

Escape Room Literature Review

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Literature Review

Introduction

As the role of the clinical Registered Nurse (RN) grows more complex, so too must the training that guides their transition into practice become more dynamic (Adams, Burger, Crawford, & Setter, 2018; Diaz, McVerry, Spears, Díaz, & Stauffer, 2020; Malicki et al., 2020). Nursing Professional Development and Education Specialists who oversee programs that transition nurses from education to practice are challenged more than ever to create new education modalities that are engaging and meaningful for today's newest healthcare workers (Adams et al., 2018; Diaz et al., 2020; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Kinlaw, 2020; Malicki et al., 2020; Mullen & Seiler, 2019; López-Belmonte, Segura-Robles, Fuentes-Cabrera, & Parra-González, 2020; Smith & Paul, 2020; Woodworth, 2021). An Escape Room performed during hospital ICU orientation would provide an engaging and immersive experience for graduate nurses to practice a myriad of skills to better prepare them for the demands and reality of the nursing profession (Adams et al., 2018; Backhouse & Malik, 2018; Dahlke, Hunter, & Amoudu, 2020; Garrison, Colin, Lemberger, & Lugod, 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Hadenfeldt, Naylor, & Aufdenkamp, 2020; Hawkins, Wiles, Tremblay, & Thompson, 2020; Jantzen, 2019; Kinlaw, 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019; San Martin, Walsh, Santerre, Fortkiewicz, & Nicholson, 2021; Smith & Paul, 2020).

Aim

The aim of this literature review is to explore the research related to the potential efficacy of implementing an educational Escape Room during hospital orientation to improve the

engagement, knowledge synthesis, retention, and confidence of newly licensed staff transitioning into practice.

Search Strategy

A literature search was performed using MEDLINE Complete. This search occurred between January 2021 and March 2021. Search terms and phrases included: *Escape room and nursing education, gamification, nursing education or nurse education or continuing education or training program or training or nursing instruction, patient outcomes or quality of care or health outcomes or patient satisfaction or patient experience, Nursing Transition to Practice, nursing attrition rates, and confidence or self-esteem or self-efficacy.* The initial search with only the first search term yielded 15 articles which were then pared down to include only articles about escape rooms as education, which yielded 9 articles. A second search was undertaken using the second and third search terms above which yielded 158 articles. The articles were further pared down by adding the patient outcomes which yielded 13 studies, only 2 meeting the criteria for this literature review. The search was started again with the second and third search terms adding the search term about confidence, yielding 20 articles, 2 of which spoke to adult learning needs and patient outcomes related to gamification in nursing education. Finally, a search of the literature was undertaken related to nursing attrition rates that yielded 59 articles. Articles were included if they focused on nursing transition to practice, gamification in nursing education, adult learning principles and theories, nursing attrition rates and safety, the efficacy of current teaching modalities, or the benefits of educational Escape Rooms which yielded the 36 articles utilized in this literature review. Other exclusion criteria were any articles published before 2016, those not in academic journals, and those not written in English.

Results

The unique needs of today's graduate nurses transitioning into practice.

The theory-practice gap has been defined as a disparity in collaboration between clinical staff and academics (Greenway, Butt, & Walthall, 2019). Negotiating differences between theory taught in academia and the reality of practice in the clinical setting can cause stress, anxiety, and feelings of incompetence in newly licensed staff (Graf, Jacob, Twigg, & Nattabi, 2020; Greenway et al., 2019). Several factors have contributed to the widening of the theory-practice gap including a shift in learner needs and the increased complexity of the nursing role (Adams et al., 2018; Diaz et al., 2020; Gates & Youngberg-Campos, 2020; Guckian, Eveson, & May, 2020; Hadenfeldt et al., 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019).

Diversity of Learners.

Nursing educators and professional development specialists create educational modalities to address diverse learning needs (Diaz et al., 2020; Garwood, 2020). Newly hired graduate nurses are learners from multiple generations with unique learning styles, levels of engagement, and experiences (Diaz et al., 2020; Gates & Youngberg-Campos, 2020; Malicki et al., 2020; San Martin et al., 2021; Woodworth, 2021). Millennials are now pouring into the nursing workforce as well as Gen Z. These technologically astute generations value instant gratification and feedback, choice, and variety; and prefer creative multimodal education (Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019). According to Mullen and Seiler (2019), these younger learners require interactive teaching approaches to increase confidence in their practice and prefer actively engaging in learning that requires collaboration and teamwork (Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Mullen & Seiler, 2019). Traditional teacher-centered learning is not ideal for these adult learners who prefer autonomy and active participation in learning (Garrison et al., 2021; Gates &

Youngberg-Campos, 2020). Leaders in nursing practice like the American Association of Critical-Care Nurses and the National League for Nursing both endorse active learning strategies citing that students want hands-on learning (Garwood, 2020; Gates & Youngberg-Campos, 2020).

Complex Healthcare System.

Another factor that is contributing to the widening of the theory-practice gap is that current nursing practice continues to become more complex and demanding (Adams et al., 2018; Diaz et al., 2020; Hadenfeldt et al., 2020). There are more specialized fields of nursing than ever in the profession's history, more requirements of nursing staff, more regulatory standards that must be met, more acutely ill patients that can be saved with modern medicine and technologies, and more threats on the horizon as the global pandemic has ushered in a new understanding and fear for healthcare workers (Adams et al., 2018; Diaz et al., 2020; Hadenfeldt et al., 2020; Malicki et al., 2020).

The change in learner needs and the increased complexity of the nursing role all widen the gap that graduate students have to bridge between school and practice (Adams et al., 2018; Diaz et al., 2020; Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Hadenfeldt et al., 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019). Newly licensed healthcare providers are often left feeling unprepared and unsupported transitioning into practice leading to attrition rates in the first year of nursing at rates of up to 60% (Graf et al., 2020).

New Hire Transition to Practice Theory.

According to Graf, Jacob, Twigg, and Nattabi (2020), hospitals must adapt transition to practice programs to best align with the needs of the newly licensed staff being onboarded. Thoughtful planning and implementation of these programs can better prepare the new grads for

practice, increase their confidence and safety, and decrease attrition rates by reducing the effects of reality shock (Graf et al., 2020). Kramer's Reality Shock Theory published in 1974 describes that due to a lack of confidence, new graduates often experience feelings of rejection in the clinical setting (Kramer, 1974). Compounded by immature conflict-resolution and communication skills, feelings of anger and frustration can emerge (Graf et al., 2020). To better prepare newly licensed staff to navigate the practice gap, hospitals must promote learning in the practice context that is based on theoretical framework (Graf et al., 2020; Jantzen, 2019).

Efficacy of escape rooms.

Escape Rooms have garnered attention in the entertainment industry as social activities where groups of players are locked in a room together and must complete puzzles and other tasks to 'escape'. While the incidence of Escape Rooms in the community has grown over 3000% from 2010 to 2015, entertainment-based Escape Rooms in the community do not require any previous knowledge to complete (San Martin et al., 2021). Educational Escape Rooms have also seen an upward trend but are designed in a way that engages the learners in meeting predetermined educational objectives.

An abundance of research on educational Escape Rooms has surfaced in the past few years that speaks to the efficacy of Escape Rooms in engaging students, allowing them to synthesize knowledge gained in classroom and act upon it in a simulation setting, allowing for the practice of soft skills, and improving knowledge retention (Adams et al., 2018; Backhouse & Malik, 2018; Bucklin, Asdigian, Hawkins, & Klein, 2021; Clauson et al., 2019; Dahlke et al., 2020; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon, Trovinger, & DeLellis, 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Morrell, Eukel, & Santurri, 2020;

Mullen & Seiler, 2019; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018). The literature also speaks to the ease of use and practicality of Escape Room utilization in the educational setting (Adams et al., 2018; Backhouse & Malik, 2018; Clauson et al., 2019; Diaz et al., 2020; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Malicki et al., 2020; Mullen & Seiler, 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018).

High Engagement.

The highly engaging nature of educational Escape Rooms is another benefit to learners (Backhouse & Malik, 2018; Dahlke et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Mullen & Seiler, 2019; San Martin et al., 2021; Smith & Paul, 2020). Backhouse and Malik (2018), found Escape Rooms are more engaging than traditional simulation due to the use of gamification, active-learning principles, and a risk-free learning environment.

According to Garrison, Colin, Lemberger, and Lugod (2021), gamification is the incorporation of gaming into classroom education to better engage the learners by making learning more fun. Gamification evokes an intrinsic motivation to win that increases participant engagement and is highly attractive to Millennials and Gen Z learners who prefer active engagement in education (Adams et al., 2018; Brull, Finlayson, Kostelec, MacDonald, & Krenzischek, 2017; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Kinlaw, 2020; Malicki et al., 2020). Question and answer games are the most commonly seen forms of gamification in education, but the Escape Room takes gaming a step further by offering a highly dynamic gaming experience that integrates the adult learning

principles of readiness, experience, autonomy, and action (Adams et al., 2018; Backhouse & Malik, 2018; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020). Unlike other forms of gaming, the educational Escape Room simulates the real-life patient care environment which allows for active practice of skills required for patient care while facilitating several learning styles (Adams et al., 2018; Diaz et al., 2020; Kinlaw, 2020; Mullen & Seiler, 2019). According to Morrell, Eukel, and Santurri (2020), students are able to both utilize and draw on the strengths of their learning style in educational Escape Rooms. Educational Escape Rooms also engage all domains of learning in Bloom's Taxonomy of Skills (Garwood, 2020).

The distinctly immersive nature of educational Escape Rooms is another factor that makes this teaching modality so engaging. Escape Rooms allow for a shift from traditional teacher-focused education to learner-focused education which is ideal for adult learners who prefer autonomy and active-participation (Backhouse & Malik, 2018; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020). This active learning strategy allows for the students to control the pace and focus of the learning while still meeting predetermined educational outcomes (Adams et al., 2018; Garrison et al., 2021; Kinlaw, 2020; San Martin et al., 2021). By facilitating learning instead of instructing, Escape Rooms allow the learner to be the main protagonist instead of the teacher (Backhouse & Malik, 2018; López-Belmonte et al., 2020). This paradigm shift allows for the student to be an active contributor in learning instead of the traditional passive spectator which is highly engaging (Brull et al., 2017; Gates & Youngberg-Campos, 2020).

Another factor that contributes to the engaging nature of escape rooms is the controlled learning environment. Through the creation of a risk-free, low stakes simulated work

environment, students can immerse themselves in the learning activity with assured psychological safety (Adams et al., 2018; Backhouse & Malik, 2018; Diaz et al., 2020; Gordon et al., 2019; Guckian et al., 2020; Hawkins et al., 2020; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Zhang et al., 2018). Educational Escape Room participants have reported decreased feelings of anxiety and fear during the Escape Room activity despite the unpredictability and simulated chaos of the Escape Room (Adams et al., 2018; López-Belmonte et al., 2020; Zhang et al., 2018). The safe learning environment of the Escape Room begets higher motivation for involvement of the learners (Adams et al., 2018; Backhouse & Malik, 2018; Diaz et al., 2020; Gordon et al., 2019; Guckian et al., 2020; Hawkins et al., 2020; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Zhang et al., 2018). Other feedback from Educational Escape Rooms in the research has included that the Escape Room medium is highly enjoyable, fun, interactive, and highly satisfying (Adams et al., 2018; Backhouse & Malik, 2018; Brull et al., 2017; Clauson et al., 2019; Garrison et al., 2021; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Hawkins et al., 2020; López-Belmonte et al., 2020).

Knowledge Synthesis.

One of the most difficult challenges for healthcare educators is the development of knowledge synthesis and critical thinking in learners. Healthcare providers must make decisions and take correct actions based on a myriad of input from previous experience, education, and current situational awareness. Escape Rooms allow for learners to participate in whole task training which requires them to draw on multiple previously learned aspects of care and combine them to perform the task (Rosenkrantz et al., 2019). Researchers agree that Escape Rooms require participants to draw on previous knowledge to complete required tasks (Adams et al.,

2018; Bucklin et al., 2021; Clauson et al., 2019; Diaz et al., 2020; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Hawkins et al., 2020). Jantzen (2019) agreed that students who learn through puzzling are taking part of a deliberate process in which knowledge must be questioned and applied, and resources must be utilized. Morrell et al. (2020) explained that this required application of knowledge helps develop connections between different pieces of material. Some of the skills involved in knowledge synthesis that an Escape Room can facilitate include information gathering, resource utilization, data analysis, and result interpretation (Diaz et al., 2020; Hawkins et al., 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019). The student-controlled aspect of Escape Rooms also facilitates improved content knowledge, knowledge synthesis, and meaningful connection-making (Diaz et al., 2020; Garrison et al., 2021; Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Morrell et al., 2020). There is consensus amongst the literature that educational Escape Rooms foster critical thinking among participants (Adams et al., 2018; Bucklin et al., 2021; Clauson et al., 2019; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; San Martin et al., 2021; Morrell et al., 2020; Mullen & Seiler, 2019; Smith & Paul, 2020; Zhang et al., 2018).

Escape Rooms are also effective at developing real-world or soft skills amongst participants (Adams et al., 2018; Backhouse & Malik, 2018; Bucklin et al., 2021; Clauson et al., 2019; Dahlke et al., 2020; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Morrell et al., 2020; Mullen & Seiler, 2019; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018). Professional or soft skills include critical thinking,

teamwork, communication, time management, creativity, and professionalism. These soft skills are notoriously difficult to teach in traditional lecture-based classroom, and it is equally difficult to provide a practice environment for the development of such skills (Backhouse & Malik, 2018; Gates & Youngberg-Campos, 2020; Gordon et al., 2019; Morrell et al., 2020; Zhang et al., 2018). Teamwork is one such skill that the literature agrees is promoted in the education Escape Room environment (Adams et al., 2018; Backhouse & Malik, 2018; Clauson et al., 2019; Diaz et al., 2020; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Kinlaw, 2020; Morrell et al., 2020; Mullen & Seiler, 2019; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018). Within the educational Escape Room team members explore team dynamics including role identification, social skills, leadership, delegation, and constructive correction (Bucklin et al., 2021; Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Morrell et al., 2020; Mullen & Seiler, 2019; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018). Participants also develop cooperation, collaboration, and conflict resolution skills through shared problem-solving and decision-making (Adams et al., 2018; Backhouse & Malik, 2018; Bucklin et al., 2021; Clauson et al., 2019; Dahlke et al., 2020; Diaz et al., 2020; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gordon et al., 2019; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Morrell et al., 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020). Communication skills like active listening, peer feedback, teaching one another, and building consensus are also practiced in educational Escape Rooms (Adams et al., 2018; Backhouse & Malik, 2018; Bucklin et al., 2021; Clauson et al., 2019; Diaz et al., 2020; Gates & Youngberg-Campos, 2020; Gordon et al., 2019; Guckian et al., 2020;

Hawkins et al., 2020; Morrell et al., 2020; Mullen & Seiler, 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018). Due to time constraints related to the gaming aspect of the escape room, learners are able to hone time management skills and practice performing under pressure (Adams et al., 2018; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020). Other skills that can be developed in an educational Escape Room include creativity, professionalism, and increasing comfort with asking for help or escalating care which, if poorly developed, can create serious adverse effects in the clinical setting (Adams et al., 2018; Bucklin et al., 2021; Gates & Youngberg-Campos, 2020; Morrell et al., 2020; Mullen & Seiler, 2019; Zhang et al., 2018).

The final solidifying piece of evidence that encourages the use of educational Escape Rooms is the highly beneficial debriefing opportunity. With regards to the necessity of the debrief, one author explains that “unexamined experience may not be educative or worse may be miseducative (Jantzen, 2019).” The debriefing at the end of an educational Escape Room is an opportunity for reflection and insight into actions taken (Rosenkrantz et al., 2019; San Martin et al., 2021; Zhang et al., 2018). The highly immersive nature of the Escape Room promotes active and fruitful discussions (Gates & Youngberg-Campos, 2020; Hadenfeldt et al., 2020). Facilitators can utilize this time for coaching and redirection of misunderstandings and to promote critical thinking of how the Escape Room components apply to other scenarios in the clinical environment (Zhang et al., 2018).

Another important element of the debrief is the strengthening of learners’ cognitive processes related to self-assessment (Morrell et al., 2020). Self-awareness can be facilitated through the promoted discussion of strengths and weaknesses, stress responses, and knowledge gaps (Adams et al., 2018; Backhouse & Malik, 2018; Guckian et al., 2020; Morrell et al., 2020;

Mullen & Seiler, 2019). According to Jantzen (2019), if self-awareness practices can be taught and practiced early, healthcare providers will be well-positioned to practice self-awareness and continuously improve their practice throughout their career.

Knowledge Retention.

Educational Escape Rooms are highly engaging and can facilitate knowledge synthesis and the development of several soft skills, but participation in education Escape Rooms can also support knowledge retention. Many of the studies spoke to the ability of educational Escape Rooms to increase knowledge retention (Brull et al., 2017; Bucklin et al., 2021; Garrison et al., 2021; Gates & Youngberg-Campos, 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; San Martin et al., 2021; Smith & Paul, 2020). Garwood (2020) shares that the combination of student engagement and learner focus on task fosters deep learning. Gates and Youngberg-Campos (2020) and Guckian, Eveson, and May (2020) agree that the learner-centered nature of the Escape Room increases memorization. Bucklin Asdigian, Hawkins, and Klein, (2021) and Garrison et al. (2021) agree that the active-learning strategy of the Escape Room increases recall abilities and overall competence. Because the educational Escape Room is immersive and promotes experiential learning, participants reflect on their experiences, conceptualize them into new ideas, and then apply them to practice (Backhouse & Malik, 2018). The educational Escape Room learning activity's ability to foster the transition of knowledge to practice is cited in several of the research articles (Diaz et al., 2020; Morrell et al., 2020; López-Belmonte et al., 2020; San Martin et al., 2021). Diaz, McVerry, Spears, Díaz, and Stauffer, (2020) found that after completing an Escape Room, participants improved in their ability to identify and care for a septic patient. Backhouse and Malik (2018) found that participants had increased confidence in applying safety concepts to future work. Gates and Youngberg-Campos (2020) and Gordon,

Trovinger, and DeLellis (2019) both found that learners reported an increased confidence in team dynamics and teamwork. Morrell et al. (2020) found that participants noted increased confidence in their understanding and retention of educational content. In a study by Adams, Burger, Crawford, and Setter (2018), all educational Escape Room participants reported an increased readiness for practice in the clinical setting. The ability to synthesize knowledge, practice soft skills, and gain confidence and competence for the clinical setting all speak directly to the identified problem of the widening theory-practice gap.

Escape Room Versatility and Logistics.

The benefits of educational Escape Room development do not lie only with the learner. Educational Escape rooms are highly effective, versatile, and practical for today's health care educator (Adams et al., 2018; Clauson et al., 2019; Gordon et al., 2019; San Martin et al., 2021; Smith & Paul, 2020).

Educational Escape Rooms can be modified or specialized to meet a myriad of learning outcomes (San Martin et al., 2021; Smith & Paul, 2020). This innovative teaching modality can be designed to target specific learners, learning needs, or content (Adams et al., 2018; Backhouse & Malik, 2018; Clauson et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020). Learners can include multiple members of interdisciplinary groups with varying levels of experience and varying teaching style preferences (Hawkins et al., 2020; San Martin et al., 2021; Zhang et al., 2018). Escape Room objectives can also be modified to specifically target teambuilding, concept teaching, competency evaluation, knowledge assessment, and knowledge reinforcement (Diaz et al., 2020; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; San Martin et al., 2021). Facilitators can assess

efficacy of teaching interventions, and each participant's contributions (Mullen & Seiler, 2019; Smith & Paul, 2020).

From a business outcomes standpoint, education Escape Rooms are a no-lose situation. Educational Escape Rooms provide a learning activity that can be performed quickly and inexpensively (Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Mullen & Seiler, 2019; San Martin et al., 2021). Running an Escape Room does not require an expert facilitator like a lecture, to complete (Guckian et al., 2020). Learners need no prior training to participate (Malicki et al., 2020). A study by Gates and Youngberg-Campos (2020) found that the implementation of an educational Escape Room during graduate nursing hire orientation allowed for decreased educational days and cost of hospital onboarding by allowing for rapid competency validation of nursing knowledge and skills.

Constructivism Learning Theory.

The Constructivism Learning Theory provided the theoretical framework for the Escape Room Concept (Hadenfeldt et al., 2020; Wingo et al., 2019; Zhang et al., 2018). According to Clark (2018) constructivists posit that learning is most effective when learners relate new knowledge to existing knowledge. Constructivism supports learning activities with active engagement from participants like an educational Escape Room where the learners are the primary players and instructors are facilitators (Backhouse & Malik, 2018; Clark, 2018; López-Belmonte et al., 2020). In this way, constructivists theorize that learners create meaningful connections to material instead of being told what the connections are, thus enhancing learning and retention (Clark, 2018).

Discussion

Several factors have contributed to the widening of the theory-practice gap that newly hired nurses must safely negotiate while transitioning into practice within the healthcare system including. A fundamental change in learner needs and the increased complexity of the clinical nursing role both play a part in making the transition to practice more difficult for the newly licensed which can lead to feelings of incompetency, stress, and anxiety (Adams et al., 2018; Backhouse & Malik, 2018; Bucklin et al., 2021; Garrison et al., 2021; Gates & Youngberg-Campos, 2020; Graf et al., 2020; Greenway et al., 2019; Guckian et al., 2020; Jantzen, 2019; Kinlaw, 2020; Malicki et al., 2020; Morrell et al., 2020; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; Woodworth, 2021, Zhang et al., 2018). Kramer's Reality Shock theory supports that programs created to ease the transition of newly licensed nurses into practice need to address increasing new hire confidence and safety (Kramer, 1974).

Escape Rooms are gaining popularity within the community, but community-based Escape Rooms do not test any particular knowledge or skill set. Educational Escape Rooms are a highly effective learning strategy in which small groups of learners complete tasks and puzzles to meet specific learning objectives set by instructors or facilitators. Researchers agree that Escape Rooms are an engaging active-learning strategy (Backhouse & Malik, 2018; Dahlke et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Mullen & Seiler, 2019; San Martin et al., 2021; Smith & Paul, 2020). Gamification principles lend themselves to participant engagement, particularly for younger generations of learners (Adams et al., 2018; Brull et al., 2017; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Kinlaw, 2020; Malicki et al., 2020). Educational Escape Rooms increase participant engagement by speaking to several learning styles, engaging all domains of learning, putting the learner at the

center of the experience, and occurring in a psychologically safe learning space (Adams et al., 2018; Backhouse & Malik, 2018; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Mullen & Seiler, 2019; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Zhang et al., 2018).

Educational Escape Rooms have shown to increase knowledge synthesis by requiring learners to draw on previous knowledge, participate in whole task training, think critically, and make meaningful connections between theory and practice (Adams et al., 2018; Bucklin et al., 2021; Clauson et al., 2019; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Morrell et al., 2020; Mullen & Seiler, 2019; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018).

Educational Escape Rooms also foster the development of soft-skills like teamwork, communication, time management, creativity, and professionalism which are difficult to teach in the traditional classroom setting, but are imperative to safe functioning in clinical practice (Adams et al., 2018; Backhouse & Malik, 2018; Bucklin et al., 2021; Clauson et al., 2019; Dahlke et al., 2020; Diaz et al., 2020; Garrison et al., 2021; Garwood, 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Morrell et al., 2020; Mullen & Seiler, 2019; López-Belmonte et al., 2020; Rosenkrantz et al., 2019; San Martin et al., 2021; Smith & Paul, 2020; Zhang et al., 2018). Debriefing after educational Escape Rooms also creates a space for valuable real time feedback and coaching, reflection, the development of self-awareness, and discussion of how lessons learned apply to the clinical environment (Gates &

Youngberg-Campos, 2020; Hadenfeldt et al., 2020; Jantzen, 2019; Rosenkrantz et al., 2019; San Martin et al., 2021; Zhang et al., 2018).

Educational Escape Rooms don't just engage learners and facilitate the development of important soft skills but have also been shown to effect knowledge retention and confidence (Brull et al., 2017; Bucklin et al., 2021; Garrison et al., 2021; Gates & Youngberg-Campos, 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; San Martin et al., 2021; Smith & Paul, 2020). This highly versatile and cost-effective teaching modality is also supported by nursing theory (Adams et al., 2018; Backhouse & Malik, 2018; Clauson et al., 2019; Diaz et al., 2020; Gates & Youngberg-Campos, 2020; Gómez-Urquiza et al., 2019; Gordon et al., 2019; Guckian et al., 2020; Hadenfeldt et al., 2020; Hawkins et al., 2020; Kinlaw, 2020; Malicki et al., 2020; Mullen & Seiler, 2019; San Martin et al., 2021; Smith & Paul, 2020; Wingo et al., 2019; Zhang et al., 2018).

The need for an intervention to smooth the transition from school to practice is clear in the literature. An educational Escape Room is the best option to satisfy that need due to its highly engaging nature, ability to facilitate knowledge synthesis and retention, versatility, and alignment with the Constructivism Learning Theory.

Conclusion

Findings from an extensive literature review suggest that Escape Rooms promote engagement, knowledge synthesis, and retention. This learning activity is fun, inexpensive, versatile, and supported by grounded nursing theory. By implementing this intervention, the expectation is that the graduate nurses will practice their skills in a meaningful way that will increase their confidence and ease their transition into practice.

