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Preface

In the first article of this issue, Brockett and Brockett present the findings of a biographical study focused on three episodes of Abraham Lincoln’s life that illustrate his use of self-directed learning at critical moments. This method contributes to a historical understanding of how self-directed learning has influenced the lives of important individuals whose work impacted society as a whole. The authors used Hiemstra and Brockett’s Person Process Context model as a theoretical lens to interpret the three episodes.

Next, Chen, Chen, Tsai, Li, and Guglielmino engaged in confirmatory factor analysis to determine if a Chinese version of the 58-item Self-Directed Learning Readiness Scale (SDLRS) as well as a reduced 28-item SDLRS are tenable for use with Taiwanese secondary school students. Using the 58-item SDLRS, a 12-item Self-Regulated Learning Assessment instrument was developed and tested using the same analyses.

Finally, Currie-Knight, Zambone, and Mock present the findings of a qualitative study that examined how senior-level education students acclimate to a course that incorporates self-directed learning. Their method analyzed data from student focus groups, individual students, instructor journals, and observations in order to create a model of the acclimation process.

I sincerely thank the authors for sharing their thoughts and research with our readership.

Michael K. Ponton, Editor
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LINCOLN AS LEARNER: THREE SCENARIOS OF SUCCESSFUL SELF-DIRECTED LEARNING

Mary R. Brockett and Ralph G. Brockett

Biography can be a valuable tool in understanding historical perspectives on adult learning. The purpose of this study was to look at three examples of times throughout Abraham Lincoln’s life when he demonstrated a high level of self-directedness in learning in order to solve problems that he faced. Specifically, we examined (a) Lincoln’s youth, when he first acquired the skills and attitude that would serve him as a self-directed learner in adulthood; (b) the example of Lincoln’s years practicing law; and (c) his time as President of the United States when he had to learn how to lead the country through probably its greatest crisis. These three scenarios were then examined in relation to a current model of self-directed learning in order to put the discussion into a contemporary context.

Keywords: Abraham Lincoln, biographical research, self-directed learning

There is much to be learned from studying the lives of others. A multitude of books and articles are published every year about the life of Abraham Lincoln. While some of these works address aspects of Lincoln’s learning experiences, there is a gap in connecting Lincoln as a learner to current work in the area of self-directed learning (SDL). The purpose of this study was to look at three examples of times throughout Lincoln’s life when he demonstrated a high level of self-directedness in learning in order to solve the problems that he faced. We believe that this discussion will contribute to the knowledge base of SDL by sharing an individual, historical episode of one who demonstrated self-directedness in learning.

It is important to emphasize that in this study, we focused on only three episodes. Furthermore, we will not make claims about the efficacy of his actions although we both admit an admiration for Lincoln. Holzer, Symonds, and Williams (2015) suggested that there have been at least 16,000 books published about Lincoln to date. Clearly, there is much more that could be stated about Lincoln’s life as a learner. In this preliminary look at Lincoln’s life from the perspective of him as a self-directed learner, we believe we are able to offer some evidence to support that this is a topic worthy of further study.
Previous Examples of Biography on Self-Directed Learners

Over the years, many writers have presented biographical illustrations of SDL among people who would typically be considered successful in their fields. In a classic study, Gibbons et al. (1980) studied the biographies of 20 individuals who had become successful in their areas of expertise despite a lack of formal education beyond high school. Among the people studied were Frank Lloyd Wright, Henry Ford, Pablo Picasso, Harry Truman, Amelia Earhart, Malcolm X, Harry Houdini, Aaron Copeland, Muhammad Ali, and Virginia Woolf. Based on a content analysis of their lives, Gibbons et al. found 20 characteristics common to these individuals that could be linked to self-directedness. The top 10 characteristics are primary experience in the area, industriousness, perseverance, self-disciplined study, curiosity, single-minded pursuit, creativity, ingenuity, self-confidence, and natural ability. Many of these characteristics are frequently discussed and studied today as essential elements of SDL.

In a second example, Cavaliere (1990) performed a biographical study of Orville and Wilbur Wright and the learning process that took place over 28 years as they studied and worked to invent flight. She pointed out that the patterns of learning in which the Wright brothers engaged “were not linear and unchanging, but were rather cyclical and contingent on the feedback they received” (p. 231). Cavaliere concluded that SDL does not take place in isolation and goals “can be accomplished through practice and perseverance contingent on feedback and motivation” (p. 231).

Owenby (1996) undertook an educational and philosophical analysis of how the science fiction writer Robert Heinlein engaged in learning about his topics and how he used his novels as resources for teaching about a wide range of topics. He wrote about Heinlein’s approach to learning as well as how he used his works of science fiction to educate others. Owenby found that Heinlein’s self-directed characters display SDL in many different contexts in response to many different challenges. But in all Heinlein’s characters, what appears to be fundamental in order for SDL to take place is the self-directed developmental readiness of the learner. (pp. 176-177)

Brockett (2019) studied the learning process that John Steinbeck undertook in the process of writing *The Grapes of Wrath* (1939). Using a number of biographical resources, especially a journal that Steinbeck kept while writing the book (DeMott, 1989), three main themes were identified. First, while the actual writing of the book was a solitary activity, the process of learning did not take place in isolation. Second, throughout the process of writing the book, Steinbeck struggled with self-doubt about his ability to write the book and encountered many personal struggles that at times distracted him from his work. Third, Steinbeck’s SDL process had both individual and social elements. The individual aspects dealt with what was going on inside of Steinbeck while he wrote the book. The social element dealt with the topic of his book: poor migrant families during the Great Depression, their struggles, and issues of social justice.
The four examples offered illustrate that there is much to be learned about SDL through the study of biography. What follows, then, are three episodes from the life of Abraham Lincoln that emphasize the importance of SDL at key times in his life. It is hoped that this study can contribute to the knowledge base of historical figures who have demonstrated characteristics of a self-directed learner thus contributing to a historical understanding of SDL.

Three Episodes of Lincoln’s Life

The Early Years

In considering lifelong learning, it is important to look for evidence of self-direction across Lincoln’s entire lifespan. Thus, we begin with Lincoln’s early experiences as a learner. How does a man of such humble beginnings rise to the Presidency of the United States?

Abraham Lincoln was born on February 12, 1809, in Hodgenville, Kentucky. Despite obstacles including a limited formal education, a father who did not encourage Lincoln’s desire to learn, and several family moves as well as tragedies, Lincoln persevered in his passion for learning. Drive and determination assisted Lincoln in dealing with his circumstances. According to Goodwin (2005), “Lincoln neither romanticized nor sentimentalized the difficult circumstances of his childhood” (p. 47). According to Crowley (2012), Lincoln’s failures and painful experiences, which began during his youth and continued throughout his life, became the source of his lifelong compassion and concern for others.

Lincoln’s mother Mary Hanks and, especially later on, his stepmother Sara Bush Johnson helped him learn to read and love books. They were his first teacher/mentors. Sara encouraged Lincoln to develop his intellect (McGovern, 2009). The little schooling Lincoln completed seems to have provided the motivation for him to improve himself, and reading was central to this motivation. Lincoln’s cousin John Hanks stated, “Abe was getting hungry for books” (Donald, 1995, p. 30). He read constantly, everything he could get his hands on. As soon as work was done for the day, Lincoln would start reading. Books were scarce and treasured. Some of what Lincoln read were the Bible, Aesop’s Fables, Shakespeare, and Lessons on Elocution. He read Aesop’s Fables and Shakespeare so many times that he could recite entire passages. According to Crowley (2012), literature helped Lincoln to transcend his circumstances.

In addition to reading, Lincoln’s analytical mind helped him to have a good grasp of mathematics. He created a little notebook from scarce paper with finished math problems. The logic of math helped Lincoln to solve problems later in his career. “He learned from all his failures . . . and there were many” (McGovern, 2009, p. 2).

Besides reading and math, Lincoln knew that if he were to be successful, he would need to become an effective communicator. Speaking and writing were not easy for Lincoln, but he developed learning strategies to help himself. According to Alvy and Robbins (2010),
Lincoln did not become an effective communicator easily. He experimented with speaking and writing abilities. For example, Lincoln’s longtime Springfield law partner, William Herndon, recalled that Lincoln would often sit at his desk reading aloud, listening to how words sounded before he gave a speech. (p. 19)

Crisp and concise communication was difficult for Lincoln. He believed that lawyers, and some preachers, were particularly verbose.

The Law Years

During the time Lincoln lived in New Salem, Illinois, he held a variety of jobs some of which were failures. The ability to be flexible and use his experience propelled Lincoln into the next phase of his life and education. Along with a budding interest in politics, Lincoln threw himself into the study of the law. He began teaching himself the law through reading and self-study and then studying with others.

By 1836, Lincoln became a practicing lawyer. Lincoln saw the law as a means of getting ahead in what would prove to be his true passion: politics (McGovern, 2009). While serving as a member of the House of Representatives, he spent much time devouring law books in what was to become the Library of Congress. Meeting Major John T. Stuart, while serving in the legislature (1834), was yet another example of Lincoln having an encouraging mentor.

Besides being a patient listener, Lincoln had a strong sense of discipline. Lincoln paid extra attention to the areas of the law or a case that he did not understand well. For example, he developed a process for organizing and understanding legal documents. He would read silently, read aloud to himself, and then read his conclusions to his partners. Reading aloud was part of how Lincoln would prepare law briefs (McGovern, 2009).

Studying the law helped Lincoln to begin making a name for himself. He had a strong work ethic, was internally driven, and used reason and logic to win cases (McGovern, 2009).

In 1844, Lincoln set up practice with William Herndon. Theirs was a close and sustained relationship as Lincoln “had an almost paternal feeling [toward Herndon] and Herndon, in turn, gave him absolute and unquestioning loyalty” (Donald, 1995, p. 101). Herndon witnessed first-hand Lincoln’s ability to cross examine witnesses. Lincoln was usually able to get his evidence heard and rarely lost a case. As an example of Lincoln’s ability to think logically and rely on research, Donald (1995) described what is probably Lincoln’s most famous criminal case. In 1858, William “Duff” Armstrong was charged with the murder of James Metzker. The two men, along with James Norris, were attending a religious camp meeting when the three men got drunk and into a fight. Metzker was killed, and both Armstrong and Norris were charged in the death and tried separately. Lincoln was asked by Armstrong’s mother to defend her son, and Lincoln agreed.

At trial, the evidence against Armstrong was strong, and testimony from Charles Allen, the state’s main witness, helped to almost seal his fate. Allen stated that the moon was high in the sky at about 11:00pm, and it gave him a clear view of the fight.
that resulted in Metzker’s death. All Lincoln, as the defense attorney, had to do was to get the jury to have reasonable doubt. To do this, he used the almanac of 1857 to show that the moon was not high in the sky on the night in question and that Allen either lied or was mistaken. Armstrong was acquitted. Lincoln used science and drew from his skills of perseverance and self-directedness in learning in order find a way to free his client (Donald, 1995).

The Civil War Years

When the Civil War began, President Lincoln was barely in office, and his only military experience came from the Black Hawk War in which he saw no action (McPherson, 2009). Lincoln faced a steep learning curve as Commander-in-Chief, but he was a quick study. He read extensively on military history and strategies. According to McPherson (2009), studying the successes and failures of both sides helped him in developing his overall military strategy.

Lincoln eventually put together a team of three generals all of whom were graduates of West Point: George McClellan, Ulysses S. Grant, and Henry Halleck. General Halleck was successful both in and out of the army. At one point, he wrote a book on military theory that was “considered so important that, even the new President, Abraham Lincoln, read it to bone up on his military duties” (Marzsalek, 2015, p. 43).

Root (1920) stated that Lincoln’s entire life had actually been training for the struggle of the Civil War. Lincoln was an extremely patient man. He had a great understanding of people and politics. In addition, Lincoln demonstrated humility and an ability to make mistakes and gain insight from them. These abilities gave him an edge on his “all knowing” generals. According to Root, he never lost sight of the ultimate goal of preserving the union.

Three of Lincoln’s finest qualities were developed in his early years and carried over into his Presidency. First, he understood people and their feelings. Second, he had a strong ability to prioritize problems, separating the more important problems from trivial ones. Third, he had a keen sense of humor. Throughout his Presidency, Lincoln told stories to help people understand what he was trying to communicate. Fourth, the cause was all-important; preserving the union and ending slavery. Here, he demonstrated single-minded pursuit; one of the qualities of a self-directed learner identified by Gibbons et al. (1980). Nothing, including Union losses and insubordinate generals, diminished this resolve. For example, Lincoln was often criticized for appointing “political” generals; however, Lincoln knew that if he appointed well-known men to high ranks, others would follow them (McPherson, 2009).

Connections to SDL

The above three episodes from key periods of Lincoln’s life give many examples of how Lincoln demonstrated characteristics of a self-directed learner. In looking at some of the characteristics identified by Gibbons et al. (1980), for instance, Lincoln demonstrated primary experience in the area, industriousness, perseverance, self-disciplined study, curiosity, single-minded pursuit, creativity, ingenuity, self-
confidence, and natural ability. And like the people studied by Gibbons et al., Lincoln demonstrated his success in spite of very limited formal education.

Another way to understand how Lincoln’s characteristics fit with what is known about SDL is to look at these characteristics in relation to the Person Process Context (PPC) model proposed by Hiemstra and Brockett (2012). This model evolved from the Personal Responsibility Orientation model originally presented by Brockett and Hiemstra in 1991. However, this newer model condenses some of the language of the earlier model and places greater emphasis on the importance of the social context in SDL. The PPC model is presented in Figure 1.

![The PPC Model](image)

*Figure 1: The Person Process Context Model (Hiemstra & Brockett, 2012)*

In the PPC model, the optimal circumstances for successful SDL can be understood in terms of three key elements: person, process, and context. Person refers to characteristics of the individual, such as psychological factors, life experience, motivation, resilience, and attitude toward learning. Process involves the actual teaching and learning interaction and includes learning skills and styles as well as planning, organizing, and evaluating abilities. Context refers to the environmental and sociopolitical climate, which includes culture, class, power, physical learning environment, and political milieu.
The three stories from Lincoln’s life offer numerous examples of Lincoln’s self-directedness as a learner. In his early years, Lincoln developed a passion for learning, primarily through his love of reading. His curiosity and persistence are examples of the person element of the PPC model. As a youth, Lincoln planted the seeds for how he would approach learning throughout his life that are examples of the process element. Finally, as Lincoln was born into poverty and had a father who did not encourage his learning activities, the social context of his early years presented challenges that would have stood in the way for many other learners. Yet, again, Lincoln found ways to persist.

During the law years, Lincoln continued to demonstrate personal characteristics of a self-directed learner. Along with the persistence and curiosity of his early years, Lincoln demonstrated creativity and ingenuity, such as in the example of how he used science to help gain an acquittal for “Duff” Armstrong. In terms of his learning process, the way in which he read out loud in order to be prepared for his cases along with how he developed his skills as a speaker and writer were examples of the learning processes he used. Finally, during his law years, Lincoln functioned effectively in a social milieu that was probably very unusual for a self-trained man who came from a life of poverty. His personal history likely had an influence on his kindness and compassion.

When Lincoln became President, he faced challenges unlike any other President in U.S. history. Almost immediately after being sworn in as Commander-in-Chief, he faced the challenges of the Civil War. Though Lincoln knew very little about military strategy and how to lead a nation during such a crisis, his self-confidence and resilience served him well as personal characteristics. As a learner, Lincoln was a quick study whose lifelong habit of reading helped him to gain a quick grasp of how to lead as Commander-in-Chief. His strategy of creating a “team of rivals” in his Cabinet (Goodwin, 2005) was ingenious and demonstrated how Lincoln was able to find creative ways to solve problems. Of course, the Civil War provided a sociopolitical milieu in the relatively new nation unlike any other before or since. Lincoln had to find a way to be an active learner, problem solver, and leader under the most trying circumstances faced by any President. Yet, Lincoln was able to persevere and ultimately helped the nation achieve success in the final days of his life.

In this article, we have attempted to provide evidence of how Lincoln was an effective self-directed learner. Our intent was to present some initial insights. We tended to rely on a limited number of resources to present our evidence and draw our conclusions. Clearly, as so much has been written about Lincoln, there are gaps in our findings that future researchers may wish to fill by looking at resources such as history journals, other books, and, of course, Lincoln’s own papers, speeches, and writings that can be found in the National Archives, the Lincoln Library and Museum in Springfield, Illinois, and in other locations. A recommendation for future research is that these materials be examined closely by historians and other scholars to determine if there are additional insights into Lincoln’s life as a learner.
As can be argued from the three illustrations we have presented, Abraham Lincoln possessed many of the attributes often associated with self-directed learners. Throughout his life, he demonstrated curiosity, persistence, creativity, resilience, and a single-minded focus among other characteristics. There is no evidence to support the view that Lincoln was a genius by genetics. Symonds (2015) believed his genius came from a “lifetime of effort; careful thoughtful reading, of considering and reconsidering, of arguing both out loud and on paper, of making mistakes and learning from them (p. 89). These attributes served Lincoln well throughout his entire life.

This research contributes to the body of knowledge on historical figures who have demonstrated self-directedness. As such, it adds to the historical foundations of SDL.

Lincoln was the embodiment of a great leader. His life was fraught with difficulties and challenges. He rose above his circumstances and remains one of the most studied men in history. His love of learning and his need to make a difference pushed Lincoln to greatness. He truly embodied the best of what we think of today as a successful self-directed learner.

References


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PREPARATION TO ASSESS STUDENTS DURING IMPLEMENTATION OF THE NEW TAIWANESE K-12 CURRICULUM

Ken-Zen Chen, Chang-Hua Chen, Hsiao-Feng Tsai, Shao-Chi Li, and Lucy M. Guglielmino

The objective of this study was to determine the fitness of the Self-Directed Learning Readiness Scale (SDLRS) factorial structure for Taiwanese secondary school students. Analyzing the model fit of the SDLRS was undertaken. Data from the 8-dimensional 58-item SDLRS completed by 3,878 students from 7 Taiwan secondary schools were analyzed using maximum likelihood confirmatory factor analysis. The first and second parts of this study examined the SDLRS model fitness of Taiwanese students’ data. In the third part of study, we constructed a self-regulated learning scale using 12 of the SDLRS items while maintaining sound validity and reliability. We concluded that the SDLRS is an appropriate tool to measure and trace the future change of Taiwan secondary school students’ self-directed learning readiness after the implementation of new curriculum guidelines.

Keywords: confirmatory factor analysis, self-directed learning readiness, secondary school students, SDLRS (Chinese translation)

This study describes an attempt to determine the fitness of the Self-Directed Learning Readiness Scale (SDLRS) factorial structure for Taiwanese secondary school students to enable a future study of the implementation of new K-12 curriculum guidelines.

Literature Review

Background and Research Questions

Self-direction in learning has been one of the fastest growing and most researched areas of education for several decades (Gresham, 2019; Hiemstra, 2003; Ma, 2017; Owen, 2002), and the complexity of life and the increasing importance of learning across the lifespan puts an added emphasis on self-direction in learning. As a personal disposition, self-directed learning (SDL) describes individuals taking responsibility and initiative to engage in learning activities. Research indicates that SDL is a key characteristic contributing to students’ academic success (Shapley, 2000). Self-directed learners plan, manage, and control their own learning process; that is, both learner control and
outcomes (e.g., self-determination and self-management; Kranzow & Hyland, 2016). Knowles (1975), in his profound definition of SDL, indicated that it is a process where individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating those learning outcomes. (p. 18)

When situated in a less ideal, supported, or regulated learning environment, self-directed learners tend to academically perform better (Kizilcec, Perez-Sanagustin, & Maldonado, 2017). SDL skills can be acquired and improved (Amey, 2008; Daniels, 2011; Gabrielle, Guglielmino, & Guglielmino, 2006; Litzinger, Wise, & Lee, 2005). Better SDL skills would provide lifelong benefits to the students, including increased confidence, autonomy, motivation, and preparation for learning as well as addressing future challenges (Ramsey & Couch, 1994).

To address changing social needs and global trends, the Taiwan Ministry of Education (MOE) implemented new curriculum guidelines for 12-year basic education starting in the 2019 schoolyear. To achieve the guidelines’ foundational educational beliefs—that is, taking initiative, engaging in interaction, and seeking the common good (National Academy for Educational Research [NAER], 2018)—SDL is listed as one of the key competencies and approaches to cultivate spontaneous and motivated learners. Emphasizing SDL 15 times in the guidelines indicates the very first time that MOE clearly instructs schools to promote SDL to “ensure that students can conduct learning in an adequate and self-directed manner” (NAER, 2018, p. 34). The guidelines encourage SDL incorporated in school-based curriculum (NAER, 2018, pp. 11, 13) and alternative learning periods (pp. 21, 28). Moreover, the defined scope of SDL in the guidelines also mandates schools to teach students self-regulated learning (SRL) skills. For example, the guidelines ask schools and teachers to “guide students in using various . . . motivational strategies; general learning strategies; domain-, cluster-, program-, and subject-specific learning strategies; thinking strategies; and metacognitive strategies” (NAER, 2018, p. 48). Studies in K-12 education also support practicing learners’ self-regulation strategies, such as establishing proximal goals (Zimmerman, Schunk, & DiBenedetto, 2015), generating strategic action plans (Zimmerman, Schunk, & DiBenedetto, 2017), and reflecting on the lesson learned from the experience of learning (Lodico, Ghatala, Levin, Pressley, & Bell, 1983). Higher academic achievement is found when these strategies are applied in the planning of learning (Bonestroo & De Jong, 2012), during learning (Greene et al., 2019), and after learning (Whipp & Chiarelli, 2004).

Opportunities for improving SDL and SRL exist in varying learning situations; we reasoned that the initiation of the new guidelines may lead to positive changes in school practices that reinforce the teaching of SDL, improving students’ readiness for SDL, and, subsequently, positively affecting students’ learning performances. However, before tracking the changes of Taiwan secondary school students’ SDL and SRL under the new curriculum, a validation study that determines the fitness of an appropriate instrument is vital. Self-directed learning readiness (SDLR) is described as

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the degree to which the individual possesses the attitudes, abilities, and personality characteristics necessary for SDL (Guglielmino, 1977). We chose the SDLRS given that it has the most extensive literature foundation; is widely used (Merriam, Caffarella, & Baumgartner, 2007); targets high school, college students, and adults (Delahaye & Choy, 2000); and reveals a score that is comparable to published SDLRS research worldwide. It measures abilities, attitudes, and characteristics to demonstrate readiness for self-directed learning and has been translated into 23 languages and is used in research in more than 40 countries (Guglielmino & Associates, 2010). Guglielmino (1977), the developer of the SDLRS, concluded that a self-directed learner is one who exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, obstacles; one who is capable of self-discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self-confident; one who is able to use basic study skills, organize his or her time and set an appropriate pace for learning, and to develop a plan for completing work; one who enjoys learning and has a tendency to be goal-oriented. (p. 73)

Based on our thorough literature search regarding scholarly publications using the SDLRS, no research was nationally conducted at the secondary school level. Only two SDL attempts were conducted in small, alternative secondary institutions (Bellanca, Paul, & Paul, 2014; Posner, 2009). Therefore, the present study may extend the SDLRS literature with respect to age. To determine if the SDLRS is an appropriate assessment for Taiwanese secondary school students, factor analysis was used to verify scale construction. Confirmatory Factor Analysis (CFA), one of the submodels under the structural equation modeling technique, was used in testing construct validity and dimensionality of the scale. Namely, we performed CFA to validate the factor structure of SDLR traits using the SDLRS based on Mourad's (1979) finding of an 8-dimensional structure. Since factor analysis results can vary by sample, Gorsuch (1983) has consistently discouraged the use of prior factor analysis results to form subscores; however, it is appropriate to use the results of a prior factor analysis to explore comparability of prior findings with a new translation and a new population. We addressed three research questions empirically using the Taiwanese secondary school student sample:

1. In the present Taiwanese sample, does the SDLRS reflect the reported 8-dimensional structure?
2. In the present Taiwanese sample, does the SDLRS reflect the 8-dimensional structure if the 58 original items are reduced?
3. In the present Taiwanese sample, can a latent structure of SRL be modelled by using some of the SDLRS items?
Related Validation Research for the SDLRS

The SDLRS has been long established as a valid and highly reliable scale. Guglielmino (1977) established content validity of the instrument by using an inductive approach from a 3-round Delphi expert panel on perceptions of the characteristics of an individual with a high level of readiness for self-direction in learning. Studies have demonstrated internal consistency levels with Cronbach’s α and split-half reliability measures between 0.67 and 0.96 (Guglielmino, 1977). Researchers found the SDLRS to have a test-retest reliability of 0.829 and 0.79, Pearson split-half reliability estimate of 0.94, and Cronbach’s α reliability coefficient of 0.87 based on a sample of 3,151 individuals from the U.S. and Canada (Guglielmino & Guglielmino, 1991). In addition to internal reliability estimates, Finestone (1984) and Wiley (1981) reported test-retest reliability coefficients of 0.82 and 0.79. According to Delahaye and Choy (2000), the literature supports the SDLRS as both accurate and useful for measuring readiness for SDL. Although a few studies have been unable to support or replicate its underlying latent constructs (e.g., Field, 1991; Hoban, Lawson, Mazmanian, Best, & Seibel, 2005) and there have been some criticisms of the SDLRS (Brockett, 1987; Field, 1989; Straka & Hinz, 1996), these criticisms have been addressed (Guglielmino, 1989; Long, 1989; McCune, 1989) and the vast majority of studies have supported the validity and reliability of the instrument. The first Taiwanese scholar who used the SDLRS was Deng (1995); he translated and reduced the scale to a 39-item survey for his research in adult education. In the last two decades, a few studies in Taiwan either used the original SDLRS (Hsu & Shiue, 2005) or Deng’s shorter SDLRS (Chang, 2006; Chu, Chu, Weng, Tsai, & Lin, 2012; Lai, 2011) in distance and adult education. Similar to global trends where the major body of the research is focused on SDL in adults and only a few studies were done with K-12 students (Bartholomew, 2017), no SDLRS research had been conducted among Taiwanese secondary school students. We believe the answers to the first and second research questions will fill the gap in the literature. Moreover, Cosnefroy and Carre (2014), concerned that SDL and SRL research should be closely related, believed they were, however, “two parallel worlds … without any connections” (p. 9). The answers to the third research question may initiate future dialogues between the SRL and SDL communities.

Method

The section describes the design of the study, including survey instrumentation, translation procedure of the SDLRS, research participants, validation design, and data analysis.

Instrumentation

The SDLRS is a 58-item, 5-point Likert-type scale that produces one score to measure the extent of an individual’s SDLR (Guglielmino, 1977). It is referred to as the Learning Preference Assessment (LPA) when administered to avoid response bias. The instrument measures an 8-dimensional structure of readiness (Guglielmino, 2010):
tolerance of risk, ambiguity, and complexity in learning; (b) self-concept as an effective independent learner; (c) initiative in learning; (d) acceptance of responsibility for one's own learning; (e) love of learning; (f) creativity; (g) view of learning as a lifelong, beneficial process; and (h) self-understanding, reflection on one's own learning. The range of SDLRS scores is from 58 to 290 with an average U.S. adult readiness score of 214 ($SD = 25.59$). The scores are further interpreted as 58 to 201 (below average readiness), 202 to 226 (average readiness), and 227 to 290 (above average readiness; Guglielmino & Guglielmino, 1991, p. 8). Individuals with high SDLRS scores usually perform better in tasks requiring high ability of problem solving, creativity, and changeability. Meanwhile, persons with average SDLRS scores are likely to be successful in more independent situations but are not fully comfortable with handling the entire process of identifying their learning needs and planning and implementing the learning. Persons with below average SDLRS scores usually prefer structured learning options such as lecture and traditional classroom settings. However, low SDLRS scores may simply reflect that the respondent has consistently learned under environments of direct instruction (Guglielmino & Associates, 2010). Individuals can improve their SDL readiness through appropriate practices and trainings (Guglielmino, 2013).

Research has been conducted to measure SDLR among different ages, nationalities, and occupation groups. Reported scores ($M, SD$) include but are not limited to the following groups: U.S. elementary school teachers (240.89, 20.19; Wagner, 2018); Ph.D. students (243.10, 22.30; Bartholomew, 2017); hybrid/blended master students in educational leadership (239.79, 17.28; Kranzow & Hyland, 2016); South Africa geography preservice teachers (208.91, 23.04; Golightly & Guglielmino, 2015); Latvia teachers (205.44, 22.97; Strods, 2014); Canadian low-skills workers (222.74, 26.19; Taylor, Trumpower, Atas, & Purse, 2014); medical students (229.06, 23.19; Findley & Bulik, 2011); and adults from 16 countries who were in higher education or in the workplace (Australia, $M = 221$, Canada, $M = 225$, China, $M = 189$, Germany, $M = 217$, Guatemala, $M = 187$, Honduras, $M = 187$, Hong Kong, $M = 219$, India, $M = 210$, Ireland, $M = 207$, Japan, $M = 187$, Latvia, $M = 202$, Lithuania, $M = 205$, Portugal, $M = 216$, Singapore, $M = 207$, and UK, $M = 216$; $SD$s not provided; Guglielmino & Guglielmino, 2011).

**Translation Procedure**

According to Brislin (1986), a culturally proper translation protocol includes forward translation, translation synthesis, validation of content, and backward translation. We administered the SDLRS translation using Brislin’s guidelines, which included all of those steps as well as consultations among translators:

1. The first three authors (i.e., translators) who hold Ph.D. degrees from U.S. institutions and were fully fluent in traditional Chinese and in English translated the scale separately using the simplest possible wordings to convey the concept of items. During the process, the translators attempted to keep the reading level as low as possible without losing the meaning.
2. The translators met and discussed the differences in translation to arrive at an agreement.

3. Three other scholars (i.e., back translators) who hold Ph.D. degrees from local institutions and had not read the original SDLRS separately translated the Chinese version back into English by using the simplest possible wordings in English.

4. Two meetings with the translators and back translators were held to reach agreement on the translation.

5. The translated SDLRS was piloted in two junior high school classes in Taipei. We gathered student feedback about the items that confused them, and the translators and back translators discussed these again for revision.

6. A series of validity and reliability tests were conducted (i.e., the present study).

7. The qualifications of translators and back translators and the translated traditional Chinese SDLRS were sent to Guglielmino and Associates for final approval.

**Participant Profile**

After ethics approval was obtained, the SDLRS was administered in seven secondary schools in Taiwan in late 2018. The representative sample included 3,878 7th to 12th grade students, and each student completed the SDLRS and provided information on gender and grade. Based on survey administration (Guglielmino & Guglielmino, 2017, p. 16), responses that were missing six or more responses were removed from analysis. Among the remaining 3,694 valid cases, missing values were imputed with 3 (the middle value). Table 1 presents the sample’s characteristics and descriptive statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptor</th>
<th>N; P</th>
<th>SDLRS Score: M, SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>1,704; 46.1%</td>
<td>194.18, 34.69</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>1,839; 49.8%</td>
<td>197.92, 31.31</td>
</tr>
<tr>
<td></td>
<td>Unanswered</td>
<td>151; 3.9%</td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>12</td>
<td>179; 4.8%</td>
<td>210.27, 32.25</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>152; 4.1%</td>
<td>206.24, 28.89</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>638; 17.3%</td>
<td>196.96, 28.32</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>273; 7.4%</td>
<td>195.62, 32.58</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>1,299; 35.2%</td>
<td>193.04, 33.57</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>1,153; 31.2%</td>
<td>194.90, 34.74</td>
</tr>
<tr>
<td>School</td>
<td>A</td>
<td>478; 12.9%</td>
<td>186.32, 30.73</td>
</tr>
</tbody>
</table>
Validation Designs

We carried out three CFAs to evaluate whether the translated SDLRS retained the same structural properties as the original scale by examining the correspondence between selected theoretical frameworks and the factor structure in the following three studies.

**The hypothesized model of Studies 1 and 2.** In Studies 1 and 2, a measurement model was constructed by defining the relationships between 58 observed items and the 8-dimensional structure of SDLR (see Figure 1). In Study 1, we used data collected from seven secondary schools to investigate the factor structure of the 58-item SDLRS. We intended to ensure the validity and reliability of the SDLRS in our settings while maintaining a comparable score with other international cohorts. In Study 2, we evaluated whether we could modify a shorter SDLRS by trimming the number of items while maintaining the factor structure.

**The hypothesized model of Study 3.** In Study 3, given the blended language used between SDL and SRL in the curriculum guidelines, we were looking for a SDL instrument that can also measure SRL. We selected one of the major SRL theoretical frameworks developed by Zimmerman (1986, 2002) and reconstructed the 58 items to be the measurement model of SRL. In his recursive model, self-regulated learning is understood in three phases: (a) learners motivate to generate “forethought” before undertaking the learning task, (b) learners observe and control their own “performance,” and (c) learners judge and react to their learning outcomes through “self-reflection.” To establish a baseline for interrater reliability, the first and fourth author independently coded each item into the three phases. We avoided sampling and instead used all items in calculating the interrater reliability to ensure rigor and consistency. Upon initial completion, the calculated Holsti’s (1969) coefficient of reliability was 0.724. Although a value of 0.70 is considered acceptable (Neuendorf, 2017), the two coders negotiated on coding differences until reaching 100% agreement for the model (see Figure 2).
Figure 1. Initial measurement model of the SDLRS.
Figure 2. Initial measurement model of the Self-Regulated Learning Assessment.
Data Analysis

CFA was undertaken to examine the underlying latent variable structure of the SDLRS. Maximum likelihood estimation was used to verify the composite reliability and convergent validity. During the analysis, all factors were allowed to covary. The conventional chi-square test, comparative fit index (CFI), (adjusted) goodness-of-fit index (GFI/AGFI), standardized root mean residual (SRMR), and root mean square error approximation (RMSEA) values were used to evaluate model fit. For a model to have an acceptable fit, the following indices are required: CFI > 0.90 (Bentler, 1990), GFI/AGFI > 0.8 (Doll, Xia, & Torkzadeh, 1994; MacCallum & Hong, 1997), SRMR < 0.08 (Hu & Bentler, 1999), and RMSEA < 0.06 (Hu & Bentler, 1999). Moreover, modification indices were used in the iterative processes between observed and hypothesized factor solutions; note that standardized regression weights (i.e., factor loadings) on each item should be larger than 0.45 (Jöreskog & Sörbom, 1989).

Results

The result section reports model fit indices of the CFA, reliability, and validity of the three validation studies.

Study 1. Confirmatory Factor Analysis: 58-Item SDLRS

To keep the SDLRS score of Taiwanese secondary school students comparable with other global cohorts, we first planned to keep all 58 items with the original SDLRS latent structure in the analysis in Study 1. Valid responses from all seven schools totaled 3,694. However, the hypothesized model was likely to be rejected in CFA due to both the large number of cases and the complexity of the model (Bentler & Bonett, 1980; Marsh, Balla, & McDonald, 1988; Marsh & Hocevar, 1985). Considering that there are 58 items in the SDLRS and Bentler and Chou (1987) suggested that the minimum cases required in CFA are 10 samples per each item when the population distribution is unknown, we randomly selected 600 cases from the 3,694 samples and conducted the CFA to examine the measurement model underlying the SDLRS. (The Pearson correlation coefficient matrix for all study items is available at https://bit.ly/39jAcGN.)

Model fit indices. The chi-square value for the overall model was $\chi^2(1,567) = 4538.89$ ($p < .001$), highlighting a poor fit between the hypothesized model and the data. However, given the sensitivities of $\chi^2$ in large samples, additional model fit indices were used (Byrne, 2006). Review of these indices demonstrated a fair model fit with CFI = 0.77, AGFI = 0.75, SRMR = 0.071, RMSEA = 0.056, and $\chi^2/df = 2.89$. We concluded that the Taiwanese secondary school student data moderately fits the SDLRS 8-dimensional structure. Table 2 presents the fit indices of the model.
### Table 2. Fit Indices for the Model

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Acceptable Level</th>
<th>Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood-Ratio $\chi^2$</td>
<td>$p \geq .05$</td>
<td>4538.89***</td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td>$\geq 0.80$</td>
<td>0.77</td>
<td>fair fit</td>
</tr>
<tr>
<td>AGFI</td>
<td>$\geq 0.80$</td>
<td>0.75</td>
<td>fair fit</td>
</tr>
<tr>
<td>SRMR</td>
<td>$\leq 0.08$</td>
<td>0.07</td>
<td>good fit</td>
</tr>
<tr>
<td>RMSEA</td>
<td>$\leq 0.06$</td>
<td>0.06</td>
<td>good fit</td>
</tr>
<tr>
<td>NFI</td>
<td>$\geq 0.90$</td>
<td>0.70</td>
<td>poor fit</td>
</tr>
<tr>
<td>NNFI</td>
<td>$\geq 0.90$</td>
<td>0.76</td>
<td>poor fit</td>
</tr>
<tr>
<td>RFI</td>
<td>$\geq 0.90$</td>
<td>0.68</td>
<td>poor fit</td>
</tr>
<tr>
<td>IFI</td>
<td>$\geq 0.90$</td>
<td>0.78</td>
<td>poor fit</td>
</tr>
<tr>
<td>CFI</td>
<td>$\geq 0.90$</td>
<td>0.78</td>
<td>poor fit</td>
</tr>
<tr>
<td>PGFI</td>
<td>$\geq 0.50$</td>
<td>0.71</td>
<td>good fit</td>
</tr>
<tr>
<td>PNFI</td>
<td>$\geq 0.50$</td>
<td>0.66</td>
<td>good fit</td>
</tr>
<tr>
<td>PCFI</td>
<td>$\geq 0.50$</td>
<td>0.74</td>
<td>good fit</td>
</tr>
<tr>
<td>Likelihood-Ratio $\chi^2/df$</td>
<td>$\leq 3.00$</td>
<td>2.89</td>
<td>good fit</td>
</tr>
</tbody>
</table>

***$p < .001$

Composite reliability and convergent validity. The reliabilities for items were measured via the factor loadings, composite reliabilities (CR), and Cronbach’s $\alpha$. It is generally recommended that the factor loadings should be test significant (Bollen, 1989) and exceed the cut-off value of 0.45, showing that the observed items are sufficient to reflect the latent constructs. The standardized factor loadings were all test-significant, and 55 out of 58 item reliabilities ($R^2$) exceeded the recommended cut-off value of 0.2 (Jöreskog & Sörbom, 1989), showing items were reliable measures of the latent variables. The CR of the different measures ranged from 0.49 to 0.89 (see Table 3); seven latent variables are greater than the recommended cut-off value of 0.60 (Fornell & Larcker, 1981). Cronbach’s $\alpha$ of the different measures ranged from 0.42 to 0.88; seven out of eight latent variable values are greater than the recommended cut-off value of 0.5 (Raines-Eudy, 2000). Moreover, the overall instrument reliability was 0.94; thus, the reliability of the 58-item SDLRS was supported. Average variance extracted (AVE), the average squared standardized loading, was used to assess the measures. The ideal value for this strict evaluation for convergent validity is greater than 0.5 (Bagozzi & Yi, 1988); however, AVE > 0.5 means that every item loading should be more than 0.71, and it could be difficult to obtain in a real world situation (Hair, Black, Babin, & Anderson, 2010, p. 777). The AVE of the different measures in
Study 1 ranged from 0.22 to 0.53. According to Fornell and Larcker (1981, p. 46), the AVE is a conservative estimate and researchers may conclude the convergent validity is met on the basis of CR alone. As seven of the CR values among the eight constructs exceeded the recommended level, the SDLRS has fair reliability and convergent validity when we keep all items and its original latent structure. However, students expressed low consensus in the latent variable “view of learning as a lifelong, beneficial process.” This issue may be due to high educational competition and common academic burnout in Taiwanese secondary school students, and such learning exhaustion negatively affects their academic morale, engagement, and future prospect about learning (Lin, 2015).

Table 3. Factor Loading and Reliability of the SDLRS in Study 1

<table>
<thead>
<tr>
<th>Latent Variables</th>
<th>Items</th>
<th>Factor Loading</th>
<th>T-value</th>
<th>$R^2$</th>
<th>CR</th>
<th>AVE</th>
<th>α</th>
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</thead>
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<tr>
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<td>.64</td>
<td>15.72***</td>
<td>.48</td>
<td>.78</td>
<td>.22</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>Q12</td>
<td>.37</td>
<td>8.36***</td>
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<tr>
<td></td>
<td>Q9</td>
<td>.33</td>
<td>7.50***</td>
<td>.33</td>
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<tr>
<td></td>
<td>Q44</td>
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<td>12.65***</td>
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<td></td>
<td>Q20</td>
<td>.39</td>
<td>9.01***</td>
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<td>Q19</td>
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<td>13.97***</td>
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<td></td>
<td>Q29</td>
<td>.32</td>
<td>7.19***</td>
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<td></td>
<td>Q22</td>
<td>.58</td>
<td>13.96***</td>
<td>.48</td>
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<td>Q3</td>
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<td>.48</td>
<td>11.18***</td>
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<td>Q23</td>
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<td>.41</td>
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<td>Self-Concept as an Effective Independent Learner</td>
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<td>Q10</td>
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<td></td>
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<td>Q18</td>
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<td>$R^2$</td>
<td>CR</td>
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<td>for One's own Learning</td>
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<td>Q26</td>
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<td>16.35***</td>
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<tr>
<td></td>
<td>Q36</td>
<td>.52</td>
<td>12.90***</td>
<td>.45</td>
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<tr>
<td></td>
<td>Q37</td>
<td>.60</td>
<td>15.29***</td>
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<tr>
<td>View of Learning as a Lifelong, Beneficial Process</td>
<td>Q54</td>
<td>.68</td>
<td>16.86***</td>
<td>.42</td>
<td>.49</td>
<td>.23</td>
<td>.42</td>
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<td></td>
<td>Q52</td>
<td>.62</td>
<td>15.24***</td>
<td>.35</td>
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<tr>
<td></td>
<td>Q56</td>
<td>.24</td>
<td>5.70***</td>
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<tr>
<td></td>
<td>Q58</td>
<td>.16</td>
<td>3.85***</td>
<td>.08</td>
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<tr>
<td>Self-Understanding, Reflection on One's Own Learning</td>
<td>Q8</td>
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<td>.28</td>
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<td></td>
<td>Q4</td>
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<td></td>
<td>Q55</td>
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<td>14.74***</td>
<td>.42</td>
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</tr>
<tr>
<td></td>
<td>Q16</td>
<td>.64</td>
<td>16.90***</td>
<td>.54</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Q35</td>
<td>.16</td>
<td>3.88***</td>
<td>.15</td>
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<tr>
<td></td>
<td>Q14</td>
<td>.56</td>
<td>14.26***</td>
<td>.49</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Q21</td>
<td>.62</td>
<td>16.06***</td>
<td>.50</td>
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<td></td>
</tr>
</tbody>
</table>

*Note.* Instrument reliability: 0.94.

***$p < .001$***

**Study 2. Confirmatory Factor Analysis: 28-Item SDLRS**

The 600 cases in Study 2 were used to evaluate whether we could trim the number of items while maintaining the factor structure of the SDLRS. A series of CFAs were performed to examine the measurement model underlying the SDLRS. The 58 items
were trimmed to obtain items that loaded on only one factor in the specified model. Modification indices (MI) were used to evaluate when the best model fit was established.

**Model fit indices.** Starting with the original 58-item SDLRS, examination of the factor loadings and MI recommended deletion of 30 items with an improved fit reached, $\chi^2(322) = 881.68 \ (p < .001)$, CFI = 0.91, AGFI = 0.88, SRMR = 0.044, RMSEA = 0.054, and $\chi^2/df = 2.74$, which indicates that the 28-item SDLRS better fits Taiwanese secondary school student data while still preserving the factor structure. Table 4 presents the change of fit indices before and after trimming the model.

Table 4. *Fit Indices for the Two Models Studied*

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Acceptable Level</th>
<th>Before Trimming</th>
<th>After Trimming</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood-Ratio $\chi^2$</td>
<td>$p \geq .05$</td>
<td>4538.89***</td>
<td>881.68***</td>
<td>good fit</td>
</tr>
<tr>
<td>GFI</td>
<td>$\geq 0.80$</td>
<td>0.77</td>
<td>0.91</td>
<td>good fit</td>
</tr>
<tr>
<td>AGFI</td>
<td>$\geq 0.80$</td>
<td>0.75</td>
<td>0.88</td>
<td>good fit</td>
</tr>
<tr>
<td>SRMR</td>
<td>$\leq 0.08$</td>
<td>0.07</td>
<td>0.04</td>
<td>good fit</td>
</tr>
<tr>
<td>RMSEA</td>
<td>$\leq 0.06$</td>
<td>0.06</td>
<td>0.05</td>
<td>good fit</td>
</tr>
<tr>
<td>NFI</td>
<td>$\geq 0.90$</td>
<td>0.70</td>
<td>0.87</td>
<td>fair fit</td>
</tr>
<tr>
<td>NNFI</td>
<td>$\geq 0.90$</td>
<td>0.76</td>
<td>0.90</td>
<td>good fit</td>
</tr>
<tr>
<td>RFI</td>
<td>$\geq 0.90$</td>
<td>0.68</td>
<td>0.85</td>
<td>fair fit</td>
</tr>
<tr>
<td>IFI</td>
<td>$\geq 0.90$</td>
<td>0.78</td>
<td>0.91</td>
<td>good fit</td>
</tr>
<tr>
<td>CFI</td>
<td>$\geq 0.90$</td>
<td>0.78</td>
<td>0.91</td>
<td>good fit</td>
</tr>
<tr>
<td>PGFI</td>
<td>$\geq 0.50$</td>
<td>0.71</td>
<td>0.72</td>
<td>good fit</td>
</tr>
<tr>
<td>PNFI</td>
<td>$\geq 0.50$</td>
<td>0.66</td>
<td>0.74</td>
<td>good fit</td>
</tr>
<tr>
<td>PCFI</td>
<td>$\geq 0.50$</td>
<td>0.74</td>
<td>0.78</td>
<td>good fit</td>
</tr>
<tr>
<td>Likelihood-Ratio $\chi^2/df$</td>
<td>$\leq 3.00$</td>
<td>2.89</td>
<td>2.74</td>
<td>good fit</td>
</tr>
</tbody>
</table>

***$p < .001$***

**Composite reliability and convergent validity.** Instrument reliability of this trimmed SDLRS remained high (Cronbach’s $\alpha = 0.93$). As seen in Table 5, all factor loadings exceeded 0.45, presenting a good indicator of the instrument’s reliability. The CR of the different measures ranged from 0.60 to 0.85 and are greater than the recommended cut-off value of 0.60 (Fornell & Larcker, 1981). The individual item
reliabilities ($R^2$) all surpassed the recommended cut-off value of 0.2 (Jöreskog & Sörbom, 1989), showing items were reliable. Cronbach’s $\alpha$ of the different measures ranged from 0.59 to 0.84 and are greater than the recommended cut-off value 0.5 (Raines-Eudy, 2000), or more strictly, at 0.6 (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). Thus, the recommended thresholds for both CR and Cronbach’s $\alpha$ were met, establishing the reliability of the SDLRS. The AVE of the different measures in Study 2 ranged from 0.30 to 0.54 (see Table 5). Chiou (2011, p. 101) suggested that if AVE is less than 0.5 when CR is higher than 0.6 but AVE is at least 0.3, the convergent validity of the construct is still adequate. Overall, the trimmed SDLRS has good reliability and convergent validity.

Table 5. Factor Loading and Reliability of the SDLRS in Study 2

<table>
<thead>
<tr>
<th>Latent Variables</th>
<th>Items</th>
<th>Factor Loading</th>
<th>$T$-value</th>
<th>$R^2$</th>
<th>CR</th>
<th>AVE</th>
<th>$\alpha$</th>
</tr>
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<tbody>
<tr>
<td>Tolerance of Risk, Ambiguity, and Complexity in Learning</td>
<td>Q19</td>
<td>.50</td>
<td>10.48***</td>
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<td>.63</td>
<td>.30</td>
<td>.63</td>
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<tr>
<td></td>
<td>Q22</td>
<td>.66</td>
<td>13.81***</td>
<td>.46</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Q23</td>
<td>.54</td>
<td>11.41***</td>
<td>.40</td>
<td></td>
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<tr>
<td></td>
<td>Q48</td>
<td>.47</td>
<td>9.89***</td>
<td>.37</td>
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<td>Self-Concept as an Effective Independent Learner</td>
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<td>.42</td>
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<td>Q25</td>
<td>.73</td>
<td>19.23***</td>
<td>.57</td>
<td></td>
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<td></td>
<td>Q38</td>
<td>.65</td>
<td>16.71***</td>
<td>.56</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Q57</td>
<td>.61</td>
<td>15.34***</td>
<td>.49</td>
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<tr>
<td>Initiative in Learning</td>
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<td>.56</td>
<td>14.07***</td>
<td>.36</td>
<td>.60</td>
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<td></td>
<td>Q40</td>
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<td>13.27***</td>
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<tr>
<td></td>
<td>Q41</td>
<td>.63</td>
<td>15.91***</td>
<td>.45</td>
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<tr>
<td>Acceptance of Responsibility for One’s own Learning</td>
<td>Q15</td>
<td>.81</td>
<td>19.96***</td>
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<td>.69</td>
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<tr>
<td></td>
<td>Q50</td>
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<td>15.47***</td>
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<td>Love of Learning</td>
<td>Q1</td>
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<td>14.55***</td>
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<tr>
<td></td>
<td>Q39</td>
<td>.69</td>
<td>18.72***</td>
<td>.59</td>
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<tr>
<td></td>
<td>Q46</td>
<td>.76</td>
<td>21.44***</td>
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<td></td>
<td>Q34</td>
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<tr>
<td></td>
<td>Q37</td>
<td>.62</td>
<td>15.48***</td>
<td>.54</td>
<td></td>
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</tr>
<tr>
<td>View of Learning as a Lifelong, Beneficial Process</td>
<td>Q52</td>
<td>.63</td>
<td>15.10***</td>
<td>.43</td>
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<td>.43</td>
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<tr>
<td></td>
<td>Q54</td>
<td>.68</td>
<td>16.21***</td>
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<tr>
<td>Self-Understanding, Reflection on One's Own</td>
<td>Q4</td>
<td>.58</td>
<td>14.75***</td>
<td>.49</td>
<td>.70</td>
<td>.37</td>
<td>.71</td>
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<tr>
<td></td>
<td>Q14</td>
<td>.59</td>
<td>14.90***</td>
<td>.48</td>
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</table>
Table 6. Fit Indices for the Model

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<th>Criterion</th>
<th>Acceptable Level</th>
<th>Before Trimming</th>
<th>After Trimming</th>
<th>Result</th>
</tr>
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<tr>
<td>Likelihood-Ratio $\chi^2$</td>
<td>$p \geq .05$</td>
<td>5920.41***</td>
<td>201.67***</td>
<td>good fit</td>
</tr>
<tr>
<td>GFI</td>
<td>$\geq 0.80$</td>
<td>0.64</td>
<td>0.95</td>
<td>good fit</td>
</tr>
<tr>
<td>AGFI</td>
<td>$\geq 0.80$</td>
<td>0.61</td>
<td>0.92</td>
<td>good fit</td>
</tr>
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</table>

Note. Instrument reliability: 0.93. Items 2, 3, 6, 7, 8, 9, 10, 12, 13, 17, 20, 24, 27, 28, 29, 31, 32, 33, 35, 36, 42, 43, 44, 45, 49, 51, 53, 55, 56, and 58 were removed from the original SDLRS.

***$p < .001$
### Table 7. Factor Loading and Reliability of the SRLA in Study 3

<table>
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<tr>
<th>Latent Variables</th>
<th>Items</th>
<th>Factor Loading</th>
<th>T-value</th>
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<th>CR</th>
<th>AVE</th>
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<tr>
<td></td>
<td>Q46</td>
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<td>13.95***</td>
<td>.65</td>
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</tr>
<tr>
<td></td>
<td>Q45</td>
<td>.85</td>
<td>15.30***</td>
<td>.73</td>
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<tr>
<td></td>
<td>Q47</td>
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<td>11.97***</td>
<td>.77</td>
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<tr>
<td>Performance Control</td>
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<td>.38</td>
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<td></td>
<td>Q43</td>
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<td>15.99***</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Q51</td>
<td>.71</td>
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<tr>
<td></td>
<td>Q40</td>
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<td>15.71***</td>
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</tr>
<tr>
<td>Self-Reflection</td>
<td>Q15</td>
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<td>16.09***</td>
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<tr>
<td></td>
<td>Q52</td>
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<td>16.19***</td>
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<td>Q49</td>
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<td>13.69***</td>
<td>.54</td>
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</tr>
</tbody>
</table>

Note. Instrument reliability: 0.91. Items 5, 15, 21, 39, 40, 43, 45, 46, 47, 49, 51, and 52 were used from the original SDLRS.

***p < .001
Conclusion

This study verified an appropriate instrument to measure SDL of Taiwanese secondary school students. Analyzing the model fit of the SDLRS was undertaken. The SDLRS was chosen due to its high internal consistency, and we extended the use to secondary school students in Taiwan. Three confirmatory factor analyses that examined the fitness of model among a sample of Taiwanese secondary school students were conducted. In addition to the instrument reliability, comprehensive model fit indices, composite reliability, and convergent validity measures revealed that the SDLRS model moderately fits Taiwanese students’ data in Study 1 (CFI = 0.77, AGFI = 0.75, SRMR = 0.071, RMSEA = 0.056, and $\chi^2/df = 2.89$). Furthermore, a trimmed 8-dimensional 28-item version of the SDLRS had improved fit indices in Study 2 (CFI = 0.91, AGFI = 0.88, SRMR = 0.044, RMSEA = 0.054, and $\chi^2/df = 2.74$). The third part of study revealed that, using 12 of the SDLRS items, we could construct a SRLA also with a sound model fit (CFI = 0.95, AGFI = 0.92, SRMR = 0.039, and RMSEA = 0.070). In summary, the SDLRS reflects the 8-dimentional structure in the present Taiwan secondary school sample, and the latent structure of Zimmerman’s SRL can be modelled by using some of the SDLRS items.

This study is the first attempt to use the SDLRS in a Taiwanese adolescent sample. Based on our verifications, we encourage future research using the translated SDLRS to measure and trace Taiwanese secondary school students’ SDLR after the implementation of the new curriculum guidelines. However, our study was not without questions; further SDL research on secondary school students may help answer the low reliability regarding the latent variable “view of learning as a lifelong, beneficial process” in the SDLRS.

References


Underpinning success with research and practices (pp. 83–114). Charlotte, NC: Information Age.


Acknowledgment

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“I THOUGHT THERE WAS GOING TO BE A CATCH”: A QUALITATIVE STUDY OF HOW COLLEGE STUDENTS ACCLIMATE TO A COURSE THAT USES SELF-DIRECTED LEARNING

Kevin Currie-Knight, Alana M. Zambone, and Raymond Mock

In this study, we examined how seniors in a College of Education acclimate to a college-level course that heavily incorporated principles of self-directed learning. We qualitatively analyzed observations, student interviews, and professor journaling data from 9 sections of this course. Reported obstacles to student acclimation include nervousness around perceived lack of course structure and lack of trust in the professor's honesty and motives. These obstacles were mitigated by a combination of elements from the course structure and the professor’s interaction with students. This study is limited by its size and context-specificity, but it should contribute to research on acclimating students to self-directed learning methods.

Keywords: self-directed learning, andragogy, student development

The following is a qualitative study that investigated how preservice teachers acclimate to a teacher education course that is heavily reliant on principles of self-directed learning (SDL). The research goal was to document the way in which the course was organized and delivered and how students in their last semester of formal coursework and while beginning initial internships responded to a course that heavily incorporated SDL and chose and navigated SDL projects.

This is important for two reasons. First, from curricular demands to classroom management systems and approaches, K-12 teaching is arguably a career whose demands change at a fast pace, and where, accordingly, the need to actively self-direct one’s learning is crucial. Secondly, coursework leading to an initial teaching license is typically highly prescriptive, structured, and sequenced in response to licensure and teaching college accreditation requirements.

For these reasons, we initiated the study to find out what a college-level course (and learning) that incorporates significant SDL elements can look like in practice. This study serves as an initial step towards developing a grounded theory for how to prepare teachers who not only know but can integrate curriculum content with pedagogical strategies and do so in a way that accounts for students’ response to teaching and the context in which students are learning.
As a preview, we found that the barriers students reported to acclimation were (a) a perceived lack of course structure compared with what they were used to (and relatedly, a concern over how to gain a high grade in the course), and (b) trust in the professor’s sincerity or motives in his use of SDL. We found several mitigating factors to help assuage concern such as (a) the act of students choosing their initial project and (b) advice given during discussions with the professor. We found that challenge (b) was mitigated by the professor explaining and reminding students periodically the rationale for SDL in the course and the professor’s willingness to provide requested feedback.

**Literature Review**

As the current study is about a college course that employs principles of SDL, we will start by defining the term. Knowles’s highly influential definition defines SDL as

> a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (Knowles, 1975, p. 18)

Knowles meant this definition to describe “andragogy,” which describes the best conditions for adult learning, as opposed to the more teacher-centered approach of pedagogy. Whereas pedagogy largely accepts a substantial role for teachers in designing a child’s curriculum and learning experiences, andragogy allows the (adult) learner more control over what and how they are to learn and measure learning progress. The idea is to shift as much control over student learning to the student, giving him or her control of as much of the process as one can. In typical classrooms that utilize “pedagogy,” the teacher controls things like assessing student learning needs, formulating learning goals, and dictating the learning process the learner embarks on to reach those goals. In contrast, an andragogical approach will treat the student as the driver of as many of these processes as possible in the particular learning context. (In the case of the course examined in this study, students had control over diagnosing learning needs and goals—as long as their learning goals stayed within the syllabus’s scope—the learning process, and to a large degree the assessment of the learning.)

Hase and Kenyon (2015) defined a process of self-determined learning (that they titled “heutagogy”) that is conceptually distinct from Knowles’s idea of andragogy. This concept of self-determined learning similarly emphasizes a shift from control by a teacher to control by the learner:

The essence of heutagogy is that in some learning situations, the focus should be on what and how the learner wants to learn, not on what is to be taught. Hence this approach is very different from the more formal and traditional way of “teaching” people. In heutagogy the educational process changes from being one in which the learned person (teacher, tutor, lecturer) pours information into
the heads of learners, to one in which the learner chooses what is to be learned and even how they might learn it. It represents a change from teacher-centred learning to learner-centred learning. (p. 7)

Knowles, Kenyon, and Hase all acknowledged that, given the contrast between the pedagogical approaches most young learners are used to and their sketches of SDL, it can be difficult for learners to acclimate to SDL. As Hase and Kenyon (2015) stated,

young children are very capable learners. But as we get older our education system seems to suppress our wish to ask questions, by telling us what we need to know. What we need to know has been determined through decades of teaching and development, and is based on what are the perceived needs of the average learner at any particular age: generally there is no room for satisfying individual learning desires. (p. 9)

Thus, many learners accustomed to pedagogy may have difficulty acclimating to the autonomy that SDL not only affords but demands. Several studies exist addressing how student perception of SDL in a formal classroom evolves and acclimation occurs. Ryan (1993) examined the experiences of 35 first-year nursing students in a problem-based and self-directed university course. The study tracked these students’ “perceptions of their learning across the semester” (p. 59) by asking them to complete a self-rating scale three times throughout the semester that asked questions about their confidence in the abilities necessary for SDL such as identifying learning needs and how effectively they are able to find resources. Results indicated that throughout the semester, students reported “substantial and highly significant increase across the semester in the students' perceptions of their abilities as self-directed learners” (Ryan, 1993, p. 62) and that on all four items in the self-rating tool, there were “a much greater range from low/moderate at the beginning of semester, through to moderate/high by the end of semester” (p. 60). All of this indicates that students believed themselves to increase in self-efficacy toward SDL throughout the course of the semester. Ryan hypothesized several reasons for this shift (as gleaned from essay responses students included with their self-rating scale) from the fact that self-directed techniques were often promoted and modeled by tutors in the class to a documented increase in motivation when students set and met their own goals (cf. Zimmerman, Bonner, & Kovach, 1996).

Lunyk-Child, Crooks, Ellis, Ofosu, and Rideout (2001) explored the perceptions about SDL of 17 students and 47 faculty who were in a 4-year nursing program where SDL was frequently used. By administering focus groups and engaging in subsequent content analysis, the authors deciphered common themes that faculty and students reported. The most relevant finding for the purposes of our study comes from students who frequently “stated that although SDL has positive outcomes, the process of becoming a self-directed learner can be painful” (Lunyk-Child et al., 2001, p. 119). While like the previous study students generally reported a growing confidence over time with SDL, they reported that the process often started with confusion about what
to do, apprehension about whether they were learning what they needed, and frustration with the seeming lack of structure.

Brandt (2015) wrote a phenomenological inquiry into her own and other students’ experiences in a graduate level online course that incorporated significant elements of SDL. Brandt, herself a student in this class, administered an online survey to students of this course about their experiences with the SDL portion (and added her own account). Perhaps because six students responded to a 9-question survey, no common themes appeared to have emerged outside of a reportedly positive perception of SDL by the end of the course. Student perceptions of SDL ran the gamut between appreciation for the empowerment that SDL provided to initial distrust of one’s own power to direct his or her own learning that quelled over time.

**Conceptual Framework**

Our conceptual framework was anchored both in the findings of the research about student difficulties in acclimating to SDL (Hase & Kenyon 2015; Lunyk-Child et al., 2001; Ryan, 1993) and the theoretical underpinnings of SDL; that is, students will initially find SDL for a teacher preparation course unnerving. This literature suggests that students in school often get used to an extrinsically-structured and -assessed environment, which is the environment of conventional classrooms. Students who come into SDL environments are then often lacking either the confidence, self-efficacy, or trust to feel comfortable with this different environment. Students may gradually acclimatize in a variety of ways such as by gaining trust in the environment over time or coming to feel secure in the course structure and their own abilities. This study examined the reported and observed acclimation process in one such SDL-intensive college course using this conceptual lens.

**Method**

This study was conducted at a suburban/rural 4-year university in the Southeastern U.S. The data were collected in nine sections (over two and a half years) of one instructor’s 4000-level course given to teacher candidates in their senior (and on occasion junior) year or the initial internship before the start of their full-time internship the following semester. As such, the students’ age range was 19 to 21 years. The researchers consisted of the course professor (Currie-Knight) and two researchers (Zambone and Mock) within the same College of Education who are not affiliated (instructors of record, teaching assistants, etc.) with the specific course.

In what follows, we triangulated data from several sources: a combination of semistructured focus group interviews of participating students administered anonymously by Zambone and Mock (n = 13), recorded discussions with individual

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1Zambone and Mock conducted nine focus groups in all for different sections of the course over three semesters. The focus groups ranged from one (because of no shows) to four students per interview. Each focus group was conducted during the final week of each semester, and students were informed that Dr. Currie-Knight would only see the transcript of each interview after the semester was over and after
participating students conducted by Currie-Knight given during class time (n = 24), Currie-Knight’s journals describing and reflecting on the happenings of each class period\(^2\), and observation notes taken during class sessions by Zambone and Mock\(^3\). The number of student voices represented in this article is impossible to state; since transcripts of the focus groups were anonymized, there may be overlap between the voices presented from Currie-Knight’s interviews and from Zambone and Mock’s focus group transcripts.

The research method is a preliminary step toward a grounded theory as we did not go into the study with specific research questions more specific than a wish to find out what a college-level course (and learning) that incorporates significant SDL elements can look like in practice. The research goal was to document several aspects of the course, from the happenings in the course including professor and student perceptions to how students choose and navigate self-directed projects. From these data, various themes emerged. While we did not begin the study with research questions related to this article, the emergent findings can be interpreted as helping to answer three questions:

1. In this course, what did students report to be obstacles to feeling like they could successfully operate in a SDL environment?

participant comments had been anonymized. The interviews were semistructured and included the following questions in common:

1. What is your perception of the professor’s role in the class?
2. What does the professor do, if anything, that is helpful?
3. What could the professor do, if anything, that would be helpful?
4. Do the project elements make sense?
   a. Is there anything that didn’t make sense?
5. Do you see areas where the project process can be improved?
   a. If so, how could those areas be improved?
6. What did you think about the self-evaluation process?
   a. Does it offer or undermine motivation?
   b. How does it feel to control your own grade?
7. Is this course challenging, and if so what proved challenging for you?
   a. Was the structure of the course sufficient?
   b. Would you want more or less?
8. Did this course prepare you for teaching?
   a. If so, how?
   b. If not, what could it do to prepare you?
9. What else do you want to share or comment on about this course and your experience in it?
10. What else do you think we need to know?

\(^2\)Dr. Currie-Knight's journals were generally done shortly after the completion of each class session with an eye toward recording things that happened during the class period (his and students’ actions that might be relevant) as well as reflections on those happenings. He journaled after the majority of class sessions of his course sections that participated in the study.

\(^3\)Zambone, Mock, or both would come into class (no fewer than twice per semester per section) to observe student and professor interaction, talk with participating students, and take notes.
2. In this course, what (if any) factors (structures of the course, resources available to students, students’ own practices) led to growing comfort or felt success in a SDL environment?

3. In this course, what (if anything) did the professor do to support students feeling comfortable or successful in a SDL environment?

As this theme of acclimation emerged only after the research was conducted, students were not asked direct questions about their acclimation to the course, and hence, all data presented here is incidental to acclimation. Since in most cases follow-up questions on this theme were not asked, we inferred meaning from the data that emerged.

The course that is the subject of this study was structured in the following way (cf. Currie-Knight, 2019). After several weeks of minilectures and collective Socratic seminar discussion around a common text, students were asked to complete three separate self-directed projects of 3 weeks in length. For each project, students could choose to learn or practice any topic or skill that could be linked to a goal or objective for the course. During each project, they submitted a project proposal during Week 1, a progress report during Week 2, and an exhibit of their project in an online discussion forum during Week 3. The exhibited project was evaluated by the professor and peers, and after feedback was received, students wrote a Project Summary Report that included (a) a description of what they learned, (b) a description of how they judged the project went, and (c) a grade for their project (which the professor could, but seldom did, override for compelling reasons).

In our research data, student interview/focus group data, and professor journals, some students found the acclimation to this type of SDL-based course to be challenging. In what follows, we will review that evidence to explicate what these obstacles are and how these obstacles are reportedly mitigated.

**The Obstacles to Acclimation to a SDL-Centered Course**

We observed and students reported several obstacles to acclimation into this SDL-intensive course, and students consistently reported ways those obstacles were mitigated. Figure 1 summarizes the acclimation process students reported (and that we observed) going through. Successful course design and facilitation by the professor is critical to optimize their level of discomfort so that it engages rather than immobilizes their progress. Consequently, students gain agency and knowledge through SDL in the course. Conditions that can affect various aspects of students’ initial (dis)comfort with SDL included the students’ educational experiences prior to the class, structure or degree of prescription of their other classes within their program of study, and sources of motivation for course completion such as grades or challenges to their practice that are emerging as they begin their internships.
Perceived Lack of Structure

The most reported obstacle to acclimation of this SDL-centered course was student concerns over the perceived lack of structure. Several students in focus groups reported not only this concern but also that they came into the class reporting that the majority of their other courses, if not all, had a much more structured curriculum and assignment instructions. This was arguably the obstacle most consistently reported by focus group students. Typical responses of this type included the following:

*I was a little nervous when going into the self-directed learning type of class situation because for me I always had some kind of layout, here is a rubric, this is everything you need to do.*

*We talked [in previous focus group conversation] about structure for me as a big thing especially elementary ed. classes and how they are taught are structured. I knew exactly what was expected out of me, I knew exactly what I needed to do and just not having that threw me in a loop.*

*[Student in a focus group, responding to a question about whether the class was difficult or challenging:] At first yes because there wasn’t a set structure of this is the assignment, this is what you do, this is when it’s turned in; in very specific terms. It was very ambiguous, you had to carve your own path. In the beginning it was very difficult, for me at least, how to figure out how this course worked.*

Two students voiced a similar concern in their focus group discussion but framed it in a more personal way about how the perceived lack of course structure would affect the student’s anxiety and ability to do things like successfully manage time and workload. Students reported the following:
I thought initially [that the difficulty was in] just trying to figure out how I would manage my time, how to come up with creative projects.

I really love grades and like structure and love being told rubrics and being told exactly what to do. That is where I thrive in terms of school goes but I was really nervous because I thought I was not going to have any structure, not going to know what I am doing.

In these cases, the anxiety expressed was more about how the student feared not being able to function well without certain specific structures.

There are two potentially interesting subtleties in these comments. The first is that they seem to express concern over a very specific type of structure they perceive to be missing. The course itself has structure: there are set due dates for set components of each project (i.e., Proposal, Progress Report, Project Summary Report) where students are responding to specific prompts. The structure these students seem to be referring to are more specific structures. Even though there was a structure to this course (due dates, prompts to respond to during each project’s progress), the obstacle to acclimation seems to be that these structures were not as specific as the ones the students may previously have had (i.e., telling them “exactly what to do”).

Currie-Knight’s journals also reflect this type of concern from some students. He noted that during the weeks running up to, and even during, the first of the three projects, students often discussed with the professor ideas for projects in a way in which the students seemed to be probing for “what the professor is looking for.” In one journal (during the week before the start of Project 1), Currie-Knight reflected on these types of conversations with students:

In all of these cases, though, students seemed to be looking for my approval of their ideas, which is totally understandable. (In fact, in my second section, one student talked about an idea for his project and asked something about “what information you would want to see”).

The second thing to note about the concerns over perceived lack of structure is that they are as much about that perception of the course as they are concerns over an individual learner’s capability to navigate the course. In other words, the comments both reflect a concern over the course’s lack of structure and a worry about how this will affect the perceiver’s ability to experience success in the course. “[In previous courses.] I knew exactly what was expected out of me.” “[The difficulty was in] just trying to figure out how I would manage my time, how to come up with creative projects.” These concerns are about perceived lack of course structure but also about how that will affect the student’s own abilities to navigate the course.
What Mitigated This Concern?

Since gauging how students acclimated to this SDL-centered course was not the purpose of the study or focus group interviews, the interviewers did not generally ask students who expressed concerns about acclimation specific follow-up questions about how (or if) these concerns were overcome. Some students briefly mentioned how they overcame their reported reluctances. More often, the students incidentally mention in other parts of the interview what lessened their reluctances; thus, we inferred a causal relationship between the expressed reluctance and the mention of what made them feel at ease.

Accumulated experience with self-directed projects. Several students who reported concern over a perceived lack of structure went on to mention feeling more at ease after the first of the three self-directed projects. One student in particular reported feeling more assured when the professor confirmed to the class that Project 1 is, indeed, the hardest of the three (because presumably students likely had never done anything like this before).

As Dr. Currie-Knight said after the first project, it was like, “okay I got it.” So I was like okay I can do this, it wasn’t as difficult.

Even though the professor gave this assurance even before the start of Project 1, this student still reported feelings of anxiety over the perceived lack of structure throughout Project 1.

Another student voiced a similar message about feeling less anxiety after the completion of Project 1. During a focus group interview when asked if there was anything the professor could or should do differently, the student answered as follows:

So at first maybe he might be a little too hands-off but then once I got into my first project and into the Socratic seminars I was like okay he is very much taking a step back and at the same time was always available as a resource.

Currie-Knight’s journals corroborate the idea that the more experience students have doing self-directed projects within the course, the less anxious and the more confident they (appear to) get regarding navigating the self-directed projects.

The act of choosing a project. Other students’ concerns over perceived lack of structure seemed simply to lessen once they decided on their initial ideas for Project 1. During a recorded discussion with Currie-Knight (toward the end of Project 1), one student who had previously expressed such concerns explained the following:

I think it’s just I’m mostly used to professors just giving us the content and us just being like “Okay,” researching it. I feel like . . . there is no direction, nothing to narrow my focus, my brain is kind of scrambled. It’s like, “Okay, what am I interested in?” I’ll say a lot of aspects of teaching because I want to
be a teacher. But, kind of narrowing it down and condensing it to something that other people can learn from so it’s important, and valid, and helpful. That was kind of overwhelming at first, but now that I have a general idea, now that I have narrowed my focus, I forced myself to pick something, I’m so excited.

Like other students, this student reported the design of Project 1 to be difficult (“overwhelming at first”) but once the student “forced [herself] to pick something,” much of the anxiety dissipated (“I’m so excited.”). In fact, in a subsequent interview with the professor, the student reported feeling a surprisingly deep connection with the subject she chose to research (i.e., poverty and how it can affect students’ learning) and that this significantly quelled her anxiety.

Another student in a reflective assignment looking back on student accomplishments during the course, reported a similar transition from anxiety to excitement after choosing a topic idea for Project 1:

It was open-ended sometimes especially for Project 1 [and] it took me a very long time to finally settle on an idea and a topic so having just a little bit more boundaries probably would have helped me because I am so Type A and would be like “What am I doing?” I like having everything written out so having this open-ended ambiguous structure to me was like I had no idea what I am doing and freaking out a little bit. But once I got into it I was fine.

From recorded discussions during Project 1 with the professor, this student reported some anxieties after choosing her topic for Project 1, but the anxieties became much smaller about planning the specifics of a known project.

The professor’s presence as an (unobtrusive) resource. Other students reported that the professor’s presence as a reassuring (but not overbearing) resource helped them navigate the SDL projects. When asked in a focus group about student perception of the teacher’s role, one student (who had earlier expressed concern about a perceived lack of structure) reported the following:

I felt he would give me a suggestion and he meant good by it, he meant that it would help improve it and if it was not the way I wanted to go. If I wanted to do this instead he would suggest it. There was no pressure to do what he suggested which was nice.

In Currie-Knight’s journals about the course, he mentioned several times how students (especially before Project 1) would often ask questions about projects with an (apparent) eye toward asking what the professor wants to see in their projects. In the following entry, Currie-Knight wrote about his attempts to strike a balance between being there to allay student anxieties while preserving the self-directed nature of the course:

Several students came to me after class to ask if a particular project was
acceptable. . . . Even though I like students to move away from thinking about whether I think x is appropriate—figuring out what I want to see—I answer these questions, particularly during Project 1. My experience is that this early on, students often just want some reassurance that they are doing “a good” project. After all, this whole experience may well be new to some students. Reassurance helps.

**Trust in the Professor’s Sincerity/Genuineness**

Interestingly, another group of students expressed to researchers an initial concern about the professor’s sincerity or genuineness. Does the professor mean what he says when he tells us we can choose our own projects? Is he just being vague about what he really wants us to do? Will we potentially be penalized for not choosing the right project or doing it the way the professor has in mind but isn’t communicating? Typical focus group comments on this theme include the following:

*I thought there was going to be a catch to it. Like “Okay you did what you wanted to do but oh wait, this is how we are going to go about it.” It was kind of weird which was like “Alright, maybe I should be a little more conservative.”*

*It was scary in the beginning because I didn’t know what he wanted or what anyone wanted and that is what I kept thinking in my mind.*

*It was nerve-racking for the first one [Project 1] because I thought he was joking, I thought it was a trap, he was going to let us do whatever we want and then when we turn it in he would be like “No this is D work.”*

This obstacle to acclimating to a SDL-centered course is slightly different than the previous obstacle of perceived lack of course structure. The concern about perceived lack of structure is a focus on the course itself and the student’s ability to navigate it without certain structures. This different concern expands on the previous concern, focusing more about whether or not (a) the professor is sharing knowledge accurately about what the structure of the course will be, (b) he can be trusted when he says that students have freedom to choose what and how to work, and (c) the professor should be trusted in his motivation for his reliance on SDL.

While only one of the above students mentioned grades as a concern (the concern that “when we turn it in he would be like ‘No this is D work’”), we think it is reasonable to interpret all three of these students’ concerns ultimately as about their ability to do well in the course in terms of grades and earning course credits. When one student says “I thought there was going to be a catch to it,” we think the catch the student is likely referring to is that there may be requirements of the projects—constraints on student choice—that the professor did not inform the student of but could ultimately affect the student’s grade or ability to succeed by the (possibly hidden) standards of the course.
A related expression of distrust came from students who perceived that the self-directed nature of the course reflected the professor’s disinterest in teaching students. Two particular course evaluation comments reflect this distrust. One student evaluator wrote that the course “was overall ineffective in teaching me any new information” and that while the student was creating, doing, and giving feedback on peers’ projects, “I was unsure what my professors [sic] role was.” A different student expressed a similar concern on their course evaluation, noting that “he doesn't do anything while we are constantly coming up with proposals, writing progress reports, working on projects, and evaluating each other.” If a classroom is akin to a contract where the student agrees to do certain work in return for the teacher putting forth efforts in certain ways, these students reported not seeing the professor uphold his side of the bargain.\(^4\)

**What Mitigated This Concern?**

This concern is largely about trusting the professor both to remain true to his word to honor student freedom and to avoid using SDL as a way to avoid interacting with students. There are several ways our research indicates that the professor was able to earn the trust of students who had these concerns.

**Explaining the rationale behind the SDL used in the course.** First, several students mentioned that the professor took care in the beginning of the semester to explain why the course will utilize the SDL approach. Researcher observation and the professor’s journal indicates that the professor would often restress these points at various times during the semester, reminding students of the literature on SDL and its benefits.

Here is how the professor described presenting that information (and why he did it) in his journal:

\[
I \text{ love the first day of this course. It feels like I am letting students in on a journey they were likely not anticipating. We watch a video about the Independent Project (the high school program which I used as the foundation for this course) (Tsai, 2013) under the guise of discussing the elements of learning, motivation, and assessment in the clip. But after the discussion, I get to tell them that the course they are going through here will be structured to resemble elements of IP. I get to - if I do it right - whet their appetites for self-directed learning, and get them to think of all the things they might be able to choose for projects in this class. I also get to “justify” and explain why we do}
\]

\(^4\)It may be useful to note that these course evaluation comments occurred in the Spring of 2017, the first semester the professor put into practice this SDL-centered iteration of the course, and a semester before this study was initiated. Subsequent professor journals suggest that, at this early stage, the professor was somewhat unsure what his role in the course (during class time) was, and there were often times when he would finish conferencing with students before class was over at which time he would return to his desk and do other work. The professor’s lack of clarity in his role could have affected student perceptions of his role. In subsequent semesters, the professor had more clarity about his role and mindfulness in telling the students what he believed his role was. Since the Spring of 2017, there have been no student evaluation or other comments from students expressing confusion about the role of the professor.
the course this way, just the first of many attempts I make in the course to create “buy in.”

Currie-Knight went on to describe how he did not introduce the use of SDL to students in this way when he created the SDL-focused iteration of the course. Based on student comments about which the professor stated that “a few students indicated [via course evaluations] that they were either confused about what was learned in the course or about the point of the course,” he decided to include an explanation and justification of SDL to students on the first day. After talking with fellow educators who have used SDL methods, he decided that

I might alleviate some of that [confusion] by spending some time getting students to think about self-directed learning, its benefits and potential pitfalls, and explaining to students why I structure the course this way.

We believe that engaging in these explanations was a useful way to allay student concerns about the professor’s motives for engaging in SDL (as well as concerns students have about whether SDL will work). Student reports in focus groups confirmed this:

At first when he laid everything out and I am like “There is an instructor, and this is how it’s got to be” and I am just thinking it’s not going to work because it was unfamiliar territory. But then once we got into it and the explanation of how things worked and basically we were responsible for ourselves to get things done and do research, I would be like “Okay this works, I actually like the class.”

I thought he gave us a lot of outside information about why am I [sic] doing the class this way and running the class this way. . . . I love when he tells us that he has put thought into the structure.

Our research also shows that the professor was able to allay fears about potential departures from his promise of student freedom by remaining consistent to that promise over time. This occurred both when he honored students’ assessment (and grade) of their work as promised, but also in the way he phrased suggestions (as suggestions rather than mandates or manipulations) to students.

Students, for instance, mentioned that their reluctance about whether the professor would honor his word about student freedom lessened over time when these reluctances proved unfounded. To illustrate, here are the full comments of two excerpts from focus groups quoted above by initially reluctant students:

I thought there was going to be a catch to it. Like “Okay you did what you wanted to do but oh wait, this is how we are going to go about it.” It was kind of weird which was like “Alright, maybe I should be a little more conservative” but it wasn’t and I was like “Oh okay.”
I thought he was joking, I thought it was a trap, he was going to let us do whatever we want and then when we turn it in he would be like “No this is D work.” But that didn’t happen and was like “Let me learn some more.”

One researcher (Zambone) participated in a similar in-class conversation among students during “feedback group” day for Project 1 (i.e., when students present their projects to a peer group and take turns giving and receiving peer feedback). One of the participating students had Currie-Knight in a prior course. The researcher asked what the group thought of the project process, and several students expressed reluctance that Currie-Knight would really allow students to evaluate and grade their own projects after the feedback process. The student who had Currie-Knight in a prior course interjected and told the doubting students of her prior experience with Currie-Knight and that, in her experience, he will stand by that promise.

Other students commented in focus groups on the professor’s ability to offer suggestions in ways that allowed students to trust that the suggestions were not mandates or manipulations. Thus, students were able to feel like the professor was there to, and wanted to, help them, but was not trying to control the direction of student projects:

I felt he was in charge of overseeing things, but I never really felt like he inserted his opinion too much into things, which I thought was uncommon because I have had a lot of professors that, if you are doing a project and had a suggestion, they would immediately give a suggestion and you would be obligated to follow it, but I felt that in this class it’s just a suggestion.

I felt he would give me a suggestion and he meant good by it, he meant that it would help improve it, and if it was not the way I wanted to go [I could reject it]. . . . There was no pressure to do what he suggested, which was nice.

He took a back seat and really watched what we were doing and would say “I don’t want to tell you what I am thinking; you tell me yours first and let me guide you,” which was awesome. He was doing work. “I don’t want to taint your idea with my own; I really want you to be yourself in this project.”

He asked in the first project when we were figuring out how the projects all go. In the first project we were explaining to him what our project was about and he’s like “You know it would be really interesting to see this”, and so he would ask questions that were probing and it inspired our second project so those questions that he posed it wasn’t “Are you sure this is what you want to do” but “Well I wonder about this” and was like yeah that is a good point. It was inspiring and encouraging rather than demeaning.

From his journals, the professor provides an example of how he did this (i.e., gave students suggestions and guidance without making these sound like mandates or
It's hard to answer, but at the risk of sounding wishy washy, one element of these projects is that you are sort of creating the requirements for them. That is, do the project the way you think will give you the best practice for whatever it is you are trying to do. The lessons should be as developed as you think they need to be in order for the project to have benefit. (Maybe the best way to think of it is to talk to your CT [Clinical Teacher] and other teachers and get a sense for how developed their lessons tend to be, and try to practice approximating what they do. OR if you really want practice for something more like the EdTPA [Educative Teacher Performance Assessment], where the lessons DO need to be a bit more developed, you can shoot for creating fewer really well developed lessons).

Sorry to sound wishy-washy on that, but really, the bottom line is that you are creating your project the way you want to create it for what you think your needs are. (And also, if you spell out how you want to do these in your proposal and I might rather you do it another way, I'll make those suggestions in your proposal feedback, but those would only be suggestions, and I won't mark you down for doing the project a different way than I'd want to see it.)

Does that make sense?

Here, the professor provided some clear guidance, advising the student on how the student might choose the lesson plan format he or she might want to write the project in, but makes sure to let the student know that it is the student’s project and the professor wishes the student to choose the lesson format that he or she will derive the most benefit from. In light of student comments to researchers, we believe that this approach allayed student concerns by both reminding students that the professor’s suggestions need not be taken while also being helpful to students in offering suggestions.

Here, we notice a potential tension in the roles the professor might play in a SDL course that contribute to successful student acclimation. On one hand, we have seen that one source of student reluctance is the perceived lack of structure and guidance provided by the professor. Here, it is useful for the professor to be available and helpful to those who feel they would like structure and guidance; the professor, in other words, should do more than allow (or demand) student freedom but be there to guide students who may request help. On the other hand, another perceived obstacle to acclimation in a SDL course comes from not trusting that the professor is sincere in allowing students to direct themselves. In this case, it is useful for students to know that the professor can be trusted not to override student choice and allow students a wide latitude to direct their own individual learning.
These are not strictly incompatible demands as the two can coexist. But there is a possible tension here in that the professor alleviates some obstacles to acclimation to SDL by providing guidance and assistance to students who would like help establishing structure but alleviate other obstacles to acclimation by refraining from not being seen as directing students in ways that undermine the self-directed nature of the course. The middle ground between these points appears to be (a) that the professor will respond differently to different students based on the professor’s sense of each student’s want of guidance, and (b) whenever the professor does offer guidance and help establish structure, it is important that this guidance be carefully framed as a suggestion rather than an imposition.

Conclusion

The results of our research show that from students’ perspectives there are two main obstacles to acclimating to a SDL-focused college course. First, students reported being used to (and maybe, in a way, reliant on) courses having detailed structure that SDL often lacks. This is not simply a concern about lack of structure compared to what students are used to, but a concern over whether or not students believe they can successfully navigate a course with less structure than they are used to. Our data suggest that in this particular course, the concern was allayed in a few ways. As the course allowed students to engage in three consecutive self-directed projects, the first project was reported by students to be the one during which they experienced the most anxiety, and this anxiety faded during or after the first project. Often, students reported that while choosing what and how to do the first project was a worrisome task, the worry transitioned to excitement once the project was selected. Lastly, students pointed to feeling at ease when they saw the professor helping them through their projects. While the professor made suggestions unobtrusively, students reported that they felt support from the professor allayed their concerns about lack of course structure.

Secondly, students expressed concerns around trusting the professor: Will the professor promise students their freedom but then fail to articulate expectations that he will later hold students to? Is the professor engaging in SDL out of a desire to not interact with students? This concern seemed to be allayed in three ways. First, the professor spent time during the first week of class (and at various times throughout the course) explaining the rationale for the course, which students reported made them feel more secure in the professor’s motives and methods. Also, students reported that the professor was able to give students support and advice during class time in a way that was consciously communicated (and perceived by them) to be suggestive but not compulsory. In other words, their concerns were allayed both by their ability to receive feedback and suggestions from the professor as well as from their perceptions (consciously conveyed by the professor) that the suggestions were consistent with his desire to maintain student freedom.

These data were collected across many sections of the same course. As such, there are limitations to the generalizability of the results. However, even though the results we have reviewed may be specific to the details of the particular course they
were generated from, we believe that these results may be of use to professors who are using, or are considering using, SDL principles in their courses.

References


Tsai, C. (2013, February 13). If students designed their own schools [video file]. Retrieved from https://www.youtube.com/watch?v=RElUmGI5gLc&t=751s


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