



International Journal of Self-Directed Learning[®]



**Volume 19, Number 2
Fall 2022**

The *International Journal of Self-Directed Learning* (ISSN 1934-3701) is published biannually by the International Society for Self-Directed Learning. It is a refereed, electronic journal founded to disseminate scholarly papers that document research, theory, or innovative or exemplary practice in self-directed learning. Submission guidelines can be found at www.sdlglobal.com.

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International Journal of Self-Directed Learning

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International Journal of Self-Directed Learning

Volume 19, Number 2, Fall 2022

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**THE KEYNOTE DISCUSSION: A FICTIONAL DIALOGUE
BETWEEN MALCOLM KNOWLES AND JOHN HOLT ABOUT
DIFFERING VISIONS OF SDL**

Kevin Currie-Knight

This is a fictional dialogue between two prominent but deceased advocates of self-directed learning (SDL)—Malcolm Knowles (1913–1997) and John Holt (1923–1985)—informed by the writings of each. The two were active advocates of SDL in the same decades but never engaged one another’s work. As the two had different visions of SDL and its potentials and application, the goal of this dialogue is to engage these distinct visions with each other. Topics include the meaning of and conditions for SDL, whether (and how) SDL is compatible with conventional schools, and whether adults are more capable than children of SDL.

Keywords: John Holt, Malcolm Knowles, self-directed learning, andragogy, unschooling

Kevin: Thank you all for coming to this session at the 45th annual International Self-Directed Learning Symposium. The year 2041 offered both unique opportunities for and also challenges to self-directed learning (SDL). We have long known that SDL means different things to different people. Some see it as a technology to be brought into existing educational institutions, and some see it as a technology incompatible with existing institutions. Some believe that SDL’s promise is in its power to reform schools from within, and others see its promise as offering an alternative to—bypassing—existing schools.

This session is meant to engage those positions. Owing to recent artificial intelligence technology, we have the opportunity to hear a dialogue between two great but different champions of SDL. Albeit in simulated form, we have with us two very life-like simulacra of Malcolm Knowles and John Holt. These simulacra are not only designed to look like the figure each is representing but also equipped with a thorough and up-to-date upload of all of their original intellectual output, speech patterns as ascertained from video archives, and everything they need to accurately emulate the original thinker. This is the next best thing to having a real conversation between two champions of SDL—Malcolm Knowles and John Holt—who are unfortunately no longer with us.

First, let me say a few words about why we wanted to have this conversation today. Malcolm and John were both luminaries, and while a lot of their work was

produced around the same time (from the late 1960s into the 1980s), the two never engaged with the work of the other. This may be because the two had very different spheres of influence, Malcolm primarily focused on bringing SDL into the world of adult (mostly university) education. John worked with SDL in the field of alternatives to formal K–12 schooling. Malcolm pioneered the idea of andragogy—the science of how adults learn in particularly self-directed ways—and applied this to college classrooms and human capital training, John pioneered the idea of unschooling with the hope that this might help families and children to bypass conventional schooling altogether.

What is true about the difference between these two thinkers and their lack of engagement with the other can also be said about the larger movements they spawned. In other words, SDL contains at least two factions that seldom engage one another: a Knowles-inspired faction that seeks to bring SDL principles into conventional schools and a Holt-inspired faction who believes that true SDL is incompatible with the structures of conventional school. The former sees the latter as throwing the baby out with the bathwater. The latter sees the former as seeking an ill-advised compromise between two things—conventional schools and SDL—that can't fit together.

We want to put these thinkers with very different projects in direct dialogue. How might each respond to the project of the other? What are the similarities between the two projects, and what are their differences? Why did each of these thinkers settle on the conception of self-directed education that they did? Is there room to reconcile these two approaches or will they always be two incompatible variations on the same theme?

John? Malcolm? I'd like to start this conversation by asking you to say a few words about how you each got interested in self-directed education. As I understand both of your biographies, the commonality seems to be that both of you came to this idea almost by accident while you were doing other things.

Malcolm: I can start. What you say is true, Kevin. I did my undergraduate work at Harvard and had plans of devoting my career in the U.S. Foreign Service. Instead, I worked with several agencies charged with educating and preparing adults for employment. For this, I had to pay attention to what makes for a good teacher of adults and how adults prefer to learn. It is interesting that virtually all the literature I could find on learning was on how children learn.

What really got me thinking explicitly about adults as self-directed learners was an experience I recount in my autobiography (Knowles, 1989, pp. 9–11). I was working at the YMCA where my job was to find out what local adults wanted to learn and try to coordinate classes for them. Some young men came in and said they wanted to learn astronomy, so I called up a local professor and on his recommendation hired his teaching assistant to teach the class. An unexpected flop! Twelve students showed up the first day, and each new session declined until we just canceled the class. I had to figure out what went wrong; maybe we just had the wrong instructor. On a peer's recommendation, I hired an older and knowledgeable amateur to teach the class. Unlike the previous teacher who started with a syllabus and a lecture, this gentleman, Hadley, started by taking the class out to observe the night sky. Once they were back in the room, Hadley asked the students what they wanted to learn in the course, what they

wondered about, and what he could help them understand. Not only did attendance not drop in subsequent sessions, it went up as the course went on! As I say in the memoir, all of this “reinforced my growing conviction that you start with adult learners where they are starting from in terms of interests, questions, problems, and concerns” (Knowles, 1989, p. 11). Interestingly, that dove-tailed nicely with literature I was finding by Cyril Houle and his student, Allen Tough, on how adults learn.

John: I am also an Ivy-Leaguer—Yale—who fully intended to go into government of some kind. My sister convinced me to teach at a private elementary school in Denver; after all, I like kids and I love learning and sharing whatever I know. But that’s the thing about it. At this really progressive school for the well-to-do, I found that one can’t enjoy kids when teaching in a formal school, and kids—and they’re *smart* kids!—don’t really enjoy “learning” there. This is the meat of my first book *How Children Fail* (1964). I was writing in my journal, trying to figure out why, as I say it there, bright and joyful children become stupid when they enter the classroom. Why? Because like Malcolm said of Hadley, we don’t teach them things they care about, ask them what they want to know, position ourselves as colearners as much as tyrants, or treat them as anything more than a person who is to be managed and formed by us. It’s no good for them and no good for us.

Kevin: Maybe next, can we flesh out what our respective definitions of SDL are?

Malcolm: Sure. My clearest definition was given in my book *Self-Directed Learning* (1975) in which I defined SDL as

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

John: I’m afraid that I never really put it into a formal definition. I think Malcolm was better at theory than I was. My goal was to describe how it seems to me that people learn best and leave the theorizing—generalizing it all—to those who are good at that. At any rate, here’s what I wrote in *Escape From Childhood* on children’s rights where I argued that, among other rights, children have the right to

decide what they want to learn, and when, where, how, how much, how fast, and with what help they want to learn it. To be still more specific, I want them to have the right to decide if, when, how much, and by whom they want to be taught and the right to decide whether they want to learn in a school and if so which one and for how much of their time. (Holt, 1974, p. 240)

Malcolm: That’s interesting John. The first part of it is not too far off from my own; we clearly demarcate different areas of learning that learners can or should be free in:

choosing what to learn (I call this diagnosing learning needs), deciding what help they want with their learning (I call this identifying learning resources). Where I wonder if you go a bit further than I is in your commitment to allowing children to decide whether they want to learn at all. I don't think I would generally go that far.

John: Well, that's not quite what I say. Everyone learns all the time whether they are in school or not. I want to give children as we'd give adults the choice about where to learn and extend that to whether or not they want to learn in school. School surely isn't the only place one can learn, and I'd even say that it's often the place least likely to produce *real* learning.

Yes, my definition is more—how should I say it?—expansive than yours is. I'd suggest another difference is that yours is more formal than mine. Where I say that I want to give kids the right to decide what to learn, you say that you want to give learners the right to diagnose learning needs. But think about it: how often when we want to learn something do we in any explicit way diagnose our learning needs? We just experience—really, feel in an unconscious way—some gap in our understanding or some curiosity and set about finding ways to scratch the itch.

Malcolm: Let me say two things there. First, my formal description isn't meant to imply that the process itself must be undertaken in a formal way. When a learner decides that they want to learn a thing, they may experience this in an informal way. They just think “Oh, that's interesting. Let me pause on that.” But even that—however informally done—is their assessment of their learning needs where “that's interesting” is the assessment.

Second, when I write about the freedom learners should have to assess their learning needs, I am writing with an eye toward formal learning environments. Learners can and should be able to assess their learning needs in informal environments as well—Allen Tough influenced my thinking in this area (Tough, 1969, 1979)—so we agree on that. But I'm writing in the particular context of applying this general idea about human learning to adult learning in formal settings. When adults take college courses, for instance, they often are assessing their learning needs more formally than if they are learning something at home on the spur of the moment.

John: Is that really possible in formal learning environments though? Generally, when one signs up for a class—and let's assume the person is signing up because they want to rather than that they were made or felt compelled to—one is signing up to in some way be limited in one's learning to the things the teacher or institution thinks are legitimate; otherwise, why not learn the same things in an informal way? As the word “formal” implies, one is signing up to have a form placed on one's learning from without. One is saying, “you, formal institution, know what I need better than I do. Put form to my learning—tell me what to learn, how to learn it, how quickly to learn it—in a way that I cannot.” In that situation, does it make sense to say that a learner can really have freedom to diagnose their own learning needs?

Malcolm: You're depicting a more binary situation than I have in mind John. I think it is absolutely true that when you sign up for a formal course, you are having someone limit the scope of your freedom in the same way that when I use a personal trainer, I use their expertise to put form to my workout and health regimens. But in that constrained environment, a personal trainer can still give me more or less freedom: they could dictate to me what exact exercise I will do and when, or they can give me a range of options, inform me of which options they think are best given my goals, and give me the freedom to choose from there. I am envisioning a teacher who allows maximal choice given the formal constraints of the institution.

John: And I'm going to suggest that the formal constraints of the institution will end up undermining all the benefits of giving freedom to learners. Won't you agree that one key benefit of learner freedom is that learners learn from authentic interest rather than being motivated by fear and extrinsic incentives like grades and credits and that they learn based on a legitimately felt desire rather than some second-order desire to satisfy others?

Malcolm: Certainly!

John: Well, putting those exact extrinsic constraints on learning diminishes—maybe undoes entirely—the benefit of learner freedom. It doesn't matter that you gave them a choice of five not-as-interesting things and allowed them to choose or allowed them to demonstrate their learning on a paper rather than a test. I very much still believe what I wrote years ago (and this may be what ultimately puts us at odds):

[A] child may not know what he may need to know in ten years (who does?), but he knows, and much better than anyone else, what he wants and needs to know right now, what his mind is ready and hungry for. If we help him, or just allow him, to learn that, he will remember it, use it, build on it. If we try to make him learn something else, that we think is more important, the chances are that he won't learn it, or will learn very little of it, that he will soon forget most of what he learned, and what is worst of all, will before long lose most of his appetite for learning anything. (Farenga, 2003, p. 49)

Malcolm: [Pause] A few things in that quote seem questionable. Most noticeably, you talk about making someone learn a thing they don't want to learn. This may be because you are reacting primarily against K–12 schools where attendance and compliance are mandatory. But in general, adults are choosing their programs of study and the classes they are in. If I want to be a lawyer, that choice of mine entails entering into a particular course of study, and presumably, I recognize that the people who design and teach that course of study need to advise me—and yes, limit my freedom—of what things I need to learn. I may have to learn things I would not there and then choose to learn but choosing to be a lawyer was a choice I made that in some sense restricts my moment-to-moment freedom.

Or, as I have written it:

Ideally, I favor all adult education being voluntary. It is my experience that voluntary learners are usually more committed than those who are participating under compulsion. But I can empathize with society's wanting the security of knowing that its professionals . . . are keeping up to date. (Knowles, 1989, p. 96)

I want to be a lawyer, and that requires a credential. So my freedom to learn can only be preserved to the extent that I learn the things necessary to earn that credential.

John: Are you suggesting that students in conventional schools are generally signing up for classes and courses of study in a state at all resembling freedom? You sound like a great teacher, Malcolm, giving your students the maximal freedom your institution will allow. But how free is a student to decline to learn what your class intends to teach? Or not to take your class, to refuse your instruction? Hardly at all. The cost of refusing would be to forfeit the grades and credits they need to become (in your case) a teacher. Sure, they can in the end choose not to be a teacher, so that is a choice. But it's hardly a free choice. On one hand, they can learn stuff they do not care about and may be convinced won't be necessary for their teaching career; on the other, they can refuse and forgo a dream of being a teacher. A very stacked choice.

Kevin: At this point, can we say the following? I think Malcolm may be a pluralist of sorts, who—with some regret, surely—is saying that while he recognizes the value of learner freedom, he also recognizes the need of institutions ensuring to the public that professionals know what professionals should know. And John is saying something more monistic: even if we recognize the conflict between learner freedom and society's need for professionalized learning and credentials, the latter will undermine all the benefits of the former. John, didn't you write in *Instead of Education* about the desire that educational institutions and credentialing should remain fairly separate precisely for the reason that if bound together, learning would become too programmatic, built around the aim of gaining credentials (Holt, 1976, p. 190)?

John: I did! One of the problems with institutional schooling is that as free as we make the classroom, the rules that guide such institutions effectively prevent the type of freedom we want. Another example: it sounds like Malcolm and I have very similar ideas on the roles of a teacher and how teachers should relate to learners. I've written much on this, and I think that an essential ingredient of authentic teacher-learner relations is that they are in some important sense equals.

Malcolm: Certainly! I've also written about this. I wrote that teachers'

part in this [learning] process is that of helper, guide, encourager, consultant, and resource—not that of transmitter, disciplinarian, judge, and authority. They [the teacher] recognize that it is less important that their clients [because that's what students are] know the right answers to the questions they [the teacher] think are important than that the clients know how to ask the important questions and find the answers for themselves. (Knowles, 1975, p. 38)

John: Wonderfully written! But this is why—to remain consistent—I have to say that such teacher-student relationships are unlikely to be found in formal learning institutions. Here’s the way I’ve put it: “We cannot be in the business of education and at the same time in the business of testing, grading, labeling, sorting, deciding who goes where and who gets what” (Holt, 1970, p. 38). No matter how much freedom you give to students in what they learn, you are the one with the institutional right to give the syllabus and dictate the parameters of things that can be learned and to assess students and issue grades accordingly. Even if you are the most fair-minded and libertarian person and don’t exercise these powers (and your supervisors will probably pay you a visit if you don’t), you still have what gets in the way of the authentic relationship: institutional authority.

Malcolm: You’re getting me to think about and articulate something I might not have explicated directly in my writings that there are degrees of freedom. Your work deals with freedom as a binary: either you are free in your learning full-stop or it’s unfree. Remember my definition of SDL, which actually resembles yours in the following way: we both listed the various elements of learning that can be free or coerced as what to learn, what materials to use, how to learn, the timeframe one learns on, how one assesses progress, and the like. It is possible that some of these must, for a variety of reasons, be coerced while others can remain free. Even if I am teaching from a fixed curriculum—as lamentable as that is—I can still leave other elements of the learning process free. It isn’t all or nothing.

Kevin: In the time that’s left, I’d really like to throw out another topic for discussion. I notice that the theory of learning Malcolm helped to pioneer in adult learning—*andragogy*—is an idea of learning John seems to take for granted in all learners young and old.

Malcolm: Sure. When I started really thinking about adult education, I consumed as much learning theory as I could get my hands on. But just about all of it was about how learning works in children rather than in adults. In pedagogy—literally, the learning science of children—the idea is that we are dealing with learners who are dependent, inexperienced, very open to suggestion (because of these former two factors), and inclined to see learning more as acquiring content more than skills.

My experience at the YMCA and then as a professor told me that adults differ from children in very important ways in their learning (Knowles, 1980, pp. 43–44). Adults are less dependent than children, have more funds of knowledge to draw on, and hence are often more capable at things like diagnosing learning needs and finding good learning materials; that is, they are more reflective and agentic about what they want and need to learn and think of learning more as acquiring skills and competencies than children usually do.

John: You describe those as the differences between adults and children where I’d describe them as a difference between theories of institutional and natural learning. What you describe about adults and how they learn is how I describe how *all* people

tend to learn when they aren't poked and prodded by institutional methods. In fact, my second book, *How Children Learn* (2017), was precisely about how the children I see around me learn in just the ways you describe for adults . . . at least once they are not learning in schools.

Take your observation about children being more dependent and being more open to instruction. That is absolutely the opposite of what I see when kids are learning to walk, talk, and do just about anything they're really engrossed in. Sit down a kid who is outside looking at bugs through a magnifying glass and give them a lecture about how that's the thorax and its job is to blah blah. Or to take a kid learning to play a game by playing it and stop the game to give them proper instructions. My guess is that anyone who thinks children are quite dependent on and receptive to the instruction of adults thinks that because they are looking at children who've been schooled for a long time.

Also, why does level of background experience matter for capacity to self-direct? Babies learn to walk fine even though they start completely inexperienced at it, and their lack of experience doesn't mean that we'd better give them walking lessons. If anything, lack of experience might mean that you offer a learner more advice and make sure they have a range of sources from which to learn, but it doesn't indicate that they should be learning in coercive classrooms.

Malcolm: Well, I should note that while I started making this division between how children and adults learn, I softened and blurred my stance precisely because I have heard from many educators of children who report exactly the types of things you are describing. Over the years, I revised my division between andragogy and pedagogy as “two parallel sets of assumptions about learners and learning that need to be checked out in each situation; in those situations in which the pedagogical assumptions are realistic, pedagogical strategies are appropriate and vice versa” (Knowles, 1989, p. 80).

John: Then why make the division at all? Why not trust individuals—who know themselves best—to figure out what they need by way of learning?

Malcolm: Good question. I haven't written about this per se, but I do wonder a bit whether individuals always know themselves best as you often write—maybe assume?—they do. Someone learning to drive a car may not know introspectively what they need to learn or how best to go about learning to drive. They might think—and they'd be wrong—that a person really only has to read about driving or, the opposite, that studying different road signs isn't an important part of driving. We know they are wrong, and maybe we are justified—for their own good—in telling them what they need to know. As great as freedom is, it only works to the degree that the learner can accurately assess their needs and how to best fulfill them. Sometimes, it might be justified for more experienced adults to step in even if it means sometimes forcing for the children's own good.

John: The moment we say that your freedom to learn as you want is dependent on whether we, to our own satisfaction, believe that you're sufficiently ready is the

moment we allow for a lot of coercion. Even if it is possible, as you say, that we can give someone more freedom than they are ready for and they never realize this for themselves (I can hardly imagine that!), I worry more about the opposite: us anointing gatekeepers who get to decide how much learning freedom everyone is allowed according to your two categories and conveniently keeping too many people in a condition of pedagogy when they'd have benefited from andragogy. I'd rather let people decide for themselves: all people, not just adults, and not just if they can convince their so-called betters that they are ready for freedom.

Kevin: It seems to me like Malcolm is less reformist in his ambition than is John, or maybe that John is more bold in his. Example: you both cite the “deschooling” advocate Ivan Illich in your work, but Malcolm referred to him negatively as “essentially a nihilist” from whom you, Malcolm, “can’t think of much constructive help” his philosophy has given you (Knowles, 1989, p. 96). On the other hand, John—who had pretty regular contact with Illich (Sheffer, 1990)—wrote about Illich’s quest to “deschool society” (Illich, 1971) quite a lot, always in a positive light. Are John and Ivan the radicals to Malcolm’s moderate, perhaps conservative, approach?

Malcolm: Perhaps. I don’t really take many positions in my published work about what direction society should be headed. It’s not that I have nothing to say there or that I think that SDL should only affirm the status quo. It is that my job has always been to maximize how adults learn things. I believe for a variety of reasons that SDL can do that. I have views on what role SDL can play in affecting the wider world in bringing out a more egalitarian, more autonomous, more self-actualizing world. But my work is geared toward institutions as they exist. I could try and persuade those institutions to embrace SDL only if they are willing to radically change, a higher cost than most any institution will willingly pay. Or, I can try to do as John does and find ways to bypass existing institutions (with his work for homeschoolers). Or, my preferred solution (Knowles 1989, pp. 94–95): I can try to get institutions—viable ones that exist now—to make space for SDL. Hopefully, these institutions will see that it works to enhance rather than threaten the institution, and they might be more inclined to adopt more of it.

John: I also want to carve out spaces for SDL here and now. Maybe what you all see as my all-or-nothing position on learner freedom comes down to my conviction that what I once thought were reformable schools that could accommodate freedom, I now see irreducibly as obstacles to freedom. If we want learner freedom, we have to change the structure of how education is offered and even imagined. We can’t reform the current system because the reforms we are calling for would undermine the very structure of the system.

Kevin: Well, I think we will have to end the discussion there as we are out of time. Gentlemen, I could sit here and listen to you all day. While I regret that these first-rate thinkers and champions of SDL never met and discussed like this in their lifetimes, I am glad that we live in an age that allowed us to download all of their knowledge into these

simulacra thereby enabling this conversation. Let's give Malcolm, John, and of course, the technology that made all this possible, a round of applause. [Standing ovation.]

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FACILITATING SELF-DIRECTED LEARNING ENVIRONMENTS: A CLEAR PATH TO MAKING LEARNERS THIRSTY FOR TECHNOLOGY KNOWLEDGE

Jeffrey Beard and Elizabeth MacTavish

The purpose of this practice brief is to share our educational technology team's best practices for facilitating preservice teachers' self-directed learning in technology-focused learning environments. Our team has developed technology courses that support and encourage learning environments in which students have opportunities to engage with our CLEAR model. This model allows learners to choose, lead, experience, apply, and reflect on technology ideals and skills. Self-directed learning is effectively fostered through the use of this model and promotes future teachers who are independent, self-directed technology learners and users.

Keywords: self-directed learning, learning environments, educational technology, preservice teachers

Someone once said, "you can lead a horse to water, but you can't make him drink." Some educators have suggested this is true with learners: one can teach students content but cannot make them learn. It could be argued that while one cannot make a horse drink, conditions could be introduced to make the horse thirsty. The same logic can be applied to learners: An educator can introduce conditions in the learning environment to inspire students to learn.

Learning Environments

Learning environments can be formal or informal and can be defined as any environment in which learning occurs. However, for the purpose of this brief, a learning environment is considered as it applies to educational technology courses offered in an educator preparation program in a higher education institution. Merriam and Brockett (2007) discussed the important role learning environments play in successful learning and suggested that the learning environment is comprised of three basic environments: physical, psychological, and social.

The physical environment is the actual location where learning occurs (Merriam & Brockett, 2007). Factors affecting the physical environment include tangible attributes of the room. In technology classrooms, factors relating to the equipment (e.g.,

interactive whiteboard, keyboard, mouse, monitor) can come into play. The conditions of the physical attributes, such as outdated or new software systems, can affect the learning environment. The psychological environment involves the climate where educators and students are able to connect and communicate (Merriam & Brockett, 2007). This is where educators make learners feel welcome and safe. Educators should recognize that each learner will bring prior and current life experiences as well as potentially negative educational experiences. In technology courses, this can include negative prior experiences using technology resulting in computer anxiety (Czaja et al., 2006) and low technology self-efficacy (Kent & Giles, 2017; Young Ju et al., 2018). The social environment involves recognizing the diversity of learners as all voices are of equal importance (Merriam & Brockett, 2007). The social environment is essential in the classroom when considering social context and individual perspectives. In technology courses, the social environment is quite important as it often involves collaborating with other classmates to coconstruct new knowledge.

Much more could be discussed pertaining to these three environments, but the point is how important it is for the educator to carefully consider all three. Both the educator and student influence elements of the learning environment, but the educator bears the ultimate responsibility in creating and maintaining the learning environment. Creating learning environments involves developing a pedagogical strategy within the design of the course to foster the desired outcome (Long, 2001; Smith, 2012). A pedagogical strategy that fosters a self-directed learning (SDL) learning environment is student-centered where the learner is involved in determining learning goals, assessing outcomes, and pacing content (Brockett & Hiemstra, 1991, 2012; Knowles, 1975; Robinson & Persky, 2020).

SDL Environments

Spear and Mocker (1984) emphasized the importance of understanding the learner's environmental circumstances in promoting SDL. To better explain SDL as a teaching and learning transaction, Brockett and Hiemstra (1991) developed the Personal Responsibility Orientation model that illustrates the difference between SDL as an instructional method and learner self-direction as a set of personality characteristics. Brockett and Hiemstra (1991) suggested that self-direction in learning should recognize both the external factors that facilitate learners taking primary responsibility for learning as well as the internal factors, or personality characteristics, that predispose the learner toward taking such responsibility. Brockett and Hiemstra (2012) updated and revised their model to a new Person Process Context model. This new model considers the dynamic interrelationships between the three elements of person, process, and context with SDL occurring in the middle. In educational technology learning environments, it is important to consider the technology context.

In recent years, technology has continued to evolve exponentially where the next version of computer (e.g., new processor, larger hard drive), electronic device (e.g., phone, tablet), or software application (e.g., Microsoft Word) is released soon after one acquires the device or application. Often there are tutorials and self-training guides released to help users with changes; however, users are expected to adapt and “figure

out” how to use the new changes on their own. Facilitating a technology course has become more about learning conceptual technology ideals and how to be an independent technology learner in the future rather than only on teaching specific skills (Ottenbreit-Leftwich et al., 2018). Brockett and Hiemstra’s (1991) claim that “[s]elf-direction in learning is a way of life” could certainly be argued concerning today’s technology as a self-directed learner of technology appears to now be a necessary life skill (p. 18).

Facilitating SDL Environments

The SDL approach is being used with positive results in educational environments where students are learning to use technology (Bryan, 2015; Sumuer, 2018). Clinton and Rieber (2010) utilized a SDL approach in an instructional technology master’s program through a series of studio courses. The program used a SDL approach that Candy (1991) referred to as assisted autodidaxy (i.e., self-education with instructor guidance; e.g., independent study). During the first course, the students were involved in seminars and discussions on SDL and learned that SDL is not about learning alone but rather about making personal choices and decisions and then taking action (Clinton & Rieber, 2010). The SDL approach was researched and implemented after considering the program involved learning complex multimedia skills and a one-size-fits-all approach would not meet the different learning styles of the students. The results revealed most students were comfortable with the SDL approach and believed it would serve them well as professionals while other students indicated they gained from the experience of a different approach (Clinton & Rieber, 2010).

Bulik (2009) posited “lifelong, self-directed learning (SDL) skills are becoming the currency of successful professionals” in a world where even an advanced degree no longer produces an “expert” (p. 51). The days of a teacher-centered environment where an all-knowing educator imparts knowledge to learners are long past. Technology and knowledge in general are changing so rapidly that a type of new learning environment is needed for today’s learner (Jones et al., 2013; Zhao & Watterson, 2021). One approach is to shift to a learner-centered SDL environment where the teacher facilitates a constructivist approach, assisting learners in their quest to associate and compare new information with prior knowledge (Bulik, 2009; Bulik et al., 1999). In this brief, we present a model for fostering SDL in educational technology courses.

Educational Technology Course Best Practices that Foster SDL

Much like the horse proverb in the beginning of this brief, our educational technology faculty has discovered ways to create thirsty students who desire active participation in technology learning as well as seek out ways to independently navigate technology challenges. We developed and are currently implementing the CLEAR model in our educational technology courses. The CLEAR model provides students with opportunities to choose, lead, experience, apply, and reflect (CLEAR) within the learning environment. Although the CLEAR model is presented here in the context of fostering a SDL environment with students in an educational technology course, this

model is easily transferable to other content areas and other courses. To provide a clearer picture of our model, we outline research supporting each best practice and offer examples of how we implement each practice in our educational technology courses.

Choose

Providing students with choice is a critical component of students becoming independent, self-directed learners (Clinton & Rieber, 2010; Knowles, 1975). By allowing students choice in what and how they learn new technology ideas, we found our students are more motivated to take ownership of their own learning. In our courses, we facilitate opportunities for choice in two ways. First, we utilize learning contracts in which students identify what they want to learn, why they want to learn it, and what evidence they will present that shows mastery. Similar to research conducted by Frank and Scharff (2013), we discovered learning contracts increase student engagement, commitment, and overall self-direction when tasked with learning new technologies. Second, we incorporate problem-based learning approaches that involve complex problems solved through collaborative and SDL efforts (i.e., students do independent, self-directed study before working with a team; Reio, 2009). Studies have indicated that problem-based learning approaches foster SDL (Loyens et al., 2008). In our courses, students identify and conduct independent research on a mobile application; afterward, students who selected the same mobile application work together to teach their peers how to use it. Facilitating opportunities that enable students to choose what they want to learn about and how they learn it fosters SDL.

Lead

The “self” in SDL refers to the learner taking personal initiative to learn, but this initiative could be in a social setting with helpers such as peers and instructors who are involved in the learning experience (Knowles, 1975). Bandura (1997) hypothesized social persuasion from helpers as one of the primary sources of self-efficacy. In an educational technology context, teacher self-efficacy is positively correlated with effective technology integration (Barton & Dexter, 2020; Kirk, 2012; Tweed, 2013). Self-efficacy and the confidence to integrate technology have a positive correlation among preservice teachers (Beard, 2016). Leading self and others in collaborative team-based approaches results in improved self-efficacy and the ability to lead education technology integration (Barton & Dexter, 2020). In our courses, we provide opportunities for students to work in small teams to design and create with new technologies. As part of teamwork, students engage in collaborative efforts that require leadership in the form of delegating tasks and carrying out accountability measures. For example, our students develop online instructional modules in a learning management system within content specific teams. Such projects encourage students to identify the strengths of their teammates and, thus, promote a learning environment aligned with effective teacher leadership behaviors (Von Dohlen & Karvonen, 2018). With opportunities to lead, our students manage the planning, engagement, and evaluation of

the learning process. As self-directed learners, they identify and seek out resources to support their learning while developing strategies to meet learning goals.

Experience

It has been argued that experiences are the catalyst for all learning (Jarvis, 1987; Kolb, 1984) and further proclaimed the “highest value in [adult] education is the learner’s experience” (Lindeman, 1926, p. 6). Dewey (1938) suggested “there is an intimate and necessary relation between the process of actual experience and education” (p. 20). Additional studies have shown that life experiences, informal or formal, can also impact the ability of students to build identities related to their roles within the learning environment (Calabrese Barton et al., 2013; MacTavish, 2016). In our courses, we value our students’ learned experiences and incorporate those experiences into their assignments. One example is our Floored and Bored discussion in which we encourage students to share both positive and negative experiences they have had with technology. Students are able to take their experiences and utilize them as a vehicle to construct pedagogical approaches regarding technology integration. We have found that valuing our students’ experiences increases their motivation and builds self-confidence as self-directed learners. Leveraging a student’s life experiences within the appropriate context completes the learning transaction and enables the student to apply the new knowledge (Brockett & Hiemstra, 1991, 2012).

Apply

Research has shown that learning about certain topics is best accomplished by actually doing particular tasks in particular environments (Fenwick, 2008; Gooblar, 2018). For example, how to use certain computer software can be presented and demonstrated, but until the learner is able to get hands-on experience, the knowledge about how to use the software is not transferred. In our courses, we provide opportunities for students to apply their learned experiences when they work with technologies during the semester. For example, our students study effective web design as well as conduct reliability evaluations of websites; afterward they plan, design, and create their own websites highlighting the design and authenticity of ideas they learned about websites. They also engage in similar hands-on opportunities with various tools such as blogging, movie editing software, and learning management systems. We strongly advocate for students to be hands-on with technologies because we have discovered students become self-directed technology learners when they do to learn rather than learn to do.

Reflect

According to Schön (1990, 2016) there is reflection-in-action that occurs while doing an activity and reflection-on-action that occurs after the activity. Reflecting during and after an experience allows students the opportunity to assess their own learning and construct new knowledge leading to personal understanding (Kolb, 1984). Criticos (1993) suggested, “effective learning does not follow from a positive experience, but

from effective reflection” (p. 162). A key element of transformative learning involves individuals changing their frames of reference by critically reflecting on their assumptions and personal beliefs leading to analyzing and accepting new knowledge (Mezirow, 1997). In our courses, students are given opportunities to reflect when applying learned experiences as well as after they have engaged in new experiences. As instructors, we facilitate both whole and small group discussions that provide our students with opportunities to critically reflect on their assumptions pertaining to specific learning objectives and overall content (Bulik et al., 1999; Cranton, 2002). We also give students space and time to reflect independently on the learning process. Students in our courses create and maintain blogs and discussion boards. Writing and commenting on posts enables students to reflect and think purposefully about their learning experiences. Often, this reflective process requires students to consider controversial and complex topics. Examining others’ viewpoints challenges their assumptions (Cranton, 2002) and encourages students’ self-direction and autonomous thinking (Mezirow, 1997).

Summary and Recommendations

At the core of SDL, there is an element of the adult learner becoming an autonomous thinker who constructs knowledge from personal experiences independently and collaboratively (Knowles, 1975). It is beyond the scope of this brief to develop further, but it is well established that each learner is unique in how they learn (Gardner, 1983). This suggests the need for pedagogical diversity. When we allow students to engage in SDL to create their own learning activities, we are allowing them to customize their learning to match their learning styles (M. Ponton, personal communication, September 18, 2022). Regardless of the subject matter, courses should be developed with diverse learning needs in mind. Therefore, the goal of developing courses should be to facilitate opportunities of knowledge discovery so all learners are able to reach their educational goals. Effective instruction includes assisting learners in reaching their potential. Reaching potential involves development through experiencing, which leads to the development of the mind, change of perspective, and improved knowledge and skills.

Both theoretical and constructive in nature, these recommendations for educational technology courses support the development of SDL. As a result, we offer the following best practices for educational technology courses focused on preparing preservice teachers for the K–12 classroom:

- Allow students **choice**.
- Provide opportunities to **lead**.
- Utilize past **experiences** to shape future **experiences**.
- Enable students to **apply** learned experiences.
- Create time and space for **reflection** of these experiences.

By implementing the CLEAR model to scaffold and structure learning, we have observed students becoming independent, self-directed learners. Students who initially began the semester with weak technology self-efficacy transformed to students who are

able to take personal responsibility for their own learning, set learning goals, determine how progress should be assessed, and seek feedback for improvement. By experiencing a SDL environment, they developed a thirst for technology knowledge that, in turn, can lead them to engage in other SDL opportunities.

In the end, we strongly believe in creating a learning environment that encourages and promotes independent, self-directed technology learners and users. We also believe that, as teacher educators, we have a responsibility to model an environment that will not only benefit our students but also our students' future students. For this reason, our efforts to educate our students on technology-focused ideals and tools using the CLEAR model will continue to align with Ohliger's position: "When we impose ideas on people, we train them. When we create an atmosphere where people are free to explore ideas in dialogue and through interactions with other people, we educate them" (Ohliger, 1970, p. 250, as cited in Wagner, 2009, p. 323).

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