent with the readers’ knowledge or experiences of how actions or ideas are typically represented. In addition, pictures contribute to the notion of time and space in a visual narrative; these two dimensions are important for constructing mental representations to progress through a story (Radvansky & Copeland, 2010). McCloud (1994) indicated that time and space can be represented by panel transitions, in which the pictures (with or without words) can convey changes in a story. These transitions can be represented in a single moment to a bigger temporal or spatial change. Other transitions can be conveyed as non-sequitur, in which the sequences of the panels do not provide any type of temporal or spatial relationship. Thus, readers must rely on the pictures to help make sense of the story.

Unlike regular textbooks, in which information is often predominantly text-based, albeit with some diagrams and images to complement the text, comics incorporate words into the pictures. The words blend in with the pictures by appearing as captions and dialogues within a panel. Readers must rely on the discourse given by the characters (or even personified objects) to comprehend the visual narrative.

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9 In a sense, comics are similar to reading a script, in which the details and meaning of a story are driven by the dialogues spoken by the actors. What differentiates comics from scripts is that, in the former, the actors are also represented as images to convey action and to help acknowledge who is saying what in the story.
In comics, information is often communicated to the readers in word balloons, which are spoken or unspoken words contained inside a shaped bubble. There are many variations to how the balloons are shaped (e.g., square or round balloons to convey dialogue and cloud-like balloons to express someone’s thoughts) and how the words are lettered (e.g., bold letters to create emphasis on words) to reveal meaning in a verbal (e.g., yelling) and non-verbal (e.g., a feeling expressed) manner (McCloud, 1994). Also, non-words can be used in comics to show onomatopoeia, or representations of sounds (e.g., bang, wham, or fizz). By combining these words with pictures, readers are able to process rich details that can potentially enhance their comprehension of what the storyteller is trying to convey (Eisner, 2008b).

Instructors who use comics for classroom learning may want to be familiar with the basics of the comic format (e.g., how pictures and words work together in panels). Although they do not need to be complete experts in sequential art, instructors may want to take the time to assess the organization of comics and the content covered in the comics for students to learn and know (Boerman-Cornell, 2013). For example, being aware of how the story is portrayed in the comic is important because students may interpret the pictures and words differently from other students based on their inferences. Therefore, instructors should review the different angles to the comic story and have students discuss or summarize what they know so that the class has a similar understanding of the visual narrative. Although comics can be used as a supplement to regular textbook reading, instructors should know that not all comics are created with the same quality. Some comics are targeted towards a certain age group or may not be sufficient to cover a certain topic. In addition, visual narratives may teach the information differently than the instructor; students may get confused if the comic story and the instructor’s way of teaching the topic are not alike. Nevertheless, when instructors take extra caution of these factors and prepare this activity in advance, comics can be useful to promote student interest and increase understanding in an area that can often be challenging to teach through common instructional methods (e.g., lectures and textbook reading). Importantly, comics can be used to help students connect to a concept or theory with a meaningful example.

The Pedagogical Effectiveness of Comics

Multidisciplinary work related to comics and pedagogy has grown over the years and continues to be an area of interest to educators and researchers. After the advent of comics for recreational reading in the United States, educators began to evaluate the rigorosity of reading comics for classroom activities, primarily in children. For instance, Thorndike (1941) assessed the reading difficulty of comics and noted that the vocabulary words that he observed were within the appropriate range for fifth and sixth graders. He suggested that comics may be of some value to get students in upper elementary and junior high school interested in reading. However, in a later study, Wright (1979) examined the readability of a much larger sample of comics and found that the reading levels varied quite a bit, ranging from first to sixth grade levels. Like Thorndike, Wright asserted that comic books could be used to motivate students to read more often. Today, there is a growing body of educational research showing how comics can influence literacy in children. For instance, Ranker (2011) has conducted qualitative work on how comics can be useful for first graders developing English language skills; he showed that comics can help these learners detect problems and resolutions in narratives, reflect on stereotypical portrayals (e.g., superheroes), and attend to dialogues to represent communication. Together, these studies demonstrate that comics can be useful for drawing children toward reading as an activity and for developing their comprehension skills.

Beyond examining children’s literacy, comics have become a useful storytelling tool for teaching at universities and in different academic disciplines. For example, in educational psychology, Bolton-Gary
(2012) used comic strips to bring humor and understanding of different theoretical concepts for a class of traditional (i.e., those aged 25 and younger) and non-traditional (i.e., those who have gone back to school to seek a degree) students majoring in early child education. In addition, she offered students opportunities to submit comic strips from media sources to help enhance the learning of various theoretical constructs. As part of the activity, students were asked to summarize how the comic strips contributed to their understanding of a specified concept. From examining the student evaluations at the end of the course, Bolton-Gary found that students enjoyed learning using comics and that they perceived comics as an effective method for learning in class. Interestingly, she continued to receive comics from her former students; this suggests that comics can help students connect to past topics they have learned and keep these topics in mind over time.

In the field of business administration, Short, Randolph-Seng, and McKenny (2013) examined how graphic novels can motivate student learning and increase their knowledge of business concepts. In their study, the researchers randomly assigned students from different sections of a business course to read either an excerpt from a graphic novel or one from a traditional textbook. Although the format of the information (the graphic novel and textbook) did not affect their recall and transfer abilities (i.e., answering short-answer and multiple choice questions), the researchers found that those who read the graphic novel outperformed those who read the textbook in the verbatim recognition test (i.e., identifying direct passages from their reading source). This finding may suggest that the content of graphic novels can help cue students with more details of a topic.

The use of comics has also been incorporated in the natural sciences. For instance, Hosler and Boomer (2011) examined the attitudes and knowledge of students in biology classes using a comic book called Optical Allusions as a textbook piece to convey different concepts and themes in vision and evolution. Based on pre- and post-tests, the researchers found that students who used the comic book improved greatly in content knowledge (i.e., facts and conceptual applications). The results also showed that students who were less familiar with biology were likely to exhibit a more positive attitude of the field after using the comic book. As another example, Raddo (2006) recommended the use of comics in chemistry laboratories; specifically, comics involving well-known superheroes (e.g., the Flash) can be used to bring awareness and clarity of safety procedures and ethics in the lab. These examples from biology and chemistry show that comics can be used to promote more student engagement by having them carefully assess and understand real world examples through the perspective of comic art.

Hall and Lucal (1999) have also applied comics to their own teaching experience in sociology and reported the use of comics to be helpful in engaging students in various topics, such as gender, culture, and research methods. For instance, they have used comic book superheroes to assess social inequalities and reflect on cultural perceptions of femininity and masculinity. They have also used comics for research method purposes to teach students how to operationalize constructs, understand the data collection process (e.g., sampling), and analyze data. Thus, comics can provide instructors the opportunity to evaluate student learning by giving their students assignments that require them to critically think and conduct hands-on activities through a comic format.

Although the classroom examples given so far have provided support for the usefulness of comics as a medium for storytelling and teaching in different content areas, these reports have mainly focused on students’ motivational level and assessed their effectiveness based on the instructors’ experience or from students’ test performance only. An important factor to examine is to see how comics influence the learning process itself. In comic research, many studies have gone beyond the classroom setting to explore and understand the mental processes involved in understanding and remembering comics.
These comic studies are often examined in educational psychology and cognitive science to understand the mechanisms involved in comic cognition.

**Comic Cognition: Understanding How People Process Pictures and Words**

The focus of comic cognition is on the mental processes involved in learning and comprehending information presented through comics. Research devoted to understanding comics has been an ongoing interest in cognitive psychology. For instance, Cohn, Paczynski, Jackendoff, Holcomb, and Kuperberg (2012) used comic strips to examine how people rely on the structure (e.g., the order of the panels and the meaningfulness of the images) of a visual narrative to produce coherence. They recorded how quickly participants could recognize a target panel to assess their comprehension. The results showed that participants reacted more quickly (implying that the target panel was easier to understand) when the target panel was surrounded by a visual narrative that contained an organized structure (i.e., a logical order) and semantic relatedness (i.e., meaningfulness).

In another study examining comic cognition, Gunawan (2014) focused on mental representations, or people’s ability to imagine pictures and words in memory. A comic version of a story known as the *War of the Ghosts* (see Bartlett, 1932, for the original work) was created to see how pictures and words affected the students’ memory performance. In the experiment, students were assigned to a text-only, pictures-only, or text-and-pictures group. The results showed that those who had text and pictures together recalled more details accurately than those with text or pictures only. Also, students who were given pictures only as a narrative format were likely to recall more false ideas compared to the other groups. This finding suggests that there is a potential danger to using comics that only consist of pictures; that is, presenting only pictures can lead to a greater variety of interpretations when students process them. If students are expected to learn and retain a key set of ideas, then it is important to present comics that include both text and pictures to help guide comprehension of the desired information.

In a theoretical article connecting comic cognition to pedagogy, Jee and Anggoro (2012) provided some potential benefits and possible cognitive limitations of using comics in science education. Some benefits they addressed included providing clarity for abstract knowledge, facilitating learning based on the closeness of the text and pictures rather than being farther apart (known as the spatial contiguity principle; see also Mayer, 2011), constructing mental representations (known as situation models; see also Zwaan & Radvansky, 1998), and relating the characters more to themselves (known as self-referencing). In examining some potential limitations or costs of using comics, Jee and Anggoro noted that students can incorrectly infer information from a visual narrative (also see Gunawan, 2014), may have the inability to relate to certain characters to make connections with the concepts, or misjudge how much they actually know from reading through the comic format. Although these theoretical concerns are relevant for any academic area, more research is needed to evaluate these effects in the classroom setting.

**Future Directions and Recommendations**

Comic research continues to expand in the areas of education and cognitive science. With the growing body of literature in comics, we encourage more interdisciplinary work from the teaching and research community to advance the knowledge of comics and their learning effectiveness. Specifically, instructors may want to go deeper into evaluating this storytelling method by focusing on what makes the content of a comic distinct and helpful for students. They may want to explore further how the interaction of pictures and words in a panel helps students attend to specific information related to the illustrations.
and dialogues. In addition, researchers may want to target their ideas and empirical findings to instructors so that instructors can understand how the organization of comics can help students process information more clearly. By doing collaborative work among educators and researchers, we are able to generate more details of how comics work without repeating or focusing on the same information in comic studies.

Comics can be beneficial for teaching because this medium can be applied to a targeted audience and presented in any content area. Instructors, however, should be careful in how they use their comics for storytelling. Although being able to identify quality comics is subjective, instructors should take notice of how relevant the information is to their students’ understanding of the concepts and theories. Depending on the complexity of the topic, extraneous information (i.e., unnecessary details of a story) can overload students’ cognitive capacity; irrelevant information can hinder students from learning the key ideas (Mayer, 2011). However, when comics are put to good use, they can increase student engagement and strengthen their learning.

Some instructors have suggested different methods for applying comics effectively into their teaching. For instance, as mentioned before, Bolton-Gary (2012) used comic strips to introduce concepts in class and encouraged her students to find comic strips themselves that would help relate an example to a topic. Williams (2008) suggested having students draw comics to express their own ideas and show their understanding of a topic. Others have used graphic novels to get students more connected to a subject. For example, Hosler and Boomer (2011) have provided a list of comics that could possibly be used in different fields for classroom learning (see http://www.comicbooksyllabus.com/). Finally, comics have been integrated into our own cognitive psychology courses by using them as a metaphor to help students understand rich and elaborative memory representations, such as a mental model (e.g., Johnson-Laird, 1983) or situation model (e.g., Zwaan & Radvansky, 1998). These recommendations are only some examples of how comics can be used in class – what is important is that students are actively and effectively engaged in the learning process.

**Conclusion**

Comics provide a creative and entertaining technique for storytelling in a classroom setting. The interplay of pictures and words from a sequence of panels enables instructors to form a visual narrative to help students comprehend and make connections to concepts and theories. When using comics, instructors should familiarize themselves with the basic components of comics relative to other media (e.g., textbooks and films). Students may need guidance with understanding how comics are organized to help them process and interpret the information as expected by the instructor. From past reports of comics as a pedagogical tool, there has been a general consensus that comics help to increase motivation for various academic areas and improve students’ ability to learn. However, more pedagogical research using comics should explore how and what causes this medium to be distinctive and meaningful for information to be processed clearly and effectively. Specifically, instructors should investigate more deeply into the contents of the comics to see what students tend to focus on to enhance their comprehension and memory. Researchers in education and cognitive science have continuously examined the mental processes involved in comic comprehension; however, there should be more interdisciplinary work to examine how telling stories through comics in class affects the cognitive nature of the learning process. To do so, instructors are encouraged to apply comics in a variety of ways, including having students to read through different comic formats (e.g., graphic novels or web comics), draw comics themselves to construct their own storytelling, and find comics to relate the topics to what they need to know. By using comics as a supplement for teaching, instructors can
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References


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