Adult Education Research Conference   2018 Conference Proceedings (Victoria, BC Canada)

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Recommended Citation

Body, Social and Material Connections as Ways of knowing: A Reflection of the Adult Smoker's Experiences when learning about and using an Electronic Cigarette

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Abstract: This study explores the body, as a site of learning and the impact of social and material networks by investigating the lived experiences of adult smokers who use an electronic cigarette device to quit cigarette smoking.

Keywords: Adult Education, Narrative inquiry, quitting smoking, electronic cigarette, embodied learning, Actor Network Theory

While there's been much recent discussion on learning through the body (Merriam & Bierema, 2014), research studies on how it unfolds are limited in adult education and health care (Swartz, 2012; Tobin & Tisdell, 2015). Freiler (2008) discusses embodied learning or learning via a connection between the mind and body and spirit. Niedenthal (2007) adds to this definition by describing embodied learning as a learned way of being related to the perceptions and experiences of the body's senses, motor actions, and emotions. This can have consequences both for positive learning and learning through the body that involves an addiction, such as addiction to cigarettes. A percentage of the adult population has learned that smoking cigarettes delivers a good feeling to their body. Over time, they have learned that going too long between smoking a cigarette can be uncomfortable and they experience moodiness, stress, and agitation (Benowitz, 2010). Many of these same smokers also learn that quitting the use of cigarettes is challenging because of all the ways in which smoking a cigarette supports their social and physical experiences (Fiore et al., 2008). Discourse around these perceptions can provide for an understanding of how such adults make meaning in their lives. Further putting an embodied learning lens to their experience may help uncover ways such individuals may learn to eventually quit smoking. Use of electronic cigarettes may be a step along the way to facilitate such learning and unlearning.

Recently, through friends, vape shops, and word of mouth, (Pepper, Emery, Ribisl, & Brewer, 2014) the electronic cigarette (EC) has entered the tobacco use market and it has grown in popularity exponentially over the last several years, particularly among current cigarette smokers. It was first introduced into the United States in 2006 and by 2014 over 55% of former smokers, and 47.6% of current smokers tried an EC and 22% of recently quit smokers regularly

use an EC (Schoenborn & Gindi, 2015). While these statistics are interesting, currently there is a lack of data based research that focuses on the social and material factors (including the body) that impact learning about and using an EC. Hence, *the purpose of this paper is to discuss qualitative aspects of a mixed methods research study that examined cigarette smokers' social and material experiences and body connections to smoking and how that affects learning about and using electronic cigarettes (ECs).*

Theoretical Framework and Literature Review

The theoretical framework of this study is twofold; It is informed by (1) embodied learning theory and combines how learning occurs through the body's senses, motor actions and emotions (Freiler, 2008; Tobin & Tisdell, 2015) and how that can be considered in clinical settings (Swartz, 2012) and (2) Actor Network Theory (ANT) which suggests that adults form knowledge through the dynamic realm of social (e.g. friends, family members, work) and material (e.g. electronic cigarettes and its components, vape shops, forums and blogs) (Fenwick & Edwards, 2010).

There are two key bodies of literature that inform this study. First, the embodied connection to smoking and how that affects the use of electronic cigarettes (EC) is key to understanding the smoker's ability to quit smoking with an EC. The experiences of a specific movement, action, sense, thought, or emotion, around smoking are repeated multiple times a day and solidify a certain way of being in the world (Niedenthal, 2007), described as an identity or "being a smoker" by those who use cigarettes on a daily basis. Using an EC to continue the identity gives the smoker power over their nicotine addiction by using a product they feel is less harmful but gives them the nicotine their body craves (Hajek, Etter, Benowitz, Eissenberg, & McRobbie, 2014).

In tobacco use, there is a learned behavior that results in a conditioned response to cues to smoke. These responses cause bodily reactions in urges and craving to smoke, in which the user begins to associate specific moods, situations, or environmental factors with the rewarding effects of the drug (Dawkins, 2013). Additionally, there are uncomfortable physical nicotine withdrawal symptoms which include depression, reduced sleep, irritability, restlessness, reduced concentration, and anxiety (Benowitz, 2010). Once smoking is a learned behavior, the user orients the senses to cigarette use and often doesn't even realize the somatic or body effects of the physical addiction (Dawkins, 2013).

Everyday experiences and their smaller parts, like memories, feeling, intentions, cigarettes, tables, plants, and so on, are important to learning and are "assumed to be able to

create force by joining together, changing and being changed by each other. These experiences assemble to form associations or networks" (Fenwick & Edwards, 2010, p. 3). These networks can include humans, things, ideas, concepts, etc. which are referred to as actors in the network (Latour, 2005). ANT considers that society is constructed by the performative interactions of both human and nonhuman (technologies). Thus, by using ANT to study technology provides a view that humans are not impacted externally by technology, rather it came about from social interests (improved healthcare delivery, less harmful products such as e-cig compared to cigarette) which gives agency to the actor to shape social interactions (Prout, 1996).

The literature related to learning and EC use is important, specifically to adult education. The literature on this topic revealed five themes related to gaining knowledge about and learning to use an EC; (1) exposure to the EC, (2) perception of EC, (3) experiencing the EC, (4) continuing to use the EC, and (5) advocating for the EC. These themes reveal networks accessed by smokers who want to use an EC. In a qualitative study of 32 young adults age 18-26, Popova et al (2017) found that people in EC retail shops provided a lot of information to smokers about product selections and customization in addition to ways to experience the EC and to support continued use of EC. These shops are generally run by early adopters of the EC who have had multiple experiences with the EC and are genuinely interested in helping others to gain information about the EC. Blogs and websites, are often used to garner more information about the EC in addition to personal contact (Li, Newcombe, & Walton, 2014).

Methodology

 This study reports the findings of a qualitative study that used smokers' narratives to explain their lived experiences (Merriam & Tisdell, 2016) of electronic cigarette use. Participants who were dual users (both electronic cigarette and cigarette), completed an online survey about their cigarette and electronic cigarette use, and agreed to be contacted for future research were included in this study. 53 participants completed the survey, 16 were interviewed and 11 had quit smoking. This study presents qualitative results of the 11 dual users who quit smoking and became exclusive electronic cigarettes users.

Data collection methods in qualitative research include interviews, observations, and analysis of artifacts and documents related to the context (Merriam & Tisdell, 2016). In this study the primary source of data were the narratives of the participant. Data were analyzed and gathered into themes using the constant comparative method of data analysis. Purposeful sampling enhanced dependability of the results; credibility and reliability were established through peer debriefing and triangulation (Merriam & Tisdell, 2016).

Findings and Discussion

The findings of the study are interpreted in light of the intersecting theoretical frameworks of the study, and implications for adult education and healthcare are considered. These findings are discussed in relation to individual's experiences of the use of an electronic cigarette (EC) to quit smoking, the learning environment, and how people or material systems explained as networks; support the use of the EC.

Smokers Experiences: Using the EC to Quit Smoking

Once they experienced the EC, several participants described the ease of using an EC because it simulated a smoking experience. Meriam and Bierema (2014) reference this type of learning embedded in body experiences as "embodied learning". Embodied learning is a theoretical perspective in adult education which examines body experiences which contribute to learning. This learning is not always obvious, but in adult smokers, several participants are well aware of their embodied experiences when smoking and how that is similar when using an electronic cigarette (EC). When specifically discussing embodied connections to smoking, for example, "How you would say that using an EC is like a cigarette?" almost all of those interviewed felt a similar connection to the EC as they had with smoking.

Bodily senses are activated with smoking and also with the EC. This "connected knowledge" (Swartz, 2012) allows for the familiar (traditional smoking) activity to be comfortably replaced with new activity (EC use). Seeing the similarity of the EC to traditional cigarettes has been found to contribute to more interest in EC use (Simmons et al., 2016). In addition, learning that the EC will replicate the sensory involvement that cigarette smoking provides is a reason participants give to being able to use it to quit smoking.

Several participants mentioned how the EC satisfied their senses and embodied habits so they wouldn't smoke, in particular, every participant mentioned their need to have something to do with their hands. Neil comments "even if I was not using it much, a lot of times I would just kind of have it in my mouth or between my fingers like I would a cigarette. So I think having it, cut down on me thinking about and wanting to smoke". Simmons et al (2016) found that by using the EC and realizing its comparison to combustible cigarettes reduced smokers' interest in smoking. Similar to Simmons et al study, two participants stated that they were not intending to quit with the EC but once they experienced it they were able to quit. Mark stated "I wasn't expecting it to work as well as it did. I took a drag on one and thought 'wow'

this works really well." and Helen says "once I realized I liked them, it hit me that I can quit smoking." Participants talked about using the EC just to give them a way to "smoke" in places that smoking is not allowed, but, after experiencing the EC these smokers learned that they can use it to quit smoking.

The ability to replicate the habit of 'hand to mouth' action and the 'inhalation and exhalation of vaper' are frequent reasons given by smokers when they talk about how they use an EC to quit smoking, for example Kate reports "how I hold it and put it up to my mouth that is what replacing the 'experience' of smoking is for me." Contrary to using an EC to avoid smoking, current research found (King et al., 2016) that seeing the EC replicating smoking behavior of 'hand-to-mouth movement' and 'inhale and exhale' may generalize as a conditioned cue to smoke. This research proposes that the ability for the EC to replicate the 'hand to mouth' action and the 'inhale and exhale' of vapor is a reason that adult smokers are using the EC to quit smoking.

The Learning Environment

Most participants learned of the EC through friends, coworkers, or personal contacts and participants referred to this as a way to "share the love" by saying "that stranger's enthusiasm inspired me to try it" and "a coworker of mine let me try it and showed me how it worked". Others engaged in online sources to learn how others experienced different EC devices and how to use them. Mark comments "once I tried the EC I looked online for other vaping ways or methods." and Elly credits her success to an online buddy by saying "we had somebody cheerleading for us which I think in the end made a lot of difference." Cathy explains that she learned of other devices and how they worked through "social media and things on Facebook." A few visited vape shops, brick and mortar stores, to illicit personal advice and instruction on how to use the EC. Ira mentioned belonging to a "vape club" and sampling different flavors and Diane buys her nicotine juice from a vape shop "in town" and works with them to decide the level of nicotine in her juice. Once participants were exposed to the EC, they continued to use it related to their experience of different devices, flavors, and nicotine levels by understanding that "there is a flavor/device combination for everyone." In adult education these learning environments are referred to as experiential, informal, and online learning (Merriam & Bierema, 2014), and they all contribute to learning about and using an EC.

Participants stated that knowing how to change or alter the device is an important component to learning about ECs. Learning occurred via trial and error of different devices, nicotine levels, and flavors of liquids, and learning included interactions with other people and objects. Initially smokers may have learned of an EC though word of mouth but they

experienced it by replacing cigarettes with an EC device. This dual use is often said to support continued smoking and reduce chances of quitting (King et al., 2016). However, this study found that participants needed more time to adjust to the EC, and more experience to fully understand how the EC can help them quit smoking. Sometimes, they were dual users for years but eventually they became exclusive EC users. George, who considers himself a 'hard core' smoker, commented "if you told me 'I will give this to you, and you will be able to quit' that would not have worked at all and I would not have tried it. I dual used for over a year until I completely stopped smoking cigarettes." This research demonstrates the importance of personal choice regarding the EC and the need for the smoker to have their own experience when using the EC. Learning about and experiencing flexibility in frequency, length of time, and method of use of an EC all contributes to successful use of the EC to quit smoking.

Networks: How They Support the Use of an EC

Humans learn through other people and through systems and materials that are available to them. Investigating the social and material experiences related to learning to use a new device, such as an EC, can provide valuable insights to the field of adult education and healthcare. When specifically investigating how adult cigarette smokers were exposed to the EC, for example, "Tell me a story a story about the first time you heard about an EC?" many communication systems were mentioned, such as the internet or television commercials, or through people, such as coworker or friend. At the initial time of seeing or reading about the EC most participants were not actively pursuing a way to quit smoking. However, Larry told the story of how he was looking for a way to quit my smoking by saying "I went on the internet looking, googling, searching alternatives for smoking when an ad for an electronic cigarette popped up." Conversely, four other participants, described their exposure to the EC as something that "peaked their interest" which led to them researching more about it.

Continuing to use the EC required networks of people (friends and family etc.) and objects (computers, EC, flavors, nicotine levels, etc.) that provided a 'source of action' (Latour, 2005). Social networks, such as online internet sites, were mentioned most frequently as an informative place to learn about ECs with Al, Larry, Neil, Paul, and Ira mentioning the value of EC forums. The value of YouTube videos was mentioned by Neil as a way to learn more about the pros and cons before buying the device. Mark mentions the value of seeing the device in person by saying "when a local vape store opened up I could see the wildly different EC styles and I got more into that and moved away from cigarette size ECs." Cathy tells of her experiences with flavors by saying "I am not a huge fan of any kind of creamy flavors. I am all about the fruit flavors." Kate describes her transition in nicotine levels as "I started on the 2.4% nicotine liquid

and after about a year I transitioned down to the 1.2%." In addition, many of those interviewed told stories of family members "liking that they no longer smelled like cigarettes" and that their family member even enjoyed the smell of the EC vapor.

Although explaining adult education in the actor network of learning can be complicated Fenwick and Edwards discuss it as "a learning activity that embodies imminent actors (teacher, learner, tools, etc.)" (2010, p. 167). This is true with facilitating and/or learning to use an EC to quit smoking. Learning is a simultaneous activity of past, present, and future understandings and tools which provide the connections to relearn or learn new ways of being (Fenwick & Edwards, 2010). Adult educators and healthcare providers may want to consider their contribution to the growth and strength of these connections.

Conclusions

Many of the participants told of ways to use the EC to replace cigarettes, particularly to maintain habits similar to what the body would experience when smoking. They told stories of how they were introduced to the EC by a friend or coworker and used local vape shops to test different e-liquid flavors and nicotine levels. Many participants credit the different EC options as important to their ability to continue with it. All of these experiences were ultimately about knowing how to use an EC to quit smoking. The importance of personalizing the EC experience to the user is inherent in the process of switching to and continuing to use an EC. Social and material networks which support exposure to, education about, and experience of the EC are growing and have tremendous impact on EC use. Smokers who switch to EC to quit have done so with the help of a system or network which has grown from others who support learning about and using an EC.

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