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Preface

> Development of capabilities for self-directedness enables individuals not only to continue their intellectual growth beyond their formal education but to advance the nature and quality of their life pursuits. Changing realities are placing a premium on the capability for self-directed learning throughout the life span. The rapid pace of technological change and the accelerated growth of knowledge require continual upgrading of competencies if people are to survive and prosper…. Self-development with age partly determines whether the expanded life span is lived self-fulfillingly or apathetically. (Albert Bandura, 1997, *Self-Efficacy: The Exercise of Control*, p. 227)

Formal education has the duty to prepare its students for a life after graduation, and this preparation must encompass the development of self-directedness in learning. The notion that a student will learn all that is necessary in formal education to be considered educated and prepared for an ever lengthening life span with ever increasing information is at best archaic (although it would be interesting to discuss the degree to which it ever was true!).

In the first article in this issue, Kranzow and Hyland approach self-directed learning as a "critical competency" within higher education and conducted a mixed method explanatory study designed to examine whether or not a curricular intervention could affect this competency among graduate students. Quantitative and qualitative findings provide support for the intervention's effectiveness.

The second article by Beese and Watson presents a homeschooling case study of a mother and daughter in which the development of learner self-directedness was an "aim the mother had articulated as a principal desired educational outcome." This analysis of 12 years of homeschooling provides developmental processes before, during, and after the daughter's transition to a self-directed learner.

In the third article, Woodilla and Stork present the findings of their autoethnographies in which they analyzed their personal narratives as "third age" (adults aged 50 to 75) learners engaging in the formal study of fields disparate from their previous (and extensive) academic work. This new direction in their education caused them to experience a "learning jolt" in which they responded by continuing their development as learners.

These articles support the premise that education has a crucial role to fulfill not just in *facilitating learning* but rather in *developing learners*. It is certainly my hope that this premise will transition into a promise. I thank the authors for sharing their work.

Michael K. Ponton, 2016 Guest Editor

International Journal of Self-Directed Learning

CONTENTS

SELF-DIRECTED LEARNING: DEVELOPING READINESS IN GRADUATE STUDENTS

Jeannine Kranzow and Nancy Hyland

Self-directed learning, characterized by learner autonomy, critical reflection, and student engagement, is presented as a competency for higher education, and the impact of this concept on curriculum is discussed. This mixed method explanatory study examined the impact of intentional curriculum focusing on self-directed learning, including attendance at a self-directed learning conference. Guglielmino's Self-Directed Learning Readiness Scale was given to graduate students at the beginning and end of the term, and pre and posttest scores were compared. The qualitative data were derived from six interviews conducted at the end of the course. Both quantitative and qualitative results indicate the potential of intentional curriculum to impact self-directed readiness and competence.

Keywords: self-directed learning, graduate students, competency, higher education, curriculum planning, adult learning

Many scholars understand the importance of self-directed learning (SDL) for adult learners, yet not all learners realize their potential to be self-directed. This article examines whether a course exposing graduate students to the educational principles of self-directed learning, including attendance at a self-directed learning conference, has the ability to increase self-directed learning readiness. Pre and posttest scores on the Self-Directed Learning Readiness Scale (SDLRS) (Guglielmino, 1977) will be reviewed, and student feedback about their perceived growth or stability in the area will also be discussed.

The purpose of this mixed method explanatory study was to determine whether exposure to the concepts of self-directed learning through both course content and a conference on the topic of self-directed learning could lead to increased self-directed learning readiness according to the SDLRS. We were hopeful that scores on the SDLRS would increase but hypothesized that a statistically significant change would not occur in scores over a short period (i.e., one semester) of time. Further, through interviews with graduate students, we sought to better understand the effects of exposure to and engagement with self-directed learning on students taking a course focused on the topic of self-directed learning. Results from this study will further the understanding of the impact of intentional SDL curriculum.

Literature Review

Historical Considerations

Knowles' (1975) book on self-directed learning popularized the concept and brought increased awareness to its importance for adult learners. Scholars such as Guglielmino (1977) began to develop instruments to empirically identify the capacity of a learner to be self-directed. In subsequent years, research conducted by numerous others continued to explore a vigorous dialogue on various aspects of self-directed learning (Brockett & Heimstra, 1985: Brookfield, 1986: Caffarella & O'Donnell, 1987; Candy, 1991; Garrison, 1992; Grow, 1994; Hiemstra, 1980; Long, 1996; Mezirow, 1981; Oddi, 1986).

Various definitions of self-directed learning have been presented in the literature, but Candy (1991) reminded us that within the myriad of definitions SDL is viewed as both a process and an outcome. As a process it includes the degree of learner control and auotdidaxy. As an outcome it includes self-management and self-determination.

The dialogue on the topic of SDL has been maintained and extended through the annual International Symposium on Self-Directed Learning that was established by Long in 1987. Central to the discussion is the continuing recognition that a satisfactory theory of self-directed learning has yet to emerge. Absence of this theory has not been due to a lack of effort as scholars worldwide continue to grapple with the complexity of theorizing self-directed learning. Both Brookfield (1986) and Hiemstra (1994) noted the urgent need for a theory to underpin the plethora of research and scholarship. "Controversies and misconceptions about the definition and dimensions of SDL continue to arise" (Kerka, 1999, p. 1) mostly due to this lack of theory.

Although there certainly is confusion, some commonalities in the above works on self-directed learning can be identified. The need for learner ownership, autonomy, critical reflection, learner-directed experiences, shift in power from teacher to learner, and student engagement are all commonly recognized. Both Thiel (1984) and Brookfield (1981) emphasized action, a product of critical reflection, as an essential determinant of self-directed learners.

In recent years, consideration has been given to how SDL is, or might be, utilized and integrated in wider, global contexts. A commitment of the European Commission to continue making Europe a lifelong learning area with a focus on formal and informal learning suggests an opportunity to embrace SDL as an integral part of economic and social success (Altbach, Reisberg, & Rumbley, 2009),

Other considerations include culture and ways that cultures might impact the adoption of SDL as a priority (Frambach, Driessen, Chan, & van der Vleuten, 2012). For example, in China, can SDL serve learners who by experience the world through a lens of hierarchy? Perhaps central to this discussion is our ability to understand that globalization and standardization do not have to mean that one size fits all but rather that SDL has within its composition the capacity to respond to each learner within his or her own context and values (Frambach et al., 2012).

Nowhere has the need to respond to context been more pervasive than in the development of online learning systems. The most common challenge to SDL in this environment has been the need "to distinguish between adaptive system and adaptable system with the aim to optimize learner direction and learner control" (Lee, Barker, & Vivekanandan, 2016, p. 232). It is possible that within the tenets of SDL resides the learning mediation to attend to the varying demands of cross-cultural realities. It appears essential, however, that effort is needed to ensure appropriate pedagogical considerations including not simply the basic curriculum but more significant changes to pedagogy, philosophy, and consideration for individualizing learning objectives if the SDL is to be realized in any context (Du, 2012).

Need for SDL in the 21st Century

Although the dominant discourse on self-directed learning has come from the fields of adult education, higher education, and psychology, in more recent years, the SDL discussions have come not only from those perspectives but also from many other arenas including business, leadership, human resources, library sciences, and medicine. This interest by varied global scholars across multiple fields suggests that the discourse on SDL is more imperative than ever.

In the face of new generations of learners with ever-broadening demands on their learning, faculty desiring to equip their students with tools that will serve them in a world driven by global competition will have to invoke structural change in their pedagogy (Fein, 2014; Hyland & Kranzow, 2011). Understanding that the curriculum will become a vehicle for this reinvention is essential. Dynan, Cate, and Rhee (2008) were clear in their charge to faculty to develop SDL in their students. Motivating adult learners to become continuous lifelong learners is of equal concern in both traditional and online environments since students generally enter similar work environments regardless of the delivery method they selected to pursue their education. Pedagogical changes will therefore be necessary in all types of educational content delivery methods in order to maximize the potential for self-directed learners and graduates (Fein, 2014). Self-directed learners are best assisted when pedagogy fosters and supports student desire for SDL through assignments and coursework that encourages critical thought and engages them in a variety of ways (Chu & Tsai, 2009).

Dweck, Walton, and Cohen (2014) asserted that students must want to learn and should be more interested in knowledge to assist them in their futures than in their performance inside the classroom. Deeply concerning to many educators is that the opposite appears to be true in the 21st century. "Students are more interested in whether they look smart or dumb than they are in acquiring the knowledge they need to succeed in the future" (Dweck et al., p. 9). Students in higher education learning environments will be better prepared for the future when they become self-directed learners, motivated more by learning than performance (Fein, 2014).

Our position, informed by the phenomenon of massification that "includes greater social mobility for a growing segment of the population, new patterns for funding higher education, increasingly diversified higher education systems,…and a

lowering of academic standards," (Altbach et al., 2009, p. 1) is in keeping with Knowles (1975) who asserted the following:

> The why of self-directed learning is survival—your own survival as an individual, and also the survival of the human race. Clearly, we are not talking here about something that would be nice or desirable…. We are talking about a basic human competence—the ability to learn on one's own—that has suddenly become a prerequisite for living in this new world. (pp. 16-17)

Knowles (1975), Guglielmino (2008), and Altbach et al. (2009) fully recognized the centrality of self-directed learning to survival in this changing world. We agree with this sentiment and further suggest that SDL be considered a critical competency. This perspective on self-directed learning—the perspective that it is a competency more than simply something important—is almost never referred to in the literature, but it is a perspective that motivated us to seek ways to develop SDL readiness in all graduate students.

While a complete discussion on competency is beyond the scope of this article, Rodriguez, Patel, Bright, Gregory, and Gowing (2002) defined competency "as *a measurable pattern of knowledge, skill, abilities, behaviors, and other characteristics that an individual needs to perform work roles or occupational functions successfully*" (p. 310). In an attempt to make meaning of competence in a higher education and self-directed learning context, we suggest the following model that indicates a continuum of competence. We have maintained the use of the term skills (S), but where others have used the terms knowledge and abilities, we have used the terms domains of understanding (D) and learning readiness (L) respectively. The terms were changed in order to provide an acronym (SDL) that is reflective of both the self-directed and competency literature (see Figure 1).

Failure to recognize SDL as a 21st century competency means that higher education institutions could consider it optional. We fear that institutional failure to attend to the needed competency of SDL may mean operating in much the same way they have been operating. The critique of inadequate attention to the demands of a worker immersed in an ever-changing, unpredictable, aggressive world will sadly become increasingly the mantra of tradition. Continuing to support only SDL discourse (and not view it as a competency) could jeopardize the potential of higher education institutions to help meet the challenges of the global environment in which the explosion of information technology is unprecedented. Such dismissal could render U.S. institutions of higher education less than effective in achieving their mission of teaching, research, and service. The impact of this national dilemma, however, runs even deeper. Although previously muttered in limited circles, the quintessential question of the value of higher education has been given a public voice that is asking whether higher education is worth the time and money invested. If higher education is to continue to be a leader in the learning arena, bridging the current gap between institutional goals and the expectations of not only the workplace but also civil society will require significant attention (Fein, 2014). It is this premise that motivated us to conduct this study.
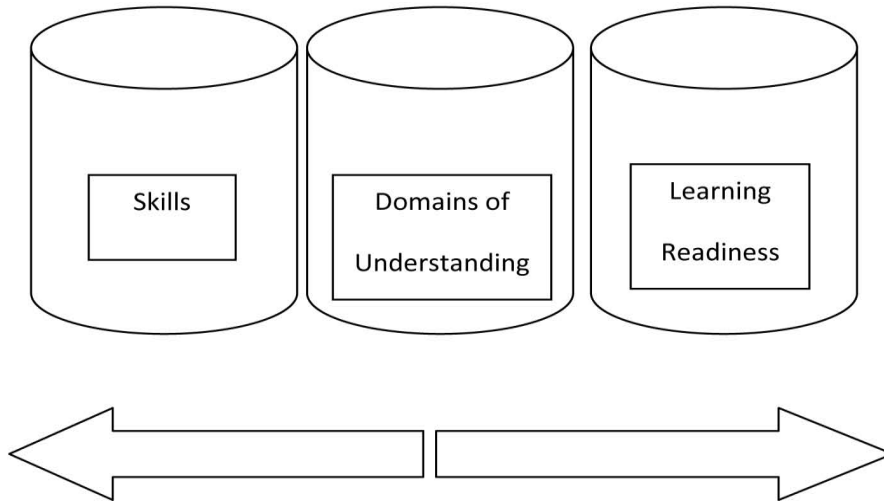
Figure 1. SDL continuum of competence.

SDL as Critical in Higher Education

Our belief that SDL is not simply an important skill but a critical competency is what motivated this study. The purpose of this work was stated early in this article, but a more thorough discussion here of how that purpose was arrived upon seems useful in helping the reader understand the methods used and ultimately to make sense of the findings and implications.

Operating from a constructivist pedagogical framework, we embarked on a self-directed learning curriculum research project as we sought ways to develop SDL readiness in all graduate students enrolled in our courses. The research project began with one question: Can a course about self-directed learning, including attendance at a self-directed learning conference, increase the self-directed learning readiness of graduate students? In other words, can intentional SDL pedagogy help students become SDL ready and achieve competence in SDL? According to Dweck (2009), it is possible to teach students that "intelligence can be developed" (p. 9) such that students can show increased active learning and critical thinking. We believe that students can develop and grow in their ability to be self-directed through various educational methods and sought to better understand which methods and pedagogies might be most beneficial.

Cultivating SDL Competence

According to Cranton (1994), "Brookfield does maintain the view that fostering and encouraging self-directed learning is the adult educator's responsibility" (p. 729). That is one perspective; however, we posit that if this competency of self-directed learning is

to underpin higher education curriculum development, then the underlying assumption must address the reliance on faculty and instructional designers as curriculum designers who are committed to cultivating student self-direction through their use of pedagogy. This appears to be essential because at its core self-directed learning changes the balance of power in the classroom (Cranton, 1994; Kranzow & Hyland, 2009). This change in the balance of power necessitates a reframing of the role of faculty and curriculum. Bertrand (2010) recognized that

> researchers working on the rapidly developing sciences of pedagogy and instructional design are clear that improved learning outcomes take place in a more mentor-like environment that allows the student to experiment, fail, be guided to the right path and subsequently learn to master a subject or process. (p. 111)

Other research has stressed the importance of new pedagogical models in this fast-paced, global environment (Bertrand, 2010; Fein, 2014; Prensky, 2001), and scholars (Chu & Tsai, 2009; Dynan et al., 2008; Kranzow & Hyland, 2009) have examined ways to successfully integrate self-directed learning into curriculum design. The methods used in this study seek to further the understanding of the relationship between pedagogy and SDL competence.

Method

We employed a mixed method explanatory approach (Creswell, Plano Clark, Gutmann, & Hanson, 2003) to determine whether exposure to the concepts of self-directed learning through intentional curriculum can lead to increased self-directed learning readiness according to the Self Directed Learning Readiness Scale (SDLRS). Student interviews garnered further insight.

Population and Sample

All 33 graduate educational leadership students attending any of four sections of a hybrid/blended course focused on the topic of self-directed learning during the Spring 2011 term were asked to participate in the study. Thirty originally chose to participate although only 24 completed both the pre and post administration of the SDLRS. Females were the majority, comprising 75% of the sample. This is consistent with the population of the students in the program with 77.5% being female.

Instrumentation and Procedures

Institutional permission was sought and granted to proceed with the study. Prior to any course content being presented, students were provided with access to the electronic administration of the SDLRS in order to establish a baseline of self-directed learning readiness for each student participating. Students not wanting to take the assessment were permitted to do so without any consequences. At the conclusion of the course,

students were again provided with access to the electronic version of the SDLRS in order for a comparison to be made for pre and posttests.

Although there is debate on the reliability and validity of the SDLRS (Field, 1991; Long & Agyekum, 1983), it is the most widely used instrument of its type. The availability, ease of access, and use were sufficient determinants for its use at this time. Furthermore, because it has been used extensively, a comparison of student results (compared to other populations) becomes possible. The instrument, as an initiator of reflection and discussion, served the purpose for which it was intended within the SDL curriculum. SDLRS data were analyzed using SPSS. A paired t test with pre and posttest scores was run to determine whether a statistically significant gain at the .05 level in the mean score from the pre to posttest could be found.

Recognizing that a small sample size was not ideal in a quantitative study (but limited to participants who participated in the course), qualitative research was also gathered from students who participated in the course to enable the researchers to better understand the effectiveness of the curricular intervention to the students' perceived growth in self-directed learning readiness and competence. Interviews were conducted after the conclusion of the course, after grades had been assigned. For the qualitative research component, all students who completed in the course were invited to share their experiences with the instructors (authors). Six students volunteered to discuss their experiences.

Interviews lasted between an hour and an hour and a half. The overarching invitation "Talk to us about your self-directed learning in this course" provided an opportunity for students to discuss and reflect on their experiences within a semistructured interview format (Creswell, 2009). Some inquiries included the following:

- Can you speak to your working understanding of SDL (before and after the course)?
- Can you speak to your perception of yourself as a SD learner at the beginning (and at the end) of the course?
- At any point, did your interest in the course take on a self-directed learning focus?
- Can you speak to the impact on coursework and learning since taking the course?
- Did having a broader understanding of SDL change your interactions with faculty and or peers?
- Did it change how you saw yourself as a learner?

Thematic analysis of the interviews informed the qualitative findings. Member checking also took place in order to strengthen the trustworthiness of the data (Creswell, 2009).

Findings and Discussion

Quantitative Analysis

The average adult score on the SDLRS is 214 (Guglielmino & Guglielmino, n.d.). The majority of students in the study sample scored in the above average category of Learning Readiness on the SDLRS pretest and posttest with a mean score of 239.79. Only five of the participants that completed both pre and post assessments scored in the average range initially, and three of those five scored in the above average category when taking the subsequent SDLRS. A Pearson product moment analysis was used to relate the pre and posttest scores and revealed a statistically significant correlation ($r = .758$, $p < .001$). Pre and post SDLRS mean scores were then compared using a paired t test. Upon analysis, there was a statistically significant gain at the .05 level in the mean score from the pre to posttest ($p < .001$). Results of the paired t test are indicated below in Tables 1-3.

While results indicated statistical significance, practical significance was also considered. With the relatively low number of participants, it seemed prudent to calculate the effect size. Dividing the difference of the two means by the standard deviation of paired differences yields a Cohen's d of 1.537, which is considered a large effect size. Also worth noting is that every student who completed both the pre and post SDLRS assessment showed some degree of gain in SDL learning readiness.

Table 1. *Means Comparison Pretest & Posttest on SDLRS*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Posttest	258.667	24	17.953	3.665
	Pretest	239.792	24	17.283	3.528

Table 2. *Correlations of Pretest and Posttest on SDLRS*

	N	Correlation	Sig.
Pair 1 Posttest and Pretest	24	.758	.000

Table 3. *Paired Sample T Test of Pretest and Posttest SDLRS Scores*

				95% Confidence Interval of the Difference				Sig. (2-tailed)
		Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
	Mean							
Pair 1 Posttest-Pretest	18.875	12.277	2.506	13.691	24.059	7.532	23	.000

Qualitative Analysis

The qualitative data revealed some commonalities. Of all the questions we discussed, the students seemed to focus on two primary areas: their personal progression in perspective transformation stemming from engagement with critical thinking and the impact of SDL on their professional learning and work lives. In discussing the interview findings, pseudonyms are used throughout.

Understanding of SDL. All six students interviewed indicated that they perceived themselves as self-directed learners; yet, this perception in and of itself was incomplete. Further investigation revealed a perception paradox. Although they initially described themselves as self-directed (even prior to the course and SDL conference), students continually expressed their (prior) lack of understanding of the complexity and basic application of SDL. While engaging in this discourse, they consistently attributed the intentional nature of the SDL curriculum to integrate process and product as the springboard for their critical reflection on their initial perception. We found, however, that these critical reflections did not lead to the inward discussion of self and SDL but instead focused on the outward evidence found in their professional practice.

Professional application. Whether the student was engaged in education or social work, each recognized the impact that self-directed learning could hold for others in their work environment, be that counseling, teaching or administration. As Mary stated, "students and employees get used to participating, but they are not accustomed to owning situations, and they really just have to own them." The immediacy of the change in each one's practice was encouraging. They returned to the workplace with new perspectives grounded in SDL, and as Rebecca stated, "it was a complete paradigm shift for me." Based on their personal encounter with autonomy for their learning through the SDL course, Peter, Martin, Shannon, Mary, and Kathryn each felt compelled by the experience to share that empowerment with others. Kathryn, a college faculty member, spoke of the experience as changing her perspective on her teaching role. Viewing her role as that of facilitator more than one who transmits information,

she stated that "teaching them [her students] to be more self-directed is a lifelong gift." Mary, a classroom teacher, spoke of "pride and the power of ownership" that comes from SDL.

Whether their increased knowledge and exposure to SDL translated into a revised approach to classroom teaching, professional development, a new strategy for dealing with clients, or a more focused approach to the change process, the common theme of relevancy threaded each interview. Peter spoke of his excitement when he realized that SDL was being applied in Africa and France as well as the U.S. "I can use this" he said as he reflected on how he began to consider the ways in which it could be applied to improve counseling and support for substance abusers. The fabric of their professional practice had become interlaced with the threads of SDL. As students' awareness of self-directed learning expanded, the tendency was that they realized it applied to just about any area of life. This realization brought the discussion full circle and back to SDL and self; self and autonomy; self and responsibility; and ultimately to leadership in one's personal and professional life.

Leadership/professional impact. As Peter said, "students limit themselves to traditional learning. SDL creates leaders. That's what has happened to me." After their own learning and experiences in the course, our students found themselves encouraging others to connect to ownership in a variety of situations. One such example comes from Rebecca, who after reflecting on her own SDL experience came to understand that she could give information, provide training, and deliver data, but until other individuals owned the process, there would be no significant change possible. This awareness motivated this same administrator to share a self-directed learning article with her staff during professional development. Although she commented that this was a positive first step towards empowering others, upon further reflection, she recognized that reflection itself needed to be incorporated into the professional development in order to maximize the learning that took place. "I wish I had done a reflective piece on it" stated Rebecca.

Martin, a college dean with a terminal, professional degree who is now earning a doctoral degree in education, spoke to the question he asked himself, "How can this be used as a tool for teaching?" His answer was, "in faculty development, curriculum, assessment, and in supporting lifelong learning." Further he said that "without question" his deeper understanding of SDL "impacted his interactions with students because critical thinking and SDL go hand in hand."

While student understanding of SDL, professional application and leadership, and professional impact initially seemed to be separate areas of growth meriting individual attention, further discussion with students revealed their interconnectedness. Students took their knowledge and personal growth into their work environments in a variety of ways, and they noticed that increasing self-direction compelled them to lead others in new ways. Two students specifically mentioned the word power. While the other three did not use that particular language, they seemed to indicate a shift in framework in ways we would both describe as a paradigm shift in terms of power. Peter said, "I get in their way when I set boundaries. I need to share power." Mary pointed out that she was "not reliant on others in the same way that I was before the course."

Implications and Future Research

In this study, pre and posttest scores on the SDLRS indicated that a single semester course in self-directed learning that included participation in a self-directed learning conference had the ability to raise student self-directed learning readiness. Further, all students completing both the pre and post SDLRS showed some gain and the paired *t* test showed increases that were statistically significant. In addition, and perhaps more importantly, qualitative results provided deeper insight into the effects of exposure to and engagement with SDL; namely, intentional curriculum design can be transformative for students. These results suggest that those interested in raising the competency of student self-directed learning should look to curriculum to help increase readiness and competency.

Limitations of this study include the relatively small number of participants who took the SDLRS and who participated in interviews. Further, this was conducted only with graduate students, and we cannot be certain that undergraduate students would demonstrate the same SDL gains. Dynan et al. (2008) have suggested that not all undergraduates are ready for significant SDL work, but they suggested that they could benefit from an earlier intentional SDL curriculum.

Since part of the curriculum involved exposure to the concepts and literature on the topic of SDL, we are unsure whether intentional self-directed learning curriculum without the same exposure to the concepts would elicit the same degree of growth. Perhaps some introduction to self-directed learning concepts would assist students in the transition from other-directed to self-directed pedagogies. Current research on learning indicates that students benefit from explicit instruction in concrete ways (Dweck et al., 2014). Regardless of the discipline area, those wishing to identify SDL as a competency and goal should discuss this transparently with students in the same manner as the subject specific goals.

Future research should include investigation into a few areas. First, future studies should continue to examine the impact of intentional SDL curriculum on student gains in terms of SDL readiness and growth. This was a small study conducted at one institution, and other institutions with other student populations should be researched.

Second, self-directed learning research, specifically in regard to consideration of SDL as a competency, should investigate the alignment between higher education standards and SDL. It is our firm belief that establishing SDL as a competency is in concert with many of the already established standards for higher education (Fein, 2014).

If higher education is successful in the cultivation of self-directed learners, it will have a substantial impact on the learners themselves and those with whom they come in contact. The question becomes can SDL be addressed in our institutions in such a way that students leave more prepared for the work environments and challenges of their global reality?

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DEVELOPMENT OF LEARNER SELF-DIRECTION OVER THE COURSE OF A HOME EDUCATION

Elizabeth Brott Beese and Sunnie Lee Watson

A homeschooling mother and daughter were interviewed to learn how, over the course of 12 years of home education, they planned and managed a student-centered curriculum toward the development of learner "self-direction"—which aim the mother had articulated as a principal desired educational outcome. The resulting case study documents the development of a self-directed learner, over time, within a series of learning environments designed by her home educator. Key findings relevant to the development of student self-direction include the participants' identification of an important scaffolded "transitional" period in the preteen years during which student self-regulation skills were stressed. Also of potential relevance to the development of self-direction was a strong emphasis on the early stimulation of situational interest for academic subjects and the dedicated support of the student's individual interests through the folding of these into the formal curriculum. A seeming discrepancy in the case with Grow's staged model of self-directed development is noted and discussed.

Becoming engaged, "self-directed" learners is a popular modern hope for our students (e.g., NCREL & Metri Group, 2003; Partnership for 21st Century Learning, 2011); however, facilitating the development of such learners is no straightforward task. Successful student self-direction is ultimately a complicated coming-together of factors, including domain-specific self-regulatory skills (Alexander, 1995) and self-determined motivations (Deci & Ryan, 2000) that require development over time such as, according to stage theorist Grow (1991), in a series of roughly four scaffolded stages.

What, then, might a full K-12 education *designed* for developing student self-direction, over time, actually look like? This descriptive case study presents a longitudinal retrospective on what appears to be a successful case of educating for student "self-direction."

The homeschooling parent-and-child pair under study were selected for the mother's identification of "self-direction" as an explicit goal of her homeschooling methods as well as for the self-identification and plausible presentation of the student as a "self-directed" learner. Both mother and daughter described a gradual, scaffolded transition to full learner "self-direction" over the course of many years, hinged around a

"transition" to greater self-regulation in the preteen years and predicated on the stimulation of and support for student individual interests.

Self-direction encompasses a range of related terms and constructs (Hiemstra, 2004). It has notable relationships to other theoretical constructs in the literature such as self-regulation (Zimmerman, 1998) a connection previously noted by Cosnefroy and Carre (2014). It furthermore has connections, we suggest, to the self-determination theory of motivation (Deci, Vallerand, Pelletier, & Ryan, 1991). Both self-regulation and self-determination furthermore have connections to the construct of interest: interest has been theorized to be a factor in domain-specific self-regulation and to be a determinant of self-determined motivation. Finally, "self-direction" is also variously treated as either a desired *outcome* of education or as a distinctive pedagogical *approach* wherein the student maintains profound control over the learning process (Candy, 1991)

In this study, we will principally describe our school-age participant's self-direction in terms of these constructs of self-regulation and self-determination, which are variables that are considered school-age appropriate determinants of future self-directed learning (Lüftenegger et al., 2012). Furthermore, we will principally focus on self-direction as an *outcome*, and we shall consider the contribution of a broad range of potential tools and approaches used by the participants to achieve this outcome, *including but not limited to* pedagogies that give students unusual latitude to choose or direct their own learning activities.

Self-regulation and self-determination cover similar but complementary grounds. While self-regulated learning focuses principally on behavior and cognition—in particular, the skills needed to execute strategic, planful, goal-directed behavior (e.g., Butler & Winne, 1995)—self-determination is a separate but complementary motivational and affective concept, focusing on the *subjective* sense of the *origins* of one's motivation (Deci & Ryan, 2000). We illustrate the difference as follows: one may skillfully self-regulate through the completion of a task, without explicit reward or punishment, and yet experience a dysphoric compulsion in that task which makes it not self-determined (Deci & Ryan, 1987; Ryan, Connell, & Grolnick, 1992). Self-determination theory (SDT) provides a nuanced vocabulary to describe this internal experience of apparently self-regulated behavior by delineating a range of "regulatory styles" from amotivation to extrinsic, introjected, identified, integrated, and "pure" intrinsic motivation (Deci & Ryan, 2000). Self-directed learners, then, according to the working definition we will use in this study, must have mastered a range of self-regulating skills and behaviors and, ideally, sustain healthy motivation styles such as identified and integrated motivation towards their educational pursuits.

How does self-direction develop over time? First, the development of self-*regulation* is thought to be largely a process of internalization wherein the learner internalizes directive language (Luria, 1961; Schunk, 1986; Vygotsky, 1986). Approaches to increasing self-regulation skills in students range from explicit instruction in concrete study skills (e.g., Hofer, Yu, & Pintrich, 1998) to instruction on abstract, domain-independent self-regulatory processes such as task analysis, goal-setting, and strategy selection (e.g., Butler & Winne, 1995). Meanwhile, the development of *self-determined motivation* is pegged less to concrete interventions than

to "autonomy supportive" environments (Williams & Deci, 1996, p. 777). Deci, Eghrari, Patrick, and Leone (1994) claimed that authority figures in autonomy-supportive environments have the following characteristics: "(a) providing meaningful rationale, (b) acknowledging the behaver's perspective, and (c) conveying choice rather than control" (p. 124).

Scholars have noticed underlying themes of *interest* in both the development of self-determination and of self-regulation. Alexander (1995) urged us to consider the role interest plays in self-regulation. Deci (1992) pointed out the relationship between self-determined behavior and authentic interest. Interest development would seem to be profoundly related to the development of both self-regulation and self-determined motivation. How do interests develop over time? Hidi and Renninger (2002) put forward a four-stage developmental model for interests:

> The first phase of interest development is a triggered situational interest. If sustained, this first phase evolves into the second phase, a maintained situational interest. The third phase, which is characterized by an emerging (or less-well developed) individual interest may develop out of the second phase. The third phase of interest development can then lead to the fourth phase, a well-developed individual interest. (p. 112)

Given this study's longitudinal perspective, Grow's (1991) theory of the development of self-direction is particularly elucidating. Grow presented a picture of the *over-time* development of self-direction in specifically *pedagogical contexts*, including four sequential stages: from dependent to interested, involved, and finally self-directed. The theory also matches successive *learning environment designs* with each proposed stage of development: over time, the role of the teacher evolves from authority/coach to motivator/guide, facilitator, and consultant/delegator.

Self-direction takes time to develop, but self-directed aims and approaches are not universal across K-12 education. We rarely get to observe a *comprehensive* program scaffolding through all these suggested stages of self-direction. Certain approaches to homeschooling, then, can provide a unique opportunity to study the intentional development of student self-direction over time.

The homeschooling environment is here presented as a useful venue from which to examine the development of self-direction. Although homeschooling is hardly a monolithic approach (Isenberg, 2007; Kunzman & Gaither, 2013), there is a strong subculture in the homeschooling world, influenced by Holt (1964), that embraces student-centric approaches and aims. Some homeschoolers give students complete control over the curriculum while others purposefully tailor educational activities around the students' interests or entrust students to work through a curriculum at their own pace (Alan & Pattison, 2007; Gray & Riley, 2013). Indeed, student-centricity, to its varying degrees as discussed, is potentially easier to achieve in a homeschooling environment as homeschooling implies a lower ratio of learners-to-facilitators than traditional education and close relational bonds between learner and facilitator. Furthermore, homeschooling's relative freedom from regulation in the United States—sometimes a source of tragic results (Barnett, 2013)—also, on the positive side, makes

it fertile ground for implementing innovative student-centric pedagogies unfettered by many constraints inherent to formal learning institutions.

The case at hand addressed the need for more research on the development of student self-direction, allowing us the opportunity to examine the techniques, factors, and power-dynamics which shaped the participant's self-direction over a course of many years. The purpose of this case study was to describe how a homeschooling parent-and-child pair planned and managed various educational processes over time and in the context of an increasingly "self-directed" education.

Method

Research Questions and Design

Our guiding research questions were the following:

1. How was power shared in the planning and management of this student's education?

2. What strategies, resources, and decision-making factors were used or involved in developing self-direction?

3. What larger apparent patterns were there in the development of self-direction across the course of this student's 12 years of home education?

The research design for this study took the form of a single-case study. Single-case designs, according to Yin (2014), are justified in situations where "unusual" cases can provide access to elusive phenomena or where a longitudinal perspective is desired.

Research Context and Participants

To answer our research questions, we sought participants who valued student "self-direction" but who emphasized academic subjects and provided some degree of structure or scaffolding for their students. The participants were recruited from a closed Facebook group for homeschoolers, which is a group having a large population of "progressive" homeschoolers and unschoolers. The first author solicited to join this closed group and then asked for moderator permission to seek potential participants. A recruitment post asked for potential participants who gave their students significant freedom to self-direct but who did not identify as radical unschoolers.

Of those who volunteered, Kate, the home-educating mother of three girls, and Miranda, her oldest daughter aged 18 at the time of the study, were selected for participation as the only pair matching the desired characteristics. They were chosen for their self-presentation as "eclectic" but not totally "unschooled" homeschoolers and for the student-centered description of their homeschooling—for example, Kate described Miranda as very "self-directed" and called herself a "learning facilitator"—as well as the fact that Miranda was an older student (aged 18) who would be able to give the desired longitudinal narrative of her homeschool experience. Miranda attended a traditional kindergarten, but the family began full-time homeschooling in 1st grade due to a health issue. Deciding that there were academic advantages to homeschooling, they continued.

Data Collection

Data were collected in the form of semistructured interviews, document and picture artifacts, and participant journal entries.

Three interviews were conducted: one interview placed parent and student together and two follow-up interviews were with the student alone. Interviews lasted over an hour each. Interview questions were in the form of a "grand tour" (Spradley, 1979, p. 50), requesting participants to describe the process of how they planned and managed learning activities with follow-up questions echoing general research questions: Who was in charge of doing x or y activity? What types of tools did you use to do x or y activity? What else did you consider when choosing to do x or y?

The student alone recorded a digital participant journal—recording reflective entries of herself "planning for learning"—over the course of the study in order to learn about her current state of self-direction. Preexisting lesson-planning and day-planning documents as well as learning records (i.e., homemade transcripts)—many preserved from the early years of the family's homeschooling experience—were also solicited and collected for analysis.

Data Analysis

A hybrid conventional and directed content analysis approach was applied (Hsieh & Shannon, 2005) with codes drawn both from emergent themes in the text itself as well as preexisting literature and research questions. Initial analysis, using open-coding, revealed that the participants recognized three main "stages" in their homeschooling along the way to self-direction. Interview transcripts were next chunked into excerpts relevant to research questions. A structural coding schema (Saldana, 2013) based on research questions and the self-determination theory literature was developed, and each excerpt was first coded by one of seven educational processes it reflected (including such processes as circumscribing learning goals, selecting learning resources, evaluating progress, etc.); then, by who was the primary regulator of that process (whether it was Kate, Miranda, or "shared/negotiated" as the participants often instead claimed); and, if there was evidence regarding student motivation at that excerpt, by what quality of motivation, if any, was inferable. A final category was created for emergent "strategies, resources, and factors" codes, which included general strategies, considerations, activities, and resources the participants mentioned in conjunction with any given process. A late emergent theme from this latter group included the frequency with which Kate considered Miranda's interest as a factor in selecting resources or strategies. Each excerpt was coded to consensus between the researchers. Overall patterns were searched for in regard to regulation, motivation, resources, strategies, and factors at each process and across each of the three major "stages." After investigating code co-occurrences and conducting reflective memoing, these patterns were synthesized into a series of data display matrices, one for each "stage" to self-direction. Interpretations were member-checked with participants.

Findings

The overarching theme from Kate and Miranda's account regarding the development of self-direction was that Miranda's education underwent a staged *transition* toward self-direction. Both described Miranda's education as broadly divided into stages: the first extending from ages 6 to 10 (before self-direction), the second extending roughly from 10 to 13 (transition to self-direction), and the third (self-direction) afterwards. The hallmark of the first stage was the stimulation of situational interest toward family-valued academic subjects and the support of individual interests by Kate on Miranda's behalf; the hallmark of the second stage was the facilitated development of student self-regulated time-management in standard academic subjects; and the hallmark of the third stage was the pursuit of substantial student-chosen independent projects and studies slightly to the side of the standard curriculum in areas of well-developed individual interest (namely, literature, medicine, and the biological sciences.)

In this section, we first introduce Miranda as she is now: a self-directed learner. We then proceed through her stages towards self-direction chronologically, discussing how power and responsibility was shared between mother and daughter in each stage as well as what strategies, resources, and decision-making factors were used or involved in facilitating self-direction in each stage.

A Self-Directed Learner

Currently a college student studying biological sciences with a special interest in neuroscience, Miranda presents as both self-regulating in academic metacognition and behavior as well as self-determining in academic motivation. Self-determined individuals are said to "endorse" their actions "at the highest order of reflection" (Ryan & Deci, 2006, p. 1562). Miranda's mother shared a story from one of Miranda's freshman classes:

> K: She said something interesting to me.… the professor had asked the students to write about what they would be doing if they could do anything they wanted. She said she considered it and that yes, studying biochem and being where she was, was doing exactly as she wanted.

Furthermore, as a self-regulated learner, Miranda is able to set academic goals, self-monitor, and select strategies accordingly. Major projects she has undertaken include a fantasy novel completed at age 17, now "under perpetual editing," and an independent research study. These large scale project attempts are the clearest evidence of Miranda as a precociously self-regulating learner. It is important to note, however, that she is not without support in these endeavors. Here is the first entry in her participant journal recounting her undertaking of her study:

> M: Initial idea. Germinated collaboratively between me and my mother in back-and-forth discussion as a way to both get experience in scientific research and to introduce myself to professors/fellow students.

Miranda attributed her ability to self-regulate in learning to her unique homeschooling background, especially to the important scaffolded "transition" period of her preteens wherein she assumed responsibility for regulating her progress through learning materials. She attributed her self-determined motivation—her "intrinsic" motivation, in her words—in her favored subject areas to both a narrative of stable personal interests in the medical realm as well as to her acculturation, via homeschooling, into intellectual subjects by a mother who valued them.

Miranda's growth as a self-directed learner occurred in step with her mother's scaffolding and support. Both narrate the process of Miranda's reaching her current stage of self-direction in three stages oriented around a "transition" stage at the center.

"Before" Transition: Stimulating and Supporting Interest in the Academic Subjects

As summarized in Table 1, Miranda's learning environment before the transition was largely regulated by her mother from the selection of goals and resources for learning to the regulation of progress through course materials and the evaluation of readiness to move on. Power was not shared but was wielded lightly. A variety of engaging strategies and resources were used across educational processes to support the development and maintenance of student interest.

Kate's idea of worthy learning goals was circumscribed by state standards, which she purposefully sought as a guide for planning Miranda's education. Kate contrasted her approach both with the so-called "boxed curriculum" approach (in which a homeschooling parent buys a curriculum purporting to cover a certain grade's worth of material) and also with the standard-free approach of goal circumscription known as "unschooling." Kate shopped for textbooks and learning resources that she judged to be both standards-aligned and high quality. These resources, once selected, shaped Kate's learning goals for Miranda: workbooks and chapters became major organizing influences for planning out daily work. Nevertheless, Kate still often mixed, matched, and reframed units especially in art, literature, history, and science around "themes." Kate often mapped these themes out informally for herself on paper, which was a sort of informal learning goal commitment document.

> K: You start with a central concept, and then from it you build in various different directions.… Kind of, pulling all these subjects together: it's history, it's social studies, it's literature, it's science.

These themes seemed to enliven Kate's enthusiasm for her children's work that, in turn, seemed to have enlivened Miranda's enthusiasm.

Kate explicitly stated that her children's engagement and participation in their learning was a leading consideration for her. In response to a question about whether she "assigned" work to her daughter at this age, Kate pushed back at the implied power dynamic in the question:

K: I would say it was much more collaborative. I learned early on I couldn't just say—plop the textbook down and say—"You will do this." …you can't impose information on somebody; it has to be something that they want and desire. It has to be interesting.

Where do you think this belief that you have about learners being interested as being important—where do you think that belief comes from, in yourself?
K: Experience…Obviously, if they were bored, they couldn't learn it. If they were turned off the subject, they weren't interested. It was impossible to have any kind of learning program unless they're engaged; so, it had to be collaborative.

Strategies for fostering such engagement or participation included interspersion of crafts, historical fiction, and events like "tea party poetry studies" of which Miranda had fond memories. Another prominent strategy was the awarding of abstract "bonus points!" which were represented by post-it notes on a wall commemorating individual achievements.

Nevertheless, while Kate clearly tried to maintain Miranda's buy-in with such interest-stimulating strategies, daily regulation of progress through learning goals was managed by Kate. She delivered learning experiences to Miranda individually, providing practice opportunities such as pages of math problems or reading comprehension exercises on a task-by-task basis. Kate believed that not every learning task needed to be entertaining:

K: My goal was to create self-directed learners; somebody who was a lifelong learner, somebody who was interested and engaged in what they wanted to learn about. There wasn't this idea that I needed learning to be entertaining at all times. I said, some things you must have to learn, you just have to know. And they were surprisingly okay with that. Sometimes there was work involved. I mean, there was—say with math…there's nothing entertaining about it other than being able to engage at a higher level than perhaps they had been.

Both Kate and Miranda agreed that Miranda's interest in medicine and the biological sciences was stable from an early age. Kate herself had a preexisting strong interest in medical science and often watched medically-themed shows on educational television channels. Miranda reported watching realistic surgery shows early on with fascination. Her fascination with these shows and themes of anatomy and the biological sciences in general were maintained over time and continued to develop into an individual interest.

Kate additionally facilitated nontextbook-bound and nonstandards-bound learning experiences aligned to Miranda's early-expressed interests in the sciences. Kate had a library full of children's books, and many of them had themes relevant to Miranda's nascent interests, purchased with Miranda in mind. Miranda recalled a coloring book in which a page depicted the human body with its organs, which Kate encouraged Miranda to label in crayon as an exercise relevant to her interests in the

Table 1. *Profile of Management for Learning Processes "Before the Transition" to Student Self-Direction*

Process	Regulator	Strategies and resources used	Factors in choosing strategies, resources	Student motivation evidenced
Circumscribing worthy learning goals	State/ Kate	(Kate) using and guiding off of state scope-and-sequence standards. Seeking out "better" state standards than her state's.	Kate's respect for traditional curriculum, Kate's judgment that state standards were underdeveloped at time.	N/A = Student uninvolved in regulating process/no evidence of motivation for process
Selecting and committing to specific learning goals	Kate/ State/ Chosen curricular materials	Fitting some content into interdisciplinary unit themes; covering other topics with selected textbooks and workbooks. Occasionally creating short-term goals ad hoc by Kate to facilitate Miranda's learning in an area of her interest.	Kate's own natural interests and skills. Kate's understanding of Miranda's identified motivations.	N/A
Selecting learning resources	Kate	Reading online reviews of textbook resources. Keeping abreast of local events/opportunities.	Kate's judgment of "quality," and judgment of ability of resources to "engage" or "interest" Miranda.	N/A
Scheduling for completion of learning goals	Kate/ State	Guiding roughly by state standards for whole grade year. Mostly unhurried schedule progressing based on mastery.	Kate's perception of Miranda's readiness to move on.	N/A
Regulating daily metacognition & behavior in pursuit of learning goals	Kate highly involved in helping Miranda	Overseeing and motivating schoolwork task-by-task and activity-by-activity. Kate generally present or nearby ready to give attention. "Bonus points." Also, using engaging approaches like crafts and stories. Soft power—but avoiding battles of will—in motivating activities like working through math problems.	Kate's belief that Miranda has to be engaged and be interested, to learn, and that negative emotions will negatively affect learning.	Miranda found many of Kate's catered activities in history, science, and literature to be intrinsically motivating, and seemed to demonstrate reasonably self-determined motivation for participating in the extracurricular tasks Kate curated for her based on medical interests.
Evaluating results	Kate	Assessing progress by informally gauging Miranda's "understanding."	Kate's perception of Miranda's understanding. Kate's unhurried/personalizing philosophy of progress.	N/A
Certifying achievement	Kate	Celebrating/formalizing with movies or celebrations. No formal certification; move on in "grade" level at end of each year.	Kate's belief in the usefulness of some extrinsic motivators.	Miranda eagerly participated in "end-of-unit" celebrations and remembers them fondly.

biological sciences; this task being independent of the formal tasks from her textbooks. On trips to the doctor, Kate encouraged Miranda's interest in watching procedures and asking the doctor questions. None of these activities were part of the formal curriculum but were tailored to Miranda's emerging individual interests and stressed by both as being a part of Miranda's "education."

Evaluation of progress was informal at this stage. Kate could only say that they moved on when she felt Miranda "understood" the material. Recognition and certification of achievement was also informal, lacking grade cards. However, Kate often celebrated the successful completion of units with movies, parties, or crafts.

The "Transition": Requiring Academic Self-Regulation

When Miranda's two younger siblings began homeschooling, Kate was less able to provide the type of focused oversight and engagement she had previously provided Miranda. By the time Miranda was 10, a transition was underway with Kate ceding more regulatory control for various educational processes to Miranda. During the "transition" period (see Table 2), we see a shift in power and responsibility at key processes. While goal circumscription remained guided by standards-aligned resources as curated by Kate, Miranda's input was sometimes considered as a factor for selecting books or resources; Miranda recalled that Kate scrapped a social studies curriculum in response to her objections. Strategy-wise, "theme-based" units became less of a focus, replaced by routines of working linearly through various selected learning materials.

The transition is best characterized by a shift of responsibility from Kate to Miranda specifically in the processes of regulating progress through learning goals and evaluating readiness to move on. Miranda had to learn to regulate her own progress through assigned materials whereas previously she had been accustomed to receiving work on a task-by-task basis. Kate remembered that at first she simply gave Miranda books to work through on her own, indicating large-scale goals such as chapters to work through. Miranda volunteered that she at first passively resisted the change to less oversight and more responsibility by neglecting her schoolwork. In response, Kate temporarily increased supervision and explicitly taught self-regulating strategies:

> M: I know that most of my displeasure would be expressed through not doing the stuff, very quickly? So, she would have to kind of come in and try to hold me to a schedule and, like, read through my answers to questions and help me figure out how to be able to answer them without so much fuss. And also, critique and point out how I could find the information I was looking for to answer the question or think about the question, without just sort of sitting there and staring at the question on the page. Actually doing something about what I had forgotten or didn't know, or had not made connection about, yet.

Furthermore, she put scaffolding in place in the form of weekly and daily planning sheets, turning goals like "finish this chapter" into more task-based, time-based goals. Gradually, Kate stopped printing these weekly and daily scaffolding sheets

Table 2. *Profile of Management for Learning Processes "During the Transition" to Student Self-Direction*

Process	Who regulates process	Strategies and resources used	Factors in choosing strategies and resources	Student motivation evidenced
Circumscribing worthy learning goals	State/ Kate	(Kate) using state standards.	Respect for traditional curriculum.	N/A = Student uninvolved in regulating process/no evidence of motivation for process
Selecting and committing to specific learning goals	Kate, with Miranda involved in special cases	Increasingly, choosing goals and subject areas according to Miranda's interests in medicine/biology (e.g., Latin). Also, occasionally, including Miranda in the choice of "extra" subjects (e.g., geography).	Kate and Miranda's narrative of Miranda's interest in medical topics. Miranda's other academic interests. Kate's understanding of necessary subject matter related to that goal.	Miranda attests to intrinsic motivation for pursuing science topics in general as well as demonstrates strong goal-oriented motivation (at least "identified," motivation, according to SDT) for subjects related to medical aspirations.
Selecting learning resources	Kate, with Miranda in special cases	Kate still consulting online reviews. Miranda occasionally choosing non-standard interest-based learning resources to align with standard subjects (i.e., reading in medical encyclopedias for science)	Miranda's expressed engagement with learning resources; Miranda's ability to align non-standard resources with standard subjects.	Miranda's selection of personal goal-aligned resources—i.e., medical encyclopedias, etc.—for her "science" time, evidences strong goal-oriented motivation based on her future possible self as a doctor.
Scheduling for learning goal completion	Kate, passing baton to Miranda	Kate scaffolding Miranda with weekly scheduling sheets and goals. This system fades; next, "goal completion dates" are put in textbook tables of contents to help pace Miranda.	Kate's recognition that Miranda needed clearer signposts if she was to progress; Kate willingness to use extrinsic rewards to motivate progress.	Profound motivational change, over period, from amotivated, to (mostly, it seems) extrinsically motivated to engage in this process by rewards of free time or gifts for finishing.
Regulating daily metacog-nition & behavior towards goal pursuit	Mostly Miranda by end of period, with help as needed from Kate at beginning	At first, after failure to Miranda to self-regulate as "required" of her, Kate goading Miranda to complete plans, and offering strategies. Later, Miranda self-regulating according to self-created schedules and internalized strategies (see above).	Kate's expectation that Miranda needed to self-regulate. Miranda's initial resistance. Miranda's positive response to more formal scheduling benchmarks and expectations.	Profound motivational change from amotivated to introjected or identified; takes pleasure in making her own day-plans by end of period, based on planning method demonstrated by mother earlier in period.
Evaluating results	Miranda and Kate together	Still informal. Miranda now much more involved in judging her readiness to progress. Accountable when ready to demonstrate understanding through textbook-based exercises.	Miranda's growing ability to self-monitor understanding, and increasing responsibility to pace her own progress.	N/A
Certifying achievement	Kate	No formal certification; move onto next "grade level's" materials at the end of each year.	Continuing belief in usefulness of some extrinsic motivators.	Miranda enjoys extrinsic motivators as rewards for finishing textbooks.

and once again simply indicated major goals such as where Miranda "ought to be" in a textbook by a certain time of the year.

In response to this scaffolding, Miranda struggled less and, at one point, voluntarily created her own hand-drawn planning sheets. She took enjoyment in this exercise, creating shorthand abbreviations, color codes, and symbols for herself on these plans. She planned breaks in her day with "easy" or "fun" subjects just after lunch so that she would be motivated to return.

Also, at this point, Miranda began to evaluate and regulate her own progress on the criterion of "understanding." Miranda reflected on this theme as follows:

> M: Like, it wouldn't be, "I do the chapter review and what I didn't do well I simply lost points for and moved on from." It was: okay, why did I not understand this, what can I do to understand it, and how can I improve my understanding. That's the sort of approach and perspective all of my homeschooling took. And I think that's been a very important aspect of my learning and it has actually helped me understand, all of the subjects I've studied. Cause anything that I didn't understand, I worked at until I did get it.

Certification of achievement remained informal. Occasionally, upon completing a textbook (the major milestone of progress at this point), Miranda would receive rewards such as toys or cash.

By the end of this period, Miranda appeared self-regulated in daily goal pursuit and also in scheduling her learning goals. She was regularly planning to finish her textbooks early in the year so that she could enjoy earned incentives such as cash or free time. Even as Miranda frankly discussed her difficulty in being forced into regulating her own progress, she still remembered herself as an engaged learner, recalling, in particular, her "intrinsic" interest in scientific subjects.

Miranda's motivation during this period was far from being of any uniform type. We see amotivation at the beginning with extrinsic motivators leveraged by Kate. We see some degree of potential introjection later on as Miranda began to write her own daily plans. Miranda's increasingly well-developed interests and seemingly self-determined motivations in medicine are apparent in her choice of free reading materials such as a set of medical encyclopedias she often rotated into her school plan for the day. Finally, Kate's regard for Miranda's interests as factors in making decisions about the curriculum is apparent in her selection of whole subjects for Miranda such as her selection of Latin as a useful language for Miranda to study.

After Transition: Supporting Independent Studies and Projects in Areas of Self-Determined Motivation

Miranda dated her debut as a "self-directed" learner to her first experiences as a community college student. With Miranda nearing 14, Kate felt that she was no longer able to support her daughter through post-Algebra I mathematics and lab sciences at home. Rather than attend a local high school, Miranda chose to supplement her home

education with community college classes, an arrangement she felt would grant her more latitude.

At this period of her homeschooling (see Table 3), power was now much more widely distributed. Miranda was now more involved in regulating goal circumscription and definition of learning goals: both directly in her personal pursuit of studies at home and indirectly through selecting classes at community college. In addition to regulating her own progress through prescribed materials, Miranda was now involved with choosing what to learn and how to learn it and through what resources. Still, Miranda often talked of arriving at these learning goals and learning resource decisions together with her parents.

Many classes Miranda took at community college were based on standard college preparatory curricular requirements: biology, chemistry, precalculus, calculus, and physics. However, other community college courses she chose out of the course catalog were influenced mainly by her own increasingly well-defined interests: anatomy and physiology, brain and behavior, sociology, organic chemistry, and biochemistry.

At home, learning goals were increasingly self-set and interest-based. In addition to the 2-3 community college courses she took each year, Miranda still pursued many subjects at home, often working with Kate to choose engaging nonfiction books and lecture series that could be aligned with more subjects like language arts, history, arts, and the nonlab sciences.

As in earlier years, attractive learning resources exerted much influence over the types of learning goals selected. Miranda and Kate both recounted listening to recorded Teaching Company™ lectures together as a highlight of her homeschooling. One nonfiction book Miranda read in 9th grade by Oliver Sacks focused her medical interests specifically on the field of neuroscience; her desire to be a doctor narrowing itself towards a specialty.

Unlike the more standard, college-prep work at community college, Miranda's work at home was highly personalized. As Miranda reached junior and senior years, the "science" portion of her transcript along with listing the college preparatory science courses she took at the community college lists many interest-aligned nonfiction books and recorded lectures on special topics of interest in the sciences: *Understanding the Brain*, a Teaching Company™ lecture course; *Learning from Patients: The Science of Medicine*—a series of HHMI lectures; *Biology and Human Behavior: The Neurological Origins of Individuality*, a Teaching Company™ lecture course; *Clinical Problem Solving*, a Coursera course. Language arts began to focus on instructive texts regarding creative writing as she wrote a fantasy novel.

Regarding the regulation of goal pursuit, Miranda claimed an easy transition to her part-time community college enrollment, an assertion backed up by letters of recommendation for college by early professors. She did not struggle with the responsibility of working through a syllabus on her own for which she credits her earlier preparation in independently following a preordained course of study during the transition phase. At home, routines like beginning every day listening to and discussing a Teaching Company™ lecture series ensured progress through her learning goals. To keep track of a unit's worth of home-learning materials, Miranda and Kate would often

place related books and tapes together in baskets.

Whereas evaluation of home-based subjects remained informal, guided by "understanding" as judged through fluent discussions with her mother and sisters, evaluation at community college included examinations and grades. Miranda contrasted her approach to evaluation with her classmates' approaches, feeling that her classmates were more focused on tests than learning.

Certification for learning at community college was, for the first time in Miranda's education, formal and credit-based. Transcripts for her 4-year college applications were formatted at home, weaving together her community college courses with nonformal home learning experiences and titles of academic resources consumed. Transcripts emphasized the consumption of interest-based resources and completion of interest-based projects, grouping these together with standard courses completed under traditional subject headings. Nonformal learning resources and experiences, which in most high school transcripts would have gone uncertified, were certified and grouped under both traditional and nontraditional (anthropology, neuroscience) headings.

By this point in Miranda's education, she had notable input and seemingly notable regulatory control over most aspects of her learning. In college preparatory subjects, she was entrusted with profound control over progress through the materials. At home, she had significant input into learning goals selected and resources used to satisfy them. Her motivation in many areas appeared strikingly self-determined: she self-regulated towards goals that she associated not just with distal goals erected by others but also with an increasing sense of self as a future medical practitioner. She said of this period:

> *What does that mean to you, that you were more in control of your own goals in your education at that point?*
> M: That means to me at least that by that point I understood what was important about what I was studying. And why I needed to study it. And what my goals should be, I guess? Like, I understood, okay, I do need to get this done…or, this is a good thing to know. And I was able to set my own pace, at which I would achieve these goals. And though my mother was still very involved in that, there [was] a good amount of internal like understanding of where I needed to go.

> *What your understanding was of why these subjects were important and what your own personal use was for them?*
> M: Well, by that point I knew that first of all, some of the things were simply just fascinating on their own. Like for example a lot of studying science was just very interesting to me. And also by that point, like, career goals were starting to solidify. Like, I'd always known I wanted to be a doctor, but what that entailed, and what I needed to do to achieve that…it was like an understanding of how…what path I needed to put myself on, so that I could get where I wanted to go.

Table 3. *Profile of Management for Learning Processes "After the Transition" to Student Self-Direction*

Process	Who regulates process	Strategies and resources used	Factors in choosing strategies and resources	Student motivation evidenced
Circum-scribing worthy learning goals	Kate, community college	(Kate) using knowledge of college prep curriculum.	Kate and Miranda's perception of range of learning goals which will prepare Miranda for college in her chosen area.	N/A = Student uninvolved in regulating process/no evidence of motivation for process
Choosing specific learning goals	Miranda, often with guidance from Kate and community college	Miranda with Kate selecting courses at community college from course catalog; working both inside and outside standard college prep constraints. At home, Miranda choosing major projects (e.g., novel-writing) and topics (e.g., neuroscience).	Miranda's goals; Miranda's sense of readiness to tackle certain classes; Miranda's literary and artistic interests; Miranda's scientific interests; Miranda's increased ability to self-regulate	Miranda claims intrinsic motivation for her path; choices appear self-determined and congruent.
Selecting learning resources	Same as above.	Using books assigned in community college class syllabi; Kate suggesting "engaging" nonfiction and great lecture courses at home. Miranda reading extra books suggested by community college syllabi.	Kate's interests; Miranda's interests; course requirements.	Miranda claims many of these resources—especially Oliver Sacks books and Great Lectures—are intrinsically interesting. Seems to furthermore value them at a personal/identity level, evidence of integrated motivation.
Scheduling for learning goal completion	Miranda, Kate, community college professors	Following standard course schedules (for first time) in community college classes; moving at own pace according to mastery, at home. Miranda and Kate make baskets of books/learning resources representing a unit's worth of work.	Miranda's increasing ability to self-regulate.	Miranda no longer needs extrinsic motivators to keep her moving through materials. Seems to have internalized the motivations or identified with them to some degree.
Regulating daily metacog-nition & behavior towards goal pursuit	Miranda	Miranda regulating her own progress. She uses a planner (Kate introducing Franklin Planners) and to-do lists.	Same as above.	Miranda seems to find enjoyment and meaning in many of her academic studies and requires no prompting to complete them. Possibly fully integrated motivation.
Evaluating results	Community college professors for courses; Miranda at home	For the first time, being evaluated via standard examinations at community college. Meanwhile, at home and with certain subjects (language arts, social studies, extracurricular sciences), Miranda evaluating own progress based on understanding.	Same as above.	Miranda mentions that she is somewhat put off by the fact that her peers seem more motivated by formal evaluations than by learning the material, and seems to contrast herself. Formal evaluations are not major motivators to her.
Certifying achievement	Kate with Miranda at home; community college for courses	Receiving community college credit; Miranda and Kate curating personalized transcript which aligns Miranda's interest-based projects and nonfiction reading with standard subjects.	Requirements of colleges for transcripts; freedom to make own style of transcript.	N/A

Discussion

A single case study such as this one is of course limited in its ability to inform our understanding of how to best develop self-directed learning. Although the implicit argument of this case study is that specific strategies and decisions in Miranda's unique education contributed to her apparent achievement of self-direction (defined as self-regulated behavior and self-determined motivation towards chosen pursuits) and that we can we can extract useful design ideas from it to similarly facilitate the development of self-directed learners, we nevertheless cannot claim that Miranda's self-direction is attributable to her education or specific aspects of her education. Indeed, there are compelling alternative "trait" explanations for the development of Miranda's unusual self-regulation although less so for her apparent self-determination.

Regarding alternative explanations for her development of precocious self-regulation, her academic giftedness as evidenced by her superior performance on the PSAT (she was the recipient of the National Merit Scholar award) as well as her seemingly stable personal trait of conscientiousness attested to by both Miranda and Kate at multiple points would have both independently predicted—though of course not guaranteed—academic self-regulation (Risemberg & Zimmerman, 1992). However, we know that not *all* gifted students achieve precocious academic self-regulation; some portion of "underachieving" gifted students consistently underperform academically due to various factors such as a lack of self-regulatory skills and strategies (Bruns, 1992). Some interventions with underachieving gifted students actually prescribe written goal-keeping types of exercises similar to what Kate prescribed for Miranda at the beginning of her "transition" to self-direction (Morisano & Shore, 2010). Furthermore, gifted students who attend early college programs (possibly comparable to Miranda's early exposure to community college) are most at risk in the areas of time management, self-testing/test preparation, and selecting main ideas from texts (Schumacher, Sayler, & Bembry, 1995). However, these appear to be among the skills that Miranda took *with* her to her community college classes, and her maturity as a self-directed learner was noted by her community college professors. Nevertheless, academic giftedness is thought to possibly aid in sophisticated strategy development (Risemberg & Zimmerman, 1992), so it is debatable whether the activities of Miranda's "transition" were creditable with her precociousness in this area.

Compared to her precocious academic self-regulation, there are fewer competing alternatives to explain the prominence of Miranda's self-determined motivation. Academic giftedness would not seem to logically predict self-determined motivation; indeed, popular writer Deresiewicz (2014) has recently denounced the rise of the high-achieving student who is completely externally-determined, worrying that our schools incentivize students to become "excellent sheep." Compared with the requirements for developing skillful academic self-regulation, the requirements of self-determined motivation are clear: autonomy, competence, and relatedness are the necessary "nutriments" needed for its development. And there is very compelling evidence for the potent presence of all of these "nutriments" in Miranda's education, designed by Kate, who had an implicit theory of the need for self-determination as evidenced by this quotation:

K: Because the learner has to be a participant in things. For example, I remember I was busy once, and I had my husband try and help out with math. And I think it was with my middle daughter. And within about ten minutes he was mad and she was crying, and I said, if she's crying you're not helping! You can't be frustrated, you can't impose information on somebody; it has to be something that they want and desire. You have to make it something that they want and desire. It has to be interesting.

If we assume that Miranda's self-direction, then, is at least partially attributable to aspects of her unique education rather than something that "would have happened anyway," it becomes interesting to examine the prevailing strategies and resources Kate used at each stage as exploratory evidence towards the design of effective long-term programs in developing self-direction. In Kate and Miranda's scheme, there were three stages. The first stage was devoted to the development of basic literacies, the sharing of Kate's interests and enthusiasms with Miranda (triggering situational interests), and the encouragement of Miranda's own maintained and emerging interests. The notable theme of the second stage was the development of self-regulatory and time-management skills. The notable theme of the third stage was preparation for independent projects, studies, and opportunities in Miranda's well-developed areas of interest.

A clear discrepancy which bears discussing is that Miranda and Kate presented three stages, in contrast to Grow's four, and it is worthwhile to examine their presentation of how "self-direction" was achieved over time versus Grow's predictions and delineations of stages.

Besides the lesser number of "stages" in Miranda and Kate's account of the achievement of self-direction and the presence of methods from more than one of Grow's stages in all of Miranda and Kate's narrated stages (for both of which discrepancies there could be numerous possible accommodations and which could generate pages of discussion), perhaps the most interesting difference between Kate and Miranda's narrated scheme and Grow's scheme is in the placement of the "conflict." In Grow's scheme, conflict and power struggle between teacher and student is situated in Stage 1 and this power struggle gives way to a cooperative "interestability" of the learner in Stage 2. The first stage is dedicated to such activities as "overcoming deficiencies and resistance," and the learner is framed as a decidedly recalcitrant individual. "Interestability" is not even a quality of the learner until Stage 2.

In Miranda's and Kate's presentation, their own "first stage" was mostly harmonious. Kate shared her interests with Miranda, cultivated Miranda's special emerging individual interests, planned engaging, situational interest-triggering activities around unit "themes," and built basic literacies in a way that explicitly avoided power struggle and authoritarian approaches.

Stage	Student	Teacher	Examples
Stage 1	Dependent	Authority Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance.
Stage 2	Interested	Motivator, guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal. Seminar. Group projects.
Stage 4	Self-directed	Consultant, delegator	Internship, dissertation, individual work or self-directed study-group.

Figure 1. Grow's Staged Self-Directed Learning Model, reproduced from Grow (1991).

Meanwhile, it was Kate and Miranda's second stage that was the scene of the only notable battle of the wills they narrated in interviews. In this stage, Kate required Miranda to self-regulate her progress through a series of textbooks (due somewhat urgently to new constraints in the environment as Kate's attentions needed to be spread amongst her other homeschooling daughters) and Miranda initially resisted. Nevertheless, this resistance was eventually resolved through increased supports: namely, extrinsic rewards for performance, increased oversight, the giving of general self-regulated learning strategies, as well as time management scaffolding in the form of written schedules. Both Kate and Miranda reference this scaffolded "transition" as precipitating Miranda's later capable "self-direction."

Against Grow's recommendations for teachers of his version of Stage 1 learners, Kate considered Miranda as "interestable" from the very beginning. She did not assume that all learners begin at the level of Grow's recalcitrant "Stage 1" student. She considered it important to avoid power struggles, seeing them as evidence of a problem to be solved through subtler motivational means—"you have to make it something they want and desire." She had an implicit theory of fostering autonomous motivation in Miranda's own "first stage."

Nonetheless, when Miranda began to exhibit for the first time in their narrative the negative or amotivated characteristics of Grow's Stage 1 student, Kate, in response, certainly leveraged strategies which might be in line with Grow's Stage 1 strategies (increased oversight, pressure, and extrinsic motivators) alongside further supports directly from Grow's Stage 2 ("goal setting and learning strategies"). Grow's Stage 1 "methods," then, were not something that Kate reserved for some special "first stage" of her daughter's development or used in isolation from "higher" methods. Instead, Stage 1-type methods such as leveraging extrinsic motivators may have been used in situations where apparently higher versions of motivation were not seen as achievable within a reasonable timescale; for example, given the urgency of Kate's need to transfer attention to her younger daughters' early educations at the point of Miranda's resistance

to greater independent textbook learning.

The differing temporal placement of the "conflict" in Kate and Miranda's narrative could, of course, be accommodated in a number of ways into Grow's existing scheme. For example, perhaps the "conflict" of Kate and Miranda in their own second stage was due to a mismatch of Kate's methods to Miranda's inherent stage at this and previous points; perhaps Miranda had been overly indulged by a lack of a stricter power dynamic earlier; or perhaps Kate had simply deferred the seminal battle of wills which ought to have been their first academic task together, etc.

However, at this point it is also worth noticing a discrepancy between the predicted pattern of progression from Grow's Stages 1 to 2 and existing theories predicting the development of motivation and interest. Deci and Ryan's (1987) self-determination theory posits that autonomy support is most often a precondition of healthy self-determined motivation, and Hidi and Renninger's (2002) scheme recognizes that "triggered situational interest"—usually in response to something engaging or entertaining and "maintained situational interest"—are precursors to any stable and enduring individual interests. Where do we get Grow's Stage 2 "interested" learner from if all autonomy-supportive and interest-triggering instructional activities are reserved for Grow's Stage 2 and almost explicitly avoided in Stage 1? Indeed, this echoes a criticism of Tennant (1992) who noticed that many of the Grow's learner stages might be best stimulated by the use of "teaching methods" Grow associates with the *next* stage in his scheme. It also echoes Grow's observation that others with similar staged models (e.g., Ames & Ames, 1991) have recommended for the very early-stage students he considered not yet "interestable" the engaging and relational types of motivational tactics he recommended for second and third stage learners.

In light of this preexisting theoretical difficulty and the example of this illuminating (but admittedly single) case, it becomes interesting to consider treating Grow's "Stage 1" not as a necessary stage which all learners go through first in a developmental sequence but rather as a temporary, amotivated state that may appear at any time and which by no means must be the "first" stage of anyone's trajectory. This solution might actually be in accord with a seemingly contradictory claim (given the presentation of his model as a "staged" model) that Grow (1991) made himself about many students apparently starting out as interested, self-directed learners in preschool (p. 142)!

Grow good-humoredly presented his staged model as a useful and imperfect shortcut to understanding and thus better facilitating the development of self-direction (a complex and ill-defined concept itself, not to mention the eternal difficulties which plague stage theories of all kinds). It is worth noting that the apparent need that generated his model was the need to quickly *classify students* and *target pedagogies* for students in what were presumably traditional semester-long, single-subject classes. This points to the utility of the model—attested to by Grow's (1994) colleagues (p. 110)—as being principally related to its pragmatic use as an immediate classification and instructional targeting device. Conflicts with prominent existing theories on the development of motivation, animated by the examination of this apparently successful case of developing self-direction, suggest that the model may, perhaps, be *less* useful as an overall *developmental* model, or, consequently, as a guide for program design across

the curriculum and over the years. There is still a great need for even exploratory cases studying longitudinal designs for the development of self-direction over time and across the curriculum if we are to better design longitudinal programs for the development of self-direction. After all, self-direction likely does not develop over the course of a semester but over the course of many, many years as self-regulatory skills and self-determined motivations in areas of interest come together and achieve maturity. To more intentionally facilitate its growth, we must have a better understanding of its development over time.

Conclusions

This study provides only one case's worth of data on the development of self-direction in a student. We present an apparent pattern in the facilitation of self-direction over time: a stage of interest development and maintenance followed by a stage dominated by explicit coaching in self-regulated learning and then by a stage of support for and recommendation of independent studies and projects with a slow transfer of power involving progressively more fundamental planning and management processes over time. However, these patterns remain to be tested with more rigorous methods in future research. This case's findings are nevertheless in accord with those of previous research regarding the development of self-regulation and self-determined motivation.

This study's "rich picture" may provide insight into researchers and practitioners' interest in understanding the longitudinal patterns, strategies, and factors in the development of academic self-direction. Understanding both the progression in the development of self-direction over time and how to best facilitate such development through the design of a purposeful succession of personalized learning interventions is of vital importance in a world that increasingly values self-directed, lifelong learners.

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LEARNING TO LEARN AGAIN: TWO ACADEMICS AND THEIR LEARNING JOLTS

Jill Woodilla and Diana Stork

The authors, two third age, self-directed, lifelong learners, write in the first person to describe their adult learning in the context of transitioning from academic careers to working in a different field. They introduce and develop the concept of a "learning jolt," applicable in this case, when each experienced a radically different formal learning situation and were completely thrown by an assignment with no idea about how to proceed. Overcoming this somatic jolting experience by "dropping their tools" (Weick, 2007, p. 5) associated with their former learning enabled them to learn in new ways. Following the tradition of autoethnography, the authors share their stories and reflections and make connections to the literature on adult learning, self-directed learning, and learning concepts and metaphors within the broader social sciences.

Keywords: adult learner, autoethnography, learning tools, learning jolt, self-directed learning, third age

What happens when everything you learned about learning flies out the window? That was the experience of the authors of this article, two adult, self-directed learners who had had productive academic careers that included teaching, research, and writing. As academics, we had been in new learning situations throughout our careers. As third age learners, when we left the comfort zone of our disciplines and our learning assumptions, new learning was a very different experience for us. What surprised us most were the upending interruptions we had on our new learning journeys. We wanted to understand these experiences and our reactions, and as academics ourselves, we thought we could write in a way that would resonate with academic readers and could add to the literature on adult learning.

Our research was designed to make sense of one aspect of our experiences when participating in formal learning in an unfamiliar field with unfamiliar learning assumptions and pedagogies. There were two central questions: How can we understand the upending interruptions we experienced in our learning pursuits? How can our learning from these experiences contribute to the scholarship of teaching and learning?

Our explorative journey followed the tradition of autoethnography in which an author explores personal experiences through writing and reflection in order to understand the social context he or she is studying. It is widely used in many academic

disciplines (see Jones, Adams, & Ellis, 2016, for discussion and examples). We wrote our learning stories to highlight the stumbling points and enablers as we worked to achieve our personal learning goals. Our research process was emergent as we began with our stories and then reflected upon our stories to uncover themes. We then searched the literature for concepts and models relevant to us as learners and that connected with our learning stories.

For this article, we follow the academic protocol of presenting a literature review before our methodology and results. In the five sections that follow, we first present a brief review of literature that helps to frame our learning stories. We describe our methodology before presenting our data (i.e., our stories in our own voices). In the fourth section we offer first-level and more critical reflections and make connections to theory and models within the extant literature before our final discussion and conclusions section.

Literature Review

Literature on adult learning—especially that of older adults and instances when a breakdown in learning occurred—formed the foundation for our research.

Older Adult Learning

As the population continues to age and to age in good health, adult education (in all its various forms) has become an ever more important issue for educators, individual learners, and policy makers. Within the field of adult learning (Brookfield, 1986; Houle, 1988; Knowles, 1975, 1986; Tough, 1979), self-directed learning scholarship has focused on facilitating, promoting, and supporting the development of self-direction in the learning process. Much of this work uses Knowles's (1975) definition of self-directed learning:

> In its broadest meaning, self-directed learning describes a process in which individuals take the initiative, with or without the assistance 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. (p. 18)

A great deal of self-directed learning scholarship has focused on younger adults in higher education (Payne, Rocks, & Schaffner, 2014), in professional education such as medicine (cf. Morrison & Premkumar, 2014), and in the workplace especially through human resource development (cf. Ellinger, 2004). Research with younger adults continues; however, in line with the aging of the population, research on older adults engaged in formal and informal education has also been growing over the years (DiSilvestro, 2013; Roberson & Merriam, 2005). Through the mid 2000s, this research tended to consider older adults as a homogeneous group: White, gender unspecified, healthy and able to retire comfortably; they were capable and motivated learners without age-related physical or cognitive impairments (Chen, Kim, Moon, & Merriam,

2001). Since then, more attention has been given to diverse segments of the older adult population through both scholarly and policy-making contributions (cf. Findson & Formosa, 2011; Istance, 2015). One segment to which we (the authors) belong is the "third age": adults between 50 and 75 (Carnegie United Kingdom Trust, & Carnegie Inquiry into the Third Age, 1993, p. 2). An example of research involving this demographic segment is the work of Talmage, Lacher, Pstross, Knopf, and Burkhart (2015) who investigated educational preferences of third age learners, identifying their level of interest in a variety of topics.

Self-directed learning research, theory, and practice is less concerned with interests and preferences and more focused on learning and pedagogical processes. Both defining learning goals and signing learning contracts have been shown to promote greater learning ownership and self-direction, and self-directed learning scholars encourage both (Caffarella & Caffarella, 1986; Hiemstra, 1988, 2013; Knowles, 1986). Mohammed (2010) provided an autoethnographical account of her learning process in a doctoral directed-studies course in which her initial concern was with the terms of the learning contract (to submit a scholarly article with "Professor Z") and then confusion at leaving her weekly meetings with the professor without answers, rather only more questions. Gradually, however, as she clarified her research process, she received encouragement and suggestions from the professor and met the contract with a refereed presentation at a conference. Reflecting on her experience, Mohammed was able to articulate the stages she went through in her learning process and also to appreciate the professor's method of promoting her self-direction.

Breakdown in Learning

Candy (1991) urged scholars to investigate learners' concepts of themselves as learners and to describe in their own voices times when they felt blocked and incapacitated and times when they felt especially competent and capable. Adopting this perspective, Scott (2002, 2006) conducted qualitative research that included semistructured interviews with eight self-directed learners over age 50 engaged in new challenging pursuits and then used a grounded theory approach to analyze the interview transcripts. The interviewees were able to describe numerous positive learning emotions—how much they identified with their learning pursuits, how they believed in their learning potential, and times when they felt especially competent during the learning—but no one could describe times when their learning was blocked. However, such blocked feelings have been reported in other studies in which the researchers provided various labels to describe the learner's situation.

Guglielmino et al. (2005) interviewed 14 above-average adult self-directed learners (11 women and three men, aged between 41 and 57) engaged in a wide variety of learning projects. The interviews revealed various project "barriers, interrupters and restarters" (Guglielmino et al., 2005, p. 71) such as lack of time, personal circumstances, and inadequate resources. Griffiths, Winstanley, and Gabriel (2005) used the phrase "learning shock" (p. 275) to describe the feelings of frustration, confusion, and anxiety felt by some MBA students who returned to academic education after working for several years while working in syndicate teams and using unfamiliar

learning and teaching methods. Findings from surveys of 150 students followed by interviews with 24, including the two men and one woman whose cases were presented in the article, suggested that multicultural diversity and subject incompetence prompted this shock and activated a variety of coping mechanisms, including talking to others, self-care, emotional self-coaching, or emotional withdrawal. Bulik (2009) used the phrase "sticking point" (p. 1) to describe his inability to make his failed generator work using his previously reliable strategies. In his first-person account, Bulik, a respected educator and consultant, described his frustration and anxiety about not knowing what to do, and he reflects on the "lack of literature about learners who begin a formal or informal learning task and find they must change or modify their learning strategies" (p. 3). Our investigation responds to this point.

Anxiety, frustration, and stumbling blocks can undermine someone's sense of both performing self-efficacy and learning self-efficacy. "Performing self-efficacy" is about doing; "learning self-efficacy" is about *learning to do* (Ponton, Carr, & Wiggers, 2014. p. 29). In their article, Ponton et al. draw on Bandura's social cognitive perspective (Bandura, 1997, 2001) to discuss the importance of these two self-appraisals as they relate to perseverance in unmastered activities. Sticking points, barriers, and interrupters can occur in learning new things or in doing the new things; it is not always clear whether the source of frustration and anxiety is learning or doing.

For the individual, a learning block indicates a breakdown in the ability to attain learning goals, resulting in the need to reflect on, and perhaps modify, the learning process (Koschmann, Kuutti, & Hickmann, 1998). According to Koschmann et al. (1998), John Dewey, the American pragmatic philosopher and educator, considered that a breakdown occurs when a stimulus disrupts a person's internal balance; it is then possible for the person to achieve a new equilibrium through a series of actions in a specific order (p. 37). These in turn form the basis for developing new habits, growth, and enriched experience. Sometimes, however, when faced with a breakdown, people retreat to more primitive levels of behavioral response that do not permit growth. Students in Griffiths et al.'s (2005) study exhibited such behavior when they withdrew or merely searched for emotional support.

Writing in a social science context, Weick (1993, 2007) described a practical example of a failure to learn and modify behavior when firefighters were unwilling to discard their firefighting equipment as they ran from forest fires burning out of control. They perished within sight of safety zones that they could have reached had they discarded their gear and hence been lighter and faster. His analysis of the firefighter incident and other similar occurrences led him to propose that people "keep their tools because they don't know how to drop them" and because they don't "think of their tools as separate from themselves" (Weick, 2007, p. 8). Within management studies, the phrase "drop your tools" has come to signify the need to change perspectives in a learning situation; that is, to unlearn in order to take learning in new directions. Learners tend to have "favorite tools"—ways of approaching, engaging with, and reusing the material—and they tend to cling to them even when the learning situation calls for a different approach. Sometimes learners may not even realize they are

blocked, but in order to recover, they need to "drop their tools" and pick up new ones.

The above literature, coming from both the scholarship of teaching and learning and from the social sciences, provided a framework for understanding our upending experiences. As described in the method below, we first told and then reflected on our personal learning journeys. We formed an intuitive understanding before using concepts from this literature.

Method

Bulik (2009) called for more case studies in self-directed learning, and Merriam, Caffarella, and Baumgartner (2007) suggested that "learners themselves [can] be a great source of our understanding of learning in adulthood" (p. 438). This project is a case study written by learners who are also academics.

Our research method followed the tradition of autoethnography, a qualitative method that utilizes data about self and its context to gain an understanding of the connectivity between self and others within the same context (Ngunjiri, Hernandez, & Chang, 2010). It relied on first-person inquiry rather than that of a third person such as in ethnography when researchers observe others or in interviews with participants where researchers provide structure for participants' responses. Our process followed a collaborative, concurrent model (Ngunjiri et al., 2010) in which we independently collected autobiographic data (our stories) that we subsequently shared; we then probed each other as we interpreted our behaviors, thoughts, and experiences. We recognize our vulnerability in writing using our stories as data to construct a portrait of the self (Bochner & Ellis, 2016) before reflecting and connecting with theoretical concepts in our learning context.

Participants

We are both White women living in the U.S.; one is in her 60s and one in her 70s. Both of us returned to formal graduate education to earn PhDs after a number of years of doing other things. We went on to academic careers and spent many years teaching, doing research, and writing. For much of our academic careers, we were both interested in issues of learning and teaching within our disciplines: organizational behavior and management. When engaged in learning in the unfamiliar discipline of design, we continued our interest in the learning process; in this case, our own.

Process

We each wrote an autobiographical essay ("story") about our learning journey that became the data for the study and then analyzed the experiences by engaging in individual and collaborative critical reflections. As part of the research process, we connected themes/concepts in their findings to the literature. Consonant with our backgrounds, these connections crossed several domains of theory and research.

Stories of Our Learning Process

Introducing Our Stories

After leaving our traditional academic careers, we transitioned from the role of teacher to that of student. We certainly felt ready for a new learning experience and eagerly embraced the opportunity, bringing parallel and somewhat similar career experiences to our new learning. Jill Woodilla left a full-time academic position in management and organization studies for a part-time academic position in design management. She enrolled in a college-based adult education course in fundamentals of design but when presented with the first assignment was "clueless" about how to proceed. Diana Stork also left a full-time academic position in management and leadership and enrolled in an interior design course with the goal of deciding whether to continue in the design field. She is now a graduate student in sustainable design. In the interior design course, everything was new: new vocabulary, new technology, and new kinds of assignments. She felt like a kid being told to jump into the deep end of a pool before being comfortable in the shallow end.

Jill Woodilla's Story

When I left my faculty position in the management department at a small university in Connecticut, I became a visiting professor at the Business & Design Lab, a collaboration between the schools of business and design at a large Swedish university. I was not sure just what my responsibilities would involve, especially since this was a new area of inquiry for me. I spent the summer reading about the field and discipline of design so I had a sense of history, theory, and understanding of different areas. But for all my reading and construction of diagrams linking different areas of design, I did not know "how to do design." I considered it unethical to claim scholarly expertise in an area without ever having engaged in practice. Searching around, I came across a remedy and enrolled in a continuing education class at a respected college of art and design.

I read the syllabus for "Fundamentals of Design" and conscientiously bought every item on the supplies list, often going to several different art stores in search of exactly what was required. I went to the first class; the classroom furniture consisted of rows of large tables with one or at most two chairs per table, quite different from the lecture-style classrooms I was used to. The class was small enough that we each had our own table; students ranged from a professional designer wanting to refresh his understanding of theory to students in different stages of completing a professional certificate in design to one wanting to enhance her design skills as part of her job. I carefully laid out my tools on my table and noticed that other students just had a jumble of supplies in a bag or box. Just a difference in style, I thought, and expected that I would soon be versed in the other design students' approach.

The instructor explained that we would be using black paper cut with an Xacto knife and stuck with rubber cement to white cardboard for our exercises; I realized that the course involved a lot of very detailed hands-on work. After he talked for a while

about principles of design, illustrating his points by reference to pictures of good and bad designs, our first assignment was to use a 4-by-4 inch square of black paper on an 8-by-10 inch whiteboard to represent different ideas such as something not resembling a square, a design that can be reassembled into a square, an example of figure-ground, and equal amounts of black and white with (a) white predominating and (b) black predominating.

What to do? I spent hours searching the Internet to come up with ideas, finally picking one as if from a lottery. I do not remember my first attempt, but the next class I was immediately confronted with another new experience: "the crit" (critique). The instructor asked us to pin our homework on one of the long bulletin boards lining the studio and then he spoke about each one, asking us questions about our intentions, praising parts, suggesting alternate configurations, and comparing the work to that of other students. If this had happened in a management class I would have been mortified, but here it was a (relatively) pleasant learning experience. I was not berated for my effort (clearly amateurish by comparison with others) but instead could appreciate what I might have done differently and how what others had done more clearly answered the assignment. Learning happened through the crit experience rather than through a lecture.

I struggled each week. No matter how much I researched and experimented in the process of completing the assignment as soon as I saw what others had done I knew mine was sorely lacking. The instructor kept giving me some praise and suggestions in the crit; then I remember when I said, "Goodbye, see you next week" at the end of one class, he looked me in the eye and said sternly, "Don't conceptualize." Now I had something else to worry about: how not to conceptualize and yet do the assignment! Outwardly I remained calm—I'd grown up in England and was well practiced in displaying a "stiff upper lip"—but inwardly I was shaking. I was jarred to my bones and all because of a single comment from an instructor I liked and respected. I considered dropping the class but that would defeat my goal of "learning to do design." I decided to stick with it and focus on learning a different way to approach the assignments. The next class I asked one of the other students how she worked; she spoke about having a picture in her mind of what she wanted to do but not seeing the picture clearly and not knowing how to do it. But when she started to work, somehow what she produced was what she had envisioned.

I tried doing this as I worked on my assignment. The instructor was dumfounded by my effort; I'd "got it." And a few assignments later, he pronounced me his most improved student ever. I glowed!

I cannot explain in detail how I "got it," but I have had a similar experience in other classes I have subsequently taken in different artistic disciplines like drawing, painting, and sculpture. At first I do not have a clue how to approach the subject or the assignment and feel quite hopeless, but I keep working and interacting in class and then, like a light switch, one day I change from being clueless to on my way to being functionally competent. I have to trust that it will happen.

Diana Stork's Story

I left my academic career as a faculty member and department chair in management and began teaching online. Online teaching was different from what I had done before, but it felt like an extension of my academic career. I also started to do some home renovations and thought I would like to know more about design. I enrolled in an Interior Design Diploma program. As I started the first lesson, I was thrown off balance almost immediately. The first week required us to read a large amount of material on elements and principles of design. No problem; I was comfortable in the world of words and verbal concepts. Then came the assignment, and I was stopped cold. I was being asked to find interior space images in magazines or online, each of which conveyed "a different message, mood, or feeling… [and then] to describe how these moods have been created…using the elements and principles of design." Whoa, I thought. Moods, feelings, harmony…nothing I could measure, nothing I could define. I was totally out of my learning element. I was disoriented and shocked into the realization that learning for this diploma was not going to be like any learning I had ever done before. I was disoriented and unsettled; I began to imagine that I would never be able to do the work. I became immobilized by this thought for a while. I sat at my desk thinking, "What have I gotten myself into?" Before I could wrap my head around the assignment, I knew I had to calm down. I was in no state to do the assignment or even to understand fully what I was being asked to do. I also knew that I could not proceed using the learning approaches I had used for so many years. So I spent many hours looking at hundreds of images online and in many home-decorating magazines. I justified it by saying to myself that this was all so new I had to become familiar with magazines and websites and so on. In fact, I could easily have searched for images and found suitable ones within about half an hour even for this very first assignment. Or, at least, someone else could have done this within half an hour; someone who did not feel they had been thrown under a bus. What might have looked like stalling from the outside was actually a step in learning in a new way.

That first assignment was only one of several distressing learning experiences. How did I manage them? At first, I became anxious, often anxious enough that I could barely do the work. Then I reminded myself that I was doing this diploma for me and not for anyone else. That gave me permission to do less than great. It became OK to do only OK. As I adopted that perspective (and kept reminding myself of it), I relaxed and became more acculturated (able to use the language and concepts of interior design). And I became a better learner, at least in the context of that course.

Shortly after earning my Diploma in Interior Design, I began a graduate program in sustainable design. I was about to start the third required course in the sustainability program, so I read the syllabus in anticipation of the new term. Questions and emotions flooded over me, things I had not felt at the start of the first couple of courses in the program: fear, a racing heart, and "I can't do this." So I stood up and started pacing my study. "I'm not ready for this course, what should I do; it's the next course in my program, but it starts online, so there's no one I can really talk to." I made a cup of tea and read the syllabus again. "No mistake; I really can't do this." I decided to postpone that course and spend some time learning the prerequisite 3-D design

program. I read the syllabus again and was comforted to see that students needed to be competent only at the introductory level. "I can do that." So that is what I started doing; I went online to do my own learning, but it did not work.

I felt like I had been blindfolded and told to hold a rope that someone else was pulling. I did not trust that learning this way was going to lead me to the knowledge and expertise I was trying to get. I decided to try another approach: an in-person training class. The first training day started OK. I could follow what the instructor was saying and showing. Then he said we should all try on our own. The teacher stood over me saying, "You know what to do next." "No, I don't; just tell me." It was like that for the rest of the day. I returned home that evening pretty demoralized but not entirely defeated. I took out my notes and started going through everything on my own. I had seen what the instructor had done in class, so I knew where I was headed and that it was on the path to what I wanted to learn. I got a little done and felt OK going to bed.

The next day, I told the instructor that I would watch and listen but that I was not going to do it myself until I was home alone with no one watching. He tried to convince me that practicing in class was a good idea, but I held firm. I got home with good notes about what to do and why to do it. On my own, I worked through what I needed to learn. I realized that knowing the purpose and the endpoint mattered for my learning this 3-D design software, and then with a little demonstration to get me going, I could learn on my own.

Reflections

Individual Reflections

Jill Woodilla. I thought of my jarring experience as an impetus that changed my learning approach from "left brain" analytical reasoning to "right brain" visual reasoning (Edwards, 2014). I needed to forget about my surroundings, empty my mind, and just "look" for however long it took to absorb and "see" the task. My new learning strategies include looking forward to hearing the instructor's critique of my work and that of others in the class; through this I come to understand my shortcomings and how I can improve. I always think of myself as an apprentice, not as a professional, and I try to spend some time each day between classes practicing. I also retain some of my former learning approach by asking the instructor for suggestions for books to read or artists to follow. The syllabus seldom, if ever, includes a list of readings, but examples from art history are included in the instructors' presentations. I am proud of what I achieve and enjoy learning through this pedagogy even though I still have moments when I feel the same intense internal shaking and recognize this means I need a completely different approach to learning or mastering a particular technique.

Learning artistic practice keeps me humble as I research connections between management and various arts-based disciplines. I am constantly reminded that one is not superior to the other even as I still write from within organization studies. I have gained the respect of my new colleagues in design disciplines through my engagement with design practice and art as a foundational discipline to design. I try to take a new

course at least once a year; this ensures that in my own small way I struggle, learn, achieve, and enjoy the world from the perspective of an apprentice artist.

Diana Stork. The two learning experiences I have described are different in some ways and strikingly similar in some ways. Both were seriously upending. In the two courses, I was scared, I felt incompetent (even as I reminded myself that for many years, I had been a very competent teacher and learner), I was anxious. As I thought back to these experiences, I realized the disruption I felt was actually accompanied by a physical sensation almost like being "smacked upside the head." In both cases, the first thing I had to do was calm down, take a deep breath, and give myself permission not to excel. I had to change how I was going to learn. In the interior design course, this meant "stalling" and then slowly engaging in the learning process as defined by the instructor. Since this was an asynchronous online course that allowed learners up to 26 weeks to complete a 12-unit course, I could take the time I needed. I never felt I was falling behind. There was no interaction with other learners; I had no idea of their rate of progress through the course. In the sustainable design course, I experienced significant distress even before the course started. I had to recognize that I was not ready to do the kind of learning expected in that course and that I did not have even the very basic tools I needed to get started. Understanding this before the course started meant I could take a step back to another course, so I could get a handle on the basic tools I needed. Even in the basic tools course, I was thrown off balance by vocabulary, assumed technical skills (actually very rudimentary but not for me), and how to conceptualize a building project. In this case, I became a somewhat passive learner in the classroom, watching and observing and taking notes. Later, in the comfort of my own study, I set out to replicate what the instructor had done earlier in the day. I needed the privacy of personal space to figure things out, sometimes just by trial and error. This time my learning process was not instructor defined.

In the first learning experience, I did all the learning on my own, alone in my study. It was where I experienced the big setback and where I recovered from it. In the second instance, I needed other people to demonstrate or "show me the way" in order to start the recovery process. But then, as in the first instance, I did my own learning on my own and alone in my study.

Reflecting Together

We talked about our learning journeys: the experiences and feelings we had in common and the ones that were different. Very quickly we saw how similarly stalled we were early in the learning pursuit and how we had to do things differently. Soon into our reflecting together, we decided that the word "jolt," defined as "an abrupt, sharp jerky blow or movement; a sudden feeling of shock, surprise or disappointment" (Merriam-Webster, 2003), seemed to describe what each of us had felt when we were thrown off balance in our learning journeys. We also discovered that we both felt anxious about learning in a new way, in a way different from how we had taught and the way we had learned throughout our careers. Finally, we acknowledged that our difficulties in

learning in a new field and in new ways made us feel incompetent and challenged our identities as accomplished teachers and self-directed learners.

Defining a learning jolt. We had each encountered something akin to a sticking point (Bulik, 2009) or interrupter (Guglielmino et al., 2005), but neither of these words captured the intensity we felt. We came to call what we were dealing with a "learning jolt." We had been thrust into new learning territory, and we needed to develop coping strategies that enabled us to continue. The total experience of jolt and recovery was different from tensions and challenges we faced as academics when we would learn to teach new topics or start doing research or writing in a different area. Previously the threads of connectivity to what we had been doing were always there. Now the connections were not there. We were forced to confront a paradigm shift. We each reeled, paused, and dropped our tools. Once we had relaxed and recovered a bit, we were able to pick up new tools and move forward. A learning jolt is emotional, physical, and cognitive and signals a real breakdown in the ability to learn in familiar ways. Recovery requires a different approach to learning.

Our learning tools. As former faculty members in organizational behavior and management, we each had preferences for certain ways of teaching, for certain pedagogies. These were derived from assumptions about how students learn, beliefs about what we were good at, and what we enjoyed. But pedagogies appropriate for certain disciplines are not necessarily appropriate to learning in other disciplines (Shulman, 2005). As students in new areas, our preferred pedagogies of management (Schmidt-Wilk, 2010) were not those we were encountering in design (Crowther, 2013; Sims & Shreeve, 2012). Our preference and assumptions were the tools we needed to drop (Weick, 1993). And in the recovery phase, we picked up new tools, new ways of learning, and new ways of thinking about learning.

With so many years of experience with our assumptions, concepts and pedagogies, it was hard to let go for two reasons: we did not know how to drop our tools and, to a large extent, a faculty member's identity is wrapped up in what he or she does in the classroom, assumptions about teaching and learning, and the pedagogies that reflect his or her philosophy of teaching and learning. The problem for us was that we became learners in completely different fields from those in which we had been professors. We liked our tools and were good at using them, but they did not work well with what we were now learning. We could each read, analyze, synthesize, and apply what we learned from reading the words of others, from listening to lectures, and from practical examples and cases, but that was not what we were being asked to do.

Ourselves as learners. Reflecting on our experiences prompted us to reconsider ourselves as learners. Our self-concept, reservoir of experiences, and reasons and motivations for learning fulfilled Knowles' *assumptions* of an adult learner (Knowles, 1973, pp. 45-48). While mindful that Brookfield (1986, chap. 3) cautioned against assuming that self-directed learners exhibit uniformly identifiable characteristics, our career experiences resonated with Knowles's (1975) *definition* of self-directed learning

in that we took the initiative in diagnosing our learning needs and goals and identifying learning resources.

We had spent years finding and selecting resources for learning new aspects of our professional discipline; we had a collection of strategies available for our use and we were practiced at evaluating our learning outcomes. So why did we have so much trouble in our new learning endeavors? Had we erred in assuming we were self-directed, autonomous learners? We had not taken the self-directed learning readiness assessment tool (Guglielmino, 1977) but relied on self-assessment and our "theory-in-use" (Argyris, 1976) definitions of concepts.

Our learning jolts forced us to acknowledge that we were not competent self-directed learners across all disciplinary domains. We could no longer plan, conduct, and evaluate our own learning to determine what and how we needed to learn in order to complete our assignments. We had lost our self-efficacy to perform but not our self-efficacy to learn (Ponton et al., 2014) as we stepped back to search for an alternative mode to process and then enact the learning expectations and strategies of the particular assignment. In terms of Bandura's (1986) description of human behavior depending on the interplay of person, environment, and behavior (cf. Ponton & Carr, 2012), Jill relied on a behavioral strategy of seeking out support from the instructor and fellow-students while Diana responded to her breakdown of self-efficacy ("I can't do this!") with an environmental strategy of withdrawing to focus on the learning task by herself. For both of us, the recognition that our preferred learning approaches will not always serve us well (after being jolted into this realization) and that our ability to evaluate what strategies might work can disappear are the most profound learning we take away from these recent learning journeys.

Discussion and Conclusions

In this article two third age learners each described and reflected on her experience and identified a learning journey point when she experienced a sudden emotional occurrence or jolt and then subsequently recovered and was able to continue learning albeit in a somewhat different way. Although this exploratory research focuses only on two well-educated, relatively affluent White women, we believe this "learning jolt" experience is worthy of additional research and consideration.

Connections and Implications

Connections with other research on learning breakdowns. Our conceptualization of a learning jolt is most similar to what Griffiths et al. (2005) called a learning shock, but it is also different in that with learning shock, frustration and anxiety in unfamiliar learning situations continues but can be mitigated in various ways while intended learning continues. A learning jolt, on the other hand, is emotional, physical, and cognitive; it signals a real breakdown in the ability to learn in familiar ways. Recovery requires a different approach to learning. Griffiths et al.'s students were successful young working adults, mainly Asian men and women, who experienced learning shock. In our case, we were in our "native" culture but out of our

learning comfort zone. We were much older, with many years of experience as successful learners; the MBA students had far less experience as successful learners when they experienced their learning shocks. Further research should explore the intensity of learning breakdown (interrupter, sticking point, shock, jolt) as it relates to the context (native culture or foreign culture), the pedagogy (the approach to teaching and learning), and the learning experience of learners. We would expect that the longer the experience as learners within the academy, the greater will be the learning jolt and the greater the need to drop familiar learning tools.

Implications for educators. As educators, Ponton et al. (2014) advocated that teachers be attentive to their students' self-efficacy and help them interpret bodily and emotional states so as to subsequently act in ways that strengthen coping activities relevant to learning; success should not be attributed solely to hard work. But teachers should also be careful not to create activities that are "so daunting as to elicit extreme somatic reactions, thereby diminishing the opportunity for both success and strengthening of efficacy" (Ponton et al., 2014, p. 37). From our experience, however, third age learners in a new academic field may find even simple activities daunting, and in such cases the teacher should support the student in the way she or he determines is best for efficacious learning and performance.

Dewey also cautioned against deliberately creating situations of complete breakdown. In Dewey's view, as reported by Koschmann et al. (1998), one of the tasks of a teacher is to question the learner's work in ways that create appropriate breakdowns of the learner's situation and lead him or her to initiate a sequence of inquiry. Breakdowns must be relevant to the material at hand, not so minor as to support the status quo, yet not so great as to create total frustration. Yet, in our case, a learning situation that was appropriate for students versed in the tools of the discipline created a breakdown and frustration at least for a while.

Summary Reflections

When third age learners take on purposeful learning outside their experience and backgrounds, they may have trouble discarding approaches to learning they have successfully used before. The further afield they go, the more likely they will experience learning jolts that will challenge their self-concept as learners and their competence as self-directed learners. However, responses to these experiences are quite individual and therefore need an individualized approach to teaching or facilitating adult learners that requires recognizing both their common experiences and situational needs as demonstrated by the first person stories of the two learners in this article.

This article contributes to the literature on adult learning and teaching because the voices of older adult learners need to be part of the conversation. More research is needed; we envision survey research of third age learners in formal learning settings to determine their purpose, degree of self-directedness, and relation of the subject-matter to their former professional identity followed by selective in-depth interviews to identify possible learning jolts and coping strategies.

Finally, this article may be just a starting point for conversation and model building, but it represents the learner experience as honestly as possible, using words, concepts, and models that faculty can understand and appreciate. For educators teaching older adults, recognizing the individuality of each learner may be important but so is recognizing what may be common feelings, frustrations, reactions, and the experience of the learning jolt.

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