

Accessible Business Instruction (ABI): A New Model for Business Education

Jeanette M. Landin
Landmark College

Students who attend college in the hopes of earning a business degree assume a financial risk. Of undergraduate students who attend college, approximately 60,000 report having a Specific Learning Disorder, Attention-Deficit/Hyperactivity Disorder, or Autism Spectrum Disorder. These three conditions comprise a population known as students with learning differences. The introduction of a business instruction model that includes the best elements of traditional business education with Universal Design and LD instructional principles could improve the education for students with learning differences. The Accessible Business Instruction (ABI) model combines these best elements and promotes flexibility and innovation in classroom instruction.

INTRODUCTION

“The tragedy of contemporary higher education is not student failure but the price of failure, which is paid by students and taxpayers” (Smith, 2013, p.34). Students who attend college with the intent of earning a business degree undertake a perilous journey: They incur the risk of a significant financial investment in their education. According to the National Center for Education Statistics (NCES) (2014a), a four-year college degree in 2013 averaged between \$10,000 and \$36,000, depending on the type of school and the student’s housing choices. The percentage of students who used federal financial aid to fund their education was approximately 70.7% as of the 2011-12 academic year (NCES, 2014a). Connecting these two statistics, it becomes clear that a majority of students have financial indebtedness resulting from their pursuit of a college education.

A factor that complicates the attainment of a college degree is the presence of a biological learning difference. Common learning differences include three primary categories: Specific Learning Disorder, which includes dyslexia, dyscalculia, and dysgraphia; Attention-Deficit/Hyperactivity Disorder (ADHD); and Autism Spectrum Disorder (ASD). According to the DSM-5, these three disorders are defined as follows:

- Specific Learning Disorders include “Impairment in reading, impairment in the written expression, and impairment in mathematics” (Schulte-Körne, 2013, p. 369).
- “People with ADHD show a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development” (Centers for Disease Control and Prevention, 2016a, para. 6).
- Autism Spectrum Disorder is characterized as “Persistent deficits in social communication and social interaction across multiple contexts” (Centers for Disease Control and Prevention, 2016b, para. 1)

It should be noted that these three learning differences may exist individually or in combination with one another and that each student's learning profile is different. For the purposes of this article, students with any of these three biological learning differences will be referred to as students with learning differences, or simply students with LD.

The NCES (2016b) found that 11.1% reported a disability as of the 2011-12 academic year, but the NCES definition of disability referred to all disabilities, including blindness, mobility impairment, and learning disabilities. However, the NCES (2014b) indicated that 0.5% of all college students reported having a learning disability, 2.4% have Attention Deficit Hyperactive Disorder (ADHD), and 2.1% have some "other" disability, which may include Autism Spectrum Disorder (ASD). These statistics reflect the different categories of disabilities that NCES, (2014b) uses. In other words, of the 12 million students attending college, approximately 60,000 students report a learning disability. This number does not include students who do not self-report a disability. Newman et al. (2011) found that only 24.2% of college students who received learning disability supports, not including those provided for students with ADHD and ASD, had reported their learning difference to their college.

Business degrees were conferred to 358,000 students, which represents approximately 20% of all students who graduated in 2014 (NCES, 2016a). Extrapolating that statistic to apply the number of students with LD, approximately 45,000 would be students with LD, assuming that the proportion of all attendees and graduates with LD remains constant. Multiplying the proportion of graduates that could have LD by the average tuition results in a tremendous financial risk by students who wish to pursue a college education.

Since it is the students themselves who shoulder this financial burden, it is important to ensure that the odds of success are in their favor. Traditional business education has prepared many people for successful business careers. Approximately 50% of students who start college education successfully graduate with a degree; a smaller percentage of students with LD graduate (NCLD, 2014). The use of a more comprehensive instructional model could reach an even greater number of students. Changes to traditional business education may seem to be a risk unto themselves, but the students who receive a different type of business education have a better chance in both their education and future career. Additionally, Pink (2009) pointed out the mismatch between what science knows and what business does, and that disparity extends to the business classroom. Although traditional business teaching is appropriate for many people, students with LD require a classroom technique that is more accessible and supportive, which requires the use of a new model for instruction.

Why Business Students with LD Need Accessible Business Instruction (ABI)

Universal Design (UD) has become the gold standard of educational practice for students with LD and is separated into two main categories: Universal Design of Instruction (UDI) and Universal Design for Learning (UDL) (Burgstahler, 2001; CAST, Inc., 2017; Wiggins & McTighe, 2005). Grabinger, Aplin, and Ponnappa-Brenner (2008) found that accommodations needed by students with LD are most effective when integrated as part of class instruction, as opposed to the *ad hoc* method of obliging students who request alternative formats. As a classroom instructor it can be quite challenging to incorporate UD principles as a normal part of a lesson plan; however, when critically considering the best way to craft classroom experiences, it becomes evident that a combination of instructional techniques is the best practice. Traditional lecture methods may be effective for some learners, but a mixture of lecture and other instructional techniques has a better chance of reaching a greater number of students.

Another reason for integration of UD principles into standard instructional practice is students' reluctance to request help. Students will not seek help due to perceived shame, stigma, learned helplessness, or a lack of understanding what support to request (Cai & Richdale, 2016; Stamp, Banerjee, & Brown, 2015). To further complicate matters, a college that receives federal funding in order to provide services may not discriminate against students with LD, may not require that the students disclose their disability under the Americans with Disabilities Act (ADA) of 1990, and students may choose not to disclose their LD or limit external access to medical records under the Family Educational Rights and

Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99). Stamp et al. (2015) captured the frustration that students with LD experience in the following student's narrative:

You know what it's like to have issues concentrating on a teacher...Do you have any idea what it's like to listen to every single word that comes out of the teacher's mouth until you realize that you haven't understood what they mean in context? (p. 149)

Clearly, the student understands the need to listen to the instructor and the goal of applying the presented content but is hindered by an LD. However, the student may be reluctant to discuss specific learning needs with the instructor, and the instructor cannot ask for details about the LD until the student volunteers such information.

Another factor that interferes with student self-advocacy for their needs is executive function (EF) issues that lead to poor organizational and communication skills (Cai & Richdale, 2016). EF pertains to an individual's cognitive ability to self-direct sustained behavior, set and complete tasks, and self-monitor their behavior (Dahlstrom-Hakki & Bryck, 2017; Meltzer, 2007). EF deficits are commonly present in ADHD and ASD, but may also appear in Specific Learning Disorders (Denckla, 2007; Meltzer, 2007; Ozonoff & Schetter, 2007). The neurological issue in EF deficits leads to students' inability to engage in the metacognitive processes to determine what supports and services they need to succeed in their learning. Furthermore, students with EF issues may lack the ability to discern that they have a problem until it becomes unmanageable (Gardner & Moran, 2007). In short, students with LD may have an underlying EF dysfunction that inhibits their ability to succeed academically because they are unaware of what assistance they need.

To foster academic success, Meltzer (2013) suggested that instructors should include explicit instruction on organizational strategies such as graphic organizers, guided notes, templates, and other methods that help students focus on the appropriate details and stay on track with the learning process for the course. By providing explicit learning structures, instructors assist learners who have EF-related deficits to manage working memory, study planning, and emotional regulation (Dahlstrom-Hakki & Bryck, 2017). Explicit learning structures are a key point in UDI and UDL.

Given these circumstances, college instructors could alleviate student issues by intentionally designing instruction in an accessible manner that is consistent with UD principles. Preparing instruction that aligns with UD principles in business courses requires that the instructor possesses the flexibility to design and include additional learning tools, some of which may be considered non-traditional. Scruggs, Mastropieri, Berkeley, and Graetz (2010) studied content instruction for students with LD and listed several interventions that instructors could use when incorporating UD into course design. The best interventions included hands-on learning, graphic organizers, guided notes, mnemonics, and explicit instruction (Rosen, Boyle, Cariss, & Forchelli, 2014; Scruggs et al., 2010). These interventions align with the UD principles of multimodal instruction, scaffolded learning, and micro-uniting of lessons. Using the UD techniques teaches students how to incorporate compensatory techniques that they could use to overcome or manage their LD. Dror, Makany, and Kemp (2011) commented that the utilization of a "special knowledge management method" (p. 46) could result in increased self-confidence. These findings support the idea that the use of multimodal instruction techniques leads to improved student learning outcomes.

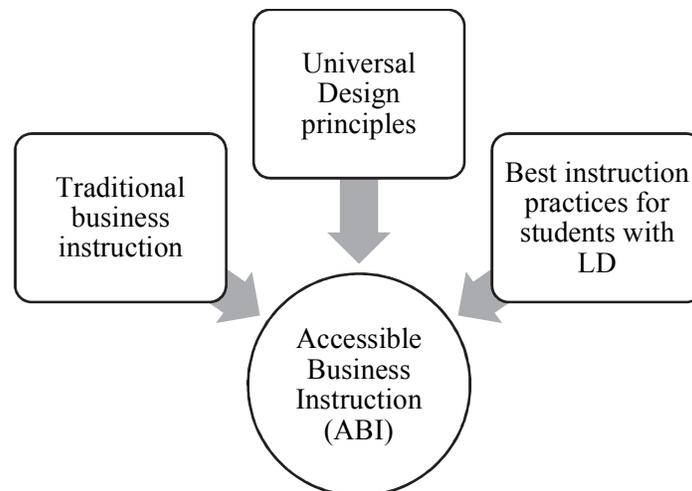
Another technique to consider when designing instruction for students with LD in business disciplines involves competency-based learning. Williams, Moser, Youngblood, and Singer (2013) commented that competency-based learning programs prepare students for future employment by teaching them the mental flexibility and critical thinking techniques that promote workplace success. Competency-based learning has been present in medical school curriculum because it focuses on fine-grained instruction to mastery of specific learning outcomes. This emphasis fosters achievement among students that translates to fluency in their content understanding (Acker, 2017). The attention to minute details that is present in competency-based learning for medical professionals can occur through the implementation of UD principles; such focus is also an essential element in business education because of the detailed, unique, and complex nature of everyday business situations. An instructor's deliberate use of

UD instructional principles promotes accessible instruction for business students and promotes achievement of desired learning outcomes.

Definition of the Accessible Business Instruction (ABI) Model

The ABI model (see Figure 1) blends elements of traditional business instruction, UD principles, and best practices for students with LD. Traditional business instruction is based on empirically developed theories, textbook based content, and programmed situations. UD principles include the use of multimodal instructional techniques that allow students to learn the material in different ways, resting on the principle of multiple learning styles explained by Gardner (2011). Best practices for students with LD include frequent one-to-one instructor-student contact, varied instructional styles, guided notes, exam accommodations, spiral curriculum, and full disclosure of course materials for students to access on demand (Landmark College, 2016).

FIGURE 1
THE ACCESSIBLE BUSINESS INSTRUCTION (ABI) MODEL



The blend of the three existing instructional models promotes highly relevant and flexible instruction because it deliberately synthesizes three separate best practices into one instructional model. Quinlan, Bates, and Angell (2012) emphasized that classroom accommodations should be available for all students to promote effective learning. Singer (2016) asserted that education, especially for students with LD, should mimic real-world experiences. In the business world, employees have legal provisions that entitle them to as-needed accommodations. The use of the ABI model leads to a classroom in which students with different learning styles have all needed accommodations and can absorb the course content in the manner that best suits them.

What Makes ABI Different from Traditional Business Instruction

Traditional business education has relied on a model of teaching business theories and models from textbooks and assessing student learning based on pre-programmed situations. The purpose of the traditional business education model makes sense because assessments yield quantitative data used in institutional accreditation processes (Jonas, Weimer, & Herzer, 2001). This instructional practice lends itself to predictable assignments and the absorption of traditional business theories. The traditional business education model may be effective for the majority of collegiate business students; however, the increase in students with LDs points to the necessity to update business instructional practices.

Nason (2011) proposed a series of myths about business schools that highlights the perception of what constitutes “good” business education. These myths include the following:

1. Business schools produce leaders.
2. Business is a field of optimization and best practices.
3. Business principles produce an answer.
4. Knowledge is power.
5. Planning is an essential and trainable activity. (pp. 23-24)

These myths highlight the flaws in traditional business education models. Although business schools may hope to produce industry leaders, the days of using models that incorporate these myths have passed. Industry leaders are not always the product of a traditional business education, and well-educated business people are not always the most successful. In fact, innovative business leaders such as Steve Jobs, Richard Branson, and Charles Schwab all succeeded in both their traditional business education and went on to become business leaders despite their learning differences (Love, 2011). What made them successful was their innovative spirit and inherent flexibility that resulted from finding strength in their weakness.

Flexibility and innovation are the keys to business success, and it makes sense that collegiate instruction reflects these elements. Lugar-Brettin (2013) asserted that incorporating “conceptual foundations and theoretical frameworks for solving problems that are identifiable” (p. 37) has been the tried-and-true instructional method at business schools. The problem with existing models is that the corporate world is rarely predictable in that no two situations are ever completely alike; therefore, teaching students to think about business using predictable models sets them up for failure in real-world business situations. McMurtrie (2015) suggested that business courses should be grounded in the discipline, and the skills that instructors promote should be relevant for the students. McMurtrie’s claims point to a need for change to the business instruction paradigm because the traditional teaching methods lack a promotion of innovative thought that is necessary in the contemporary business world. Taking this one step further, using the ABI model in business courses could promote flexibility and innovation for both instructors and students.

Given the growing percentage of students with LD in college and recognizing that many students do not disclose their LD, it is important to make instruction as flexible as possible. Quinlan et al. (2012) offered a harsh critique of contemporary instructional models by claiming that the one-size-fits-all model limits the transformative potential inherent in collegiate education. Khan (2015) asserted that the integration of hard and soft skills into business school curriculum is a necessary element in career success. The use of the ABI model leads to an inclusive classroom where students’ needs are met organically. The student does not need to request the accommodation; instead, the instruction is flexible and innovative by design. Additionally, the use of the ABI model promotes the desired rigor in the hard skills and seamless integration of soft skills because students learn to become flexible thinkers and effective communicators. A logical next step is examining the application of the ABI model in practice.

Application of ABI in the Classroom and Beyond

The integration of the ABI model requires deliberate planning on the part of the instructor, which may limit its implementation. It should be noted that the ABI model is inherently flexible and that assimilating the model could be done in stages. Izzo and Bauer (2013) presented a four-part general framework for the integration of UD components that included the following steps:

1. Determine learning objectives
2. Provide multiple representations of key concepts
3. Engage students during lesson instruction
4. Assess students frequently (p.22)

An examination of each of step within a business classroom will offer practical applications of the ABI model.

Learning Objectives

The learning objectives are the foundational elements that establish the goals for business courses. In this step, traditional business education and the ABI model are identical in that the learning objectives remain similar among institutions. A comparison of the syllabi for Dartmouth College's Business Management and Strategy course, reflecting traditional design, and Landmark College's Principles of Management course, reflecting the use of the ABI model, yielded similar language and learning outcomes (see Table 1).

TABLE 1
COURSE SYLLABUS COMPARISON

Dartmouth College learning objectives	Landmark College learning objectives
To expose you to a wide range of business practices and industry contexts including the strategies of major corporations. ^a	Describe and discuss the various leadership styles (autocratic, participatory, and contingency management) and their impact on management decision making. ^b
To help you learn how to approach the analysis of unstructured problems and ambiguous situations encountered in the business world. ^a	Discuss the history of management concepts and give examples of how the emphasis placed on production, administrative, and human relations has impacted society.
To develop an analytical toolkit of concepts, frameworks, and techniques you can use to identify, assess and develop competitive and corporate strategies. ¹	Discuss the application of various management tools (organization charts and manuals, job descriptions, and personnel policies) used by an organization to accomplish organizational endeavors. ²

Notice the similarity in the learning outcomes between the two courses. In both courses, the purposes are for students to develop their understanding of business management and strategies. The fundamental elements of traditional business education exist in the ABI model.

Multiple Representations of Concepts

Differences in the presentation of business courses highlight the difference in approaches between traditional methods and the ABI model. In a traditional business course such as the Dartmouth College Management course, class sessions include "lecture, discussions of reading, cases analyses, and in-class exercises" (Tuck School of Business at Dartmouth, para. 4). However, for ABI model courses, teaching practices include a predictable pattern of lecture and activity, frequent individual meetings, printed copies of lecture notes or PowerPoint slides, diagrams, videos, and other means by which students may engage multiple learning styles (Izzo & Bauer, 2013; Landmark College, 2016a). Both the traditional and the ABI model classes present similar material; the difference exists in the presentation of course content.

Student Engagement

Encouraging students to become active participants in their learning is the key to enhanced student engagement. In the traditional model of business, students are expected implicitly to manage their own engagement with course concepts, both inside and outside the classroom. Students with LD need explicit, consciously incorporated engagement opportunities because of the neurological differences that they possess. Hietanen (2015) observed that promoting effective engagement for different learners involves an element of risk in an otherwise safe and supportive learning environment. The use of multiple teaching methods is a departure from traditional business education models and does involve an element of risk for the teacher in a classroom with multiple learning profiles because learners will likely respond in different ways and no single engagement method works for all learners.

The key to successful student engagement when using the ABI model is a supportive environment. Students need to perceive that their learning style is unique and that their expression of content

understanding is welcome, no matter how different it is from traditional representation. An example of an ABI model engagement tool is the use of miniature field trips during class sessions. These mini trips can be as simple as stepping outside the classroom to find objects that allow students to connect personally with the content and allow students an opportunity to approach course content from multiple angles. Another way to promote student engagement is by enabling them to select different ways to complete assigned work, such as videos or visual representations of the content. In a traditional environment, alternative methods of assignment completion are offered on a case-by-case basis; however, the use of the ABI model promotes alternative learning demonstrations as options available to the entire class without the need to request them.

Frequent Assessment

Testing students' knowledge is rarely enjoyable for students, but a deliberate integration of multiple flexible assessments reduces associated stress. In a traditional business course, assessment of student learning is often based on homework and a few high-stakes tests (i.e., midterm and final exams). Again, this is where the ABI model diverges from traditional education. Instead of relying on homework and high-stakes tests as the indicators of student understanding, ABI includes multiple flexible assessments. For example, students may have weekly low-stakes quizzes that allow them to check their understanding of small amounts of course content. The practice of using frequent assessments promotes a supportive environment because students have the opportunity to clarify their understanding of course content before attempting a high-stakes test, as affirmed by Mytkowicz and Goss (2012). Taking it one step further, the same rules for multiple methods of representation apply to assessments: All means of assessment should be presented in such a way that students may access and complete the assessment in a way that best suits their learning profile. In practice, different means of assessment could include quizzes presented on paper or electronically and allowances for students to complete the assessments either in writing, by recording their spoken responses using speech-to-text software, or even by allowing students to create diagrams or visuals that convey their understanding.

The beauty of the ABI model is that it promotes creativity in classroom practice. Games that teach content are particularly effective because they connect the cognitive and affective (and often the kinesthetic) learning domains, which means that concepts presented during a game could be absorbed more fully than the same information would during lectures. Encouraging students to learn in the manner that best suits them within a supported environment leads to increased confidence and flexibility in approaching assigned work with varying degrees of structure. Furthermore, developing confidence and flexibility in academic work leads to strength in each of these qualities that could positively influence future courses and career opportunities.

Recommendations for Future Research

The introduction of the ABI model presents many opportunities for future work. Quantitative research into the effectiveness of ABI by evaluating national test scores, such as those yielded by the Major Field Test offered by the Educational Testing Service[®], could lead to an examination of the model's effectiveness. Qualitative studies in which students with LD at different institutions respond to questions about instructional effectiveness could result in dialog about students with LDs experiences in traditional and ABI-based settings. Other research could also incorporate the teacher's perspectives in incorporating and adapting instructional practices to the ABI model. Finally, studies involving application of the ABI model to sub-disciplines such as accounting and marketing could yield specific insights about the effectiveness of the model in different business courses.

CONCLUSION

Traditional business education, while appropriate for many students, lacks fundamental elements that students with LD require to be successful. The use of the ABI model promotes flexibility and innovation for students and offers the best learning environment that meets their needs. Although the implementation

of the ABI model involves additional work for instructors, the result is robust, engaging instruction and a deep understanding of academic concepts. Pink (2009) pointed out the incongruity between scientific knowledge and business practice. Instructors who embrace the ABI model might be able to correct the mismatch and prepare students to be valuable contributors to the business world.

ENDNOTES

1. Tuck School of Business at Dartmouth, 2016, para. 2
2. Landmark College, 2016b, pp. 1-2

REFERENCES

- Acker, T. A. (2017). Putting fluency first. *Radiologic Technology*, 88, (3), 330-332.
- Burgstahler, S. (2001, rev. 2015). *Universal Design of Instruction (UDI): Definition, Principles, Guidelines, and Examples*. Retrieved from <http://www.washington.edu/doit/universal-design-instruction-udi-definition-principles-guidelines-and-examples>
- Cai, R. Y., & Richdale, A. L. (2016). Educational experiences and needs of higher education students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 46, 31-41. doi: 10.1007/s10803-015-2535-1
- CAST, Inc. (2017). *About Universal Design for Learning*. Wakefield, MA: CAST, Inc. Retrieved from <http://www.cast.org/our-work/about-udl.html>
- Centers for Disease Control and Prevention (2016a). *Attention-Deficit/Hyperactivity Disorder*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/ncbddd/adhd/diagnosis.html>
- Centers for Disease Control and Prevention (2016b). *Autism Spectrum Disorder (ASD)*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/ncbddd/autism/hcp-dsm.html>
- Dahlstrom-Hakki, I., & Bryck, R. (2017, March 3). *Current Neuroscience and Genetics of Executive Function and ADHD*. Speech presented at the Brown Bag Series at Landmark College, Putney, VT.
- Denckla, M. B. (2007). Executive function: Binding together the definitions of Attention-Deficit/Hyperactivity Disorder. In Meltzer, L. (ed.) (2007), *Executive function in education: From theory to practice*. New York: Guilford Press.
- Dror, I. E., Makany, T., & Kemp, J. (2011). Overcoming learning barriers through knowledge management. *Dyslexia*, 17, 38-47. doi: 10.1002/dys.419
- Gardner, H. (2011). *Frames of mind*. Philadelphia, PA: Basic Books/Perseus.
- Gardner, H., & Moran, S. (2007). "Hill, skill and will": Executive function from a multiple-intelligence perspective. In Meltzer, L. (ed.) (2007), *Executive function in education: From theory to practice*. New York: Guilford Press.
- Grabinger, R. S., Aplin, C., & Ponnappa-Brenner, G. (2008). Supporting learners with cognitive impairments in online environments. *Tech Trends*, 52, (1), 63-70.
- Hietanen, L. (2015). Entrepreneurial learning environments: Supporting or hindering diverse learners? *Education + Training*, 57, (5), 512-531.
- Izzo, M. V., & Bauer, W. M. (2013). Universal design for learning: Enhancing achievement and employment of STEM students with disabilities. *Universal Access in the Information Society*, 14, (1), 17-27.
- Jonas, P. M., Weimer, D., & Herzer, K. (2001). Comparison of traditional and nontraditional (adult education) undergraduate business programs. *Journal of Instructional Psychology*, 28(3), 161-169.
- Khan, M. A. (2015). Diverse issues facing the business management education: A conceptual journey. *International Journal of Information and Education Technology*, 5, (4), 287-291.

- Landmark College (2016a). College economic faculty survey of best practices. *The Morgan Le Fay Center for Advances in Economics, Business, and Entrepreneurship Education at Landmark College*. Retrieved from <https://www.landmark.edu/academics/morgan-le-fay-center-for-entrepreneurship>
- Landmark College (2016b). *Principles of Management, BU2411A*. Retrieved from <https://sharknet.landmark.edu/departments/aa/Registrar/Syllabus/BU2411%20A%20Prin%20of%20Management.pdf>
- Love, D. (2011, May 19). *15 CEOs with Learning Disabilities*. Retrieved from <http://www.businessinsider.com/ceo-learning-disabilities-2011-5>
- Lugar-Brettin, S. R. (2013). A proposed framework for entrepreneurial learning. *Business Education Innovation Journal*, 5, (1), 37-40.
- McMurtrie, B. (2015). Now everyone's an entrepreneur. *Chronicle of Higher Education*, 61(32), A22-A25.
- Meltzer, L. (2007). *Executive function: Theoretical and conceptual frameworks*. In Meltzer, L. (ed.) (2007), *Executive function in education: From theory to practice*. New York: Guilford Press.
- Meltzer, L. (2013). Executive function and metacognition in students with learning disabilities: New approaches to assessment and intervention. *The International Journal for Research in Learning Disabilities*, 1, (2), 31-63.
- Mytkowicz, P., & Goss, D. (2012). Students' perceptions of a postsecondary LD/ADHD support program. *Journal of Postsecondary Education and Disability*, 25, (4), 345-361.
- Nason, R. (2011). Business school myths. *Journal of Higher Education Theory and Practice*, 11(4), 23-30.
- National Center for Learning Disabilities (2014). *The State of Learning Disabilities*. New York, NY: National Center for Learning Disabilities.
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., Wei, X., with Cameto, R., Contreras, E., Ferguson, K., Greene, S., & Schwarting, M. (2011). *The post-high school outcomes of young adults with disabilities up to 8 years after high school: A report from the National Longitudinal Transition Study-2 (NLTS2)*. (NCSE 2011-3005). Menlo Park, CA: SRI International. Retrieved from http://www.nlts2.org/reports/2011_09_02/nlts2_report_2011_09_02_complete.pdf
- Ozonoff, S., & Schetter, P. L. (2007). Executive function in Autism Spectrum Disorder: From research to practice. In Meltzer, L. (ed.) (2007), *Executive function in education: From theory to practice*. New York: Guilford Press.
- Pink, D. (2009, July). *The Puzzle of Motivation*. Speech presented at TEDGlobal, Oxford, UK. Retrieved from http://www.ted.com/talks/dan_pink_on_motivation
- Quinlan, M. M., Bates, B. R., & Angell, M. E. (2012). "What can I do to help?": Postsecondary students with learning disabilities perceptions of instructors' classroom accommodations. *Journal of Research in Special Education Needs*, 12, (4), 224-233. doi: 10.1111/j.1471-3802.2011.01225.x
- Rosen, S. M., Boyle, J. R., Cariss, K., & Forchelli, G. A. (2014). Changing how we think, changing how we learn: Scaffolding executive function processes for students with learning disabilities. *Learning Disabilities*, 20, (4), 165-176.
- Schulte-Körne, G. (2014). Specific learning disabilities-by the DSM-IV to DSM-5. *Journal of Child and Adolescent Psychiatry and Psychotherapy*, 42, (5), 369-374. doi: <http://dx.doi.org/10.1024/1422-4917/a000312>
- Scruggs, T. E., Mastropieri, M. A., Berkeley, S., & Graetz, J. (2010). Do special education interventions improve learning of secondary content? *Remedial and Special Education*, 36, 437-449. doi:10.1177/0741932508327465
- Singer, S. (2016). Transforming transformative disability experiential learning. *Issues in Teacher Education*, 25, (2), 23-40.
- Smith, B. (2013). Unconventional wisdom. *Change: The Magazine of Higher Learning*, 45(1), 33-39. doi: 10.1080/00091383.2013.749145

- Stamp, L., Banerjee, M. & Brown, F. C. (2015). Self-advocacy and perceptions of college readiness among students with ADHD. *Journal of Postsecondary Education and Disability*, 27, (2), 139-160.
- Tuck School of Business at Dartmouth. (2016). *Undergraduate Business Training*. Retrieved from https://www.tuck.dartmouth.edu/undergradbiz/courses/management_strategy.html
- U.S. Department of Education, National Center for Education Statistics (2014a). *Percentage of undergraduates receiving financial aid, by type and source of aid and selected student characteristics: 2011-12*. Retrieved from https://nces.ed.gov/programs/digest/d13/tables/dt13_331.10.asp
- U.S. Department of Education, National Center for Education Statistics (2014b). *Profile of undergraduate students: 2011-12*. Retrieved from <http://nces.ed.gov/pubs2015/2015167.pdf>
- U.S. Department of Education, National Center for Education Statistics (2016a). *Digest of Education Statistics, 2015 (NCES 2016-014) Chapter 3*. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=37>
- U.S. Department of Education, National Center for Education Statistics (2016b). *Students with Disabilities*. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=60>
- U.S. Department of Education, National Center for Education Statistics (2017). *Average undergraduate tuition and fees and room and board rates charged for full-time students in degree-granting postsecondary institutions, by level and control of institution: 1963-64 through 2012-13*. Retrieved from https://nces.ed.gov/programs/digest/d13/tables/dt13_330.10.asp
- Wiggins, G. P., & McTighe, J. (2005). *Understanding by Design* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Williams, M., Moser, T., Youngblood, J. II, Singer, M. (2013). Competency-based learning: Proof of professionalism. *Administrative Issues Journal*, 3, (3), 50-61.