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DELIBERATE PRACTICE: AN EFFECTIVE WAY TO RAISE THE REAL  
ESTATE LICENSING PASSING RATE

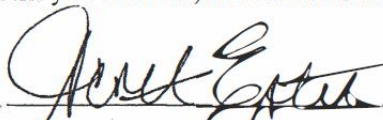
A Scholarly Research Project

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Doctor of Education

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## ABSTRACT

This dissertation investigates the application of deliberate practice principles in improving pass rates for professional real estate licensing exams. The study explores the efficacy of structured, targeted practice sessions, including expert feedback, as compared to traditional study methods. Using a quasi-experimental design, the research involved two groups of real estate students: one following a conventional curriculum and the other subjected to deliberate practice interventions. Results revealed that the students in the deliberate practice group exhibited higher exam pass rates and reported increased satisfaction with the learning process. This study contributes to educational theory by extending the deliberate practice framework to vocational education, offering new insights into professional training methodologies. The findings highlight the importance of deliberate, structured learning activities in complex skill acquisition and suggest further research into optimizing these strategies across various professional domains.

## DEDICATION

This dissertation is dedicated to my mother, who, despite never having the opportunity to attend school, instilled in her children the unwavering belief that education is the key to climbing the social ladder. More importantly, she taught us that to truly live up to our full potential, we must commit ourselves to lifelong learning. Her wisdom and perseverance continue to inspire me every day.

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## CHAPTER 1: INTRODUCTION

In the dynamic world of real estate, the gateway to a successful career often begins with passing the state licensing exam—a challenge that many aspiring real estate professionals face. In typical real estate pre-licensing classes across the country, instructors begin their sessions with a promise: “We are here to help you pass the state exam so you can begin your real estate career. Most of our students pass on the first attempt.” However, the reality post-exam tells a different story. Only half of the students pass the license exam, while half must re-register for the next exam because they did not pass (Betty, 2020).

The reasons for failing the exam are varied, ranging from self-professed incompetence in math to difficulties in grasping complex concepts. Yet, these reasons more often reflect inadequate preparatory methods rather than a lack of mental capacity. This presents a significant educational challenge for the real estate licensing review school to better prepare students for the licensing exam.

Most students sign up for pre-licensing review courses based on promotion by the schools, all claiming that the passing rate is high (Betty, 2020). A detailed examination of the review courses provided by those vocational schools reveals that their approach to course reviews is identical: an outline of real estate principles is read in a video or live lecture, and then students are given a couple of sample exams to practice at home (Betty, 2020). Given such homogeneity of review methods, it stands to reason that the differences in pass rates among these schools should not be statistically significant (Betty, 2020).

In their seminal work, *Peak: Secrets from the New Science of Expertise*, Ericsson and Pool (2016) analyze patterns of expert performance across various fields, including athletics, music, and medicine, and propose that expertise is not born but made through deliberate practice.

This form of practice, characterized by structured and purposeful effort, has been shown to significantly enhance performance across a broad range of activities. This concept of deliberate practice may provide a promising framework for how real estate licensing review courses should be redesigned.

This chapter introduces a brief literature review on the subject of deliberate practice and defines the research problem. It also outlines the purpose of the study, the research questions, and the definitions and assumptions that will guide the study. The chapter closes with a discussion of the significance and a brief description of how the five chapters are organized.

### **Background Information**

Over the past decade, California's real estate market has experienced unprecedented growth. This boom has not only increased the value of real estate but also the interest in real estate careers, leading to a surge in the number of individuals pursuing real estate licenses. In 2020 alone, the number of real estate pre-license candidates in California soared to 41,249 (Betty, 2020). This increase is reflective of the relatively low barriers to entering the profession. Prospective real estate agents must complete a college-level course in real estate principles and pass a licensing exam administered by the California Department of Real Estate. The exam, which comprises 150 multiple-choice questions, requires candidates to correctly answer at least 70% of questions (105 questions) to pass.

Despite the examination itself not being difficult, the pass rates tell a different story. The pass rate for first-time takers of the California Real Estate exam has stagnated at around 42% (Betty, 2020). This alarmingly low success rate raises significant concerns about the effectiveness of current preparatory courses and methods. The consistent underperformance of so

many candidates suggests that the prevailing instructional strategies may not adequately equip them to meet the challenges of the exam.

A preliminary review of the literature indicates a noticeable gap in research specifically targeted at understanding the reasons behind such low real estate pass rates. While various anecdotal explanations, such as difficulty with exam content or inadequate test preparation methods, are commonly cited, there has been no systematic inquiry into how these factors contribute to the widespread lack of success among prospective real estate agents (D'Ottone, 2019).

Given this context, this study was designed to delve deeper into the methods of preparation for the real estate license exam. By exploring more effective educational techniques, particularly the potential application of deliberate practice—a method proven to enhance performance in various domains—this research aimed to identify strategies that could significantly improve exam pass rates. This investigation is not only crucial for helping individuals successfully enter the real estate profession but also extends to other professional licensing exams.

### **Preliminary Literature Review**

Research in educational performance commonly investigates three foundational theoretical areas: (a) personal traits, (b) environmental influences, and (c) learning behavior. Traditionally, the literature suggests that exceptional skills in disciplines such as mathematics or music often stem from innate abilities, highly conducive environments, or superior learning behaviors. This perspective implies that exceptional capabilities are either inherited or facilitated by optimal conditions.

However, the work of Ericsson and Pool (2016) challenges the narrative that innate talent and perfect environments are prerequisites for high achievement. They argue that individual potential is not rigidly bound by genetics. Although environmental factors do play a role, they are not the sole determinants of success. Similarly, while effective learning behaviors enhance cognitive functions, they do not guarantee exceptional skills development. The research by Ericsson and Pool undermines the notion of predetermined limits imposed by genetics or environment, revealing no concrete evidence for genes linked to elite athleticism or musical prowess, nor is there a one-size-fits-all effective learning behavior.

Crucially, Ericsson and Pool (2016) emphasize the quality of practice as the most significant driver of skill acquisition and expertise. They introduce the concept of deliberate practice, which they describe as meticulously structured and purposefully engaged practice. According to their findings, it is not mere practice but rather the quality of practice that cultivates perfection. This insight shifts the focus from inherent talent or ideal conditions to the transformative potential of deliberate practice. Their research asserts that with the right kind of practice, carried out over sufficient time, anyone can reach high levels of performance—effectively democratizing the potential for achieving excellence across various fields.

### **Personal Factors**

The concept of innate ability, suggesting that intellectual capacities are predetermined at birth, has historical roots extending back to classical antiquity. Amirault and Branson (2006) explored this theme through a historical case study examining the nature of expertise and its role within various educational models over the ages. Ancient records indicate that expertise was traditionally viewed holistically, with educational systems tailored to nurture the intellectual capabilities of a select few deemed naturally equipped to engage in complex abstract thought.



This approach, focusing on individualized instruction for those thought to be intrinsically gifted, persisted well into the Industrial Revolution.

Francis Galton (1869), a pivotal figure in this intellectual tradition, argued vehemently against the notion that all humans are born with similar potential. He posited that genius arises not through diligent effort or moral character but is inherited genetically. His influential works suggested that intellectual prowess and other exceptional abilities were hereditary traits passed down through generations.

This perspective was carried forward into the 20th century, notably through the intelligence quotient (IQ) studies spearheaded by Lewis Terman. Terman's research initially sought to correlate high IQ with high achievement, but subsequent findings, particularly those reported in the fourth volume of *Genetic Studies of Genius*, began to challenge this assumption (Terman, 1925–1959). It became evident that high IQ did not necessarily predict expert performance in various fields (Schultz & Schultz, 2015). These studies revealed that while a high IQ might confer certain cognitive advantages, it was not a definitive predictor of success or expertise.

Moreover, Schultz and Schultz (2015) highlighted that intellect and achievement are not perfectly correlated, suggesting that environmental factors play a crucial role in the development of exceptional performance. This view aligns with more contemporary theories that recognize the significant impact of nurture alongside nature. Educational models have gradually shifted from a strict focus on innate talent to more inclusive approaches that acknowledge the importance of environmental influences, educational opportunities, and deliberate practice in achieving expertise.

While the role of inherent qualities in shaping educational success cannot be overstated, it is equally crucial to consider the environmental influences that interact with these innate capabilities. The setting in which an individual learns can dramatically impact their ability to develop and apply their talents. The next section explores how environmental factors, from familial support to educational resources, play a pivotal role in fostering or hindering the cultivation of expertise, underscoring the complex interplay between nature and nurture in educational achievement.

### **Environment Influences**

Darwin's observations on the variability among individuals within a species highlighted the foundational role of environmental forces in shaping these differences. He noted that while some variability is inheritable, the environment, through natural selection, primarily determines which traits become prevalent within a population (Goodenough, 1943). This principle of adaptation to environmental demands is equally applicable to human cognitive development. Piaget, a prominent developmental psychologist, argued that mental structures are not static but evolve through continuous interaction with the environment. His theory suggests that intelligence develops dynamically through stages that depend significantly on environmental stimulation and experiences (Shaffer, 2000).

Expanding on these ideas, contemporary research in educational psychology further supports the view that learning environments critically influence cognitive development and academic success. For instance, Vygotsky's sociocultural theory posits that knowledge is constructed through social interaction and cultural tools provided by the environment, emphasizing that learning is fundamentally a social process (Shaffer, 2000).

Malcolm Gladwell (2013), in his exploration of outliers in success, challenges the notion that innate talent or favorable conditions alone determine success. He argues that extraordinary achievement is more often the result of extensive practice and the leveraging of specific environmental advantages, such as access to resources or mentoring, which he describes as accumulative advantages. Gladwell's analysis supports the idea that while environmental factors can provide opportunities, it is often the individual's persistence and adaptive use of these opportunities that lead to high levels of achievement.

These perspectives collectively underscore the complex interplay between an individual's biological endowments and their environmental contexts. They suggest that educational strategies should focus on creating environments that provide both the challenges and the supports necessary to foster optimal learning and development.

While environmental factors undeniably impact development, the learning behaviors adopted by individuals also play a crucial role in shaping their educational outcomes. This dual influence highlights the importance of not only the context in which learning occurs but also how individuals engage with and adapt to their educational experiences.

### **Effective Learning Behavior**

John B. Watson, a pioneer of behaviorism, posited that human behavior is primarily the result of specific stimuli that elicit particular responses. This stimulus-response (S-R) learning model, influenced partly by Ivan Pavlov's work, suggests that behaviors can be understood and predicted based on the stimuli that provoke them (Schultz & Schultz, 2015). Watson extended this concept, arguing that any behavior could be shaped through appropriate conditioning, famously stating that with the right environmental influences, any healthy infant could be trained

to excel in any profession—doctor, lawyer, artist, or even a thief—regardless of genetic background or innate talents (Schultz & Schultz, 2015).

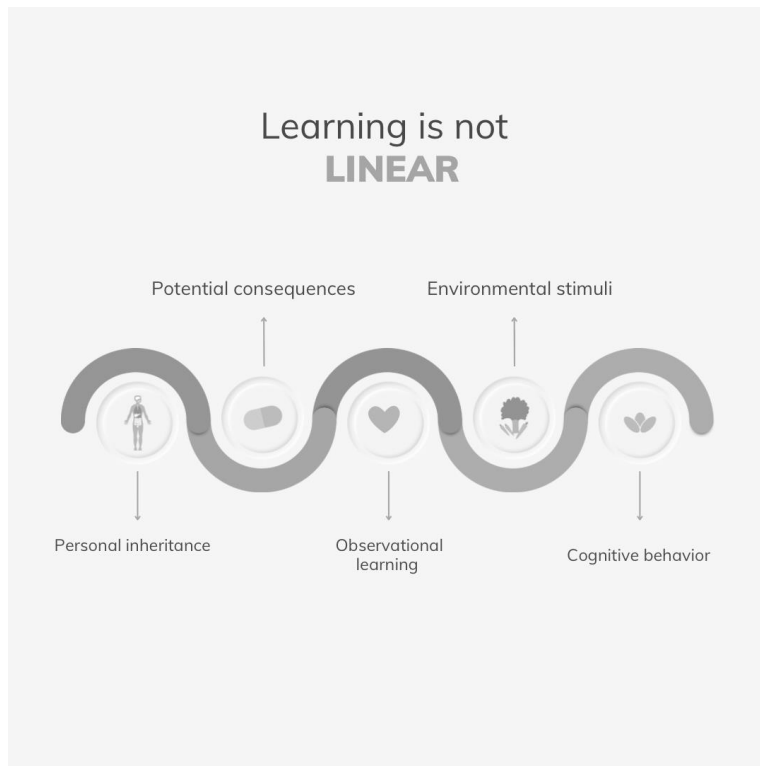
Building on Watson's foundation, B. F. Skinner introduced a more nuanced understanding of the S-R model through his research on operant conditioning. Skinner demonstrated that behaviors are not merely reactions to past stimuli but are also influenced by their consequences. This principle was illustrated in his experiments using a 'Skinner Box,' where he showed that rats would learn to press a lever when doing so results in a reward, thereby reinforcing the behavior. Skinner's findings highlighted that both animals and humans are likely to repeat actions that lead to positive outcomes and avoid those that produce negative consequences (Shaffer, 2000).

However, the behavioral perspective on learning was further enriched by Albert Bandura, who introduced the concept of observational learning, emphasizing that learning can also occur through watching and imitating others. In his famous Bobo doll experiment, Bandura demonstrated that children would imitate aggressive behaviors observed in adults, suggesting that direct reinforcement or punishment is not the only pathway to learning behavior. This experiment underscored the role of cognitive processes in learning, indicating that individuals actively process and internalize observed actions (Shaffer, 2000). Together, these theories from Watson, Skinner, and Bandura underscore that while environmental stimuli and consequences significantly influence behavior, cognitive processes also play a critical role. Learning is not merely a mechanical process of response to stimuli but involves an intricate interaction of environmental cues, potential consequences, and cognitive interpretation.

In short, personal inheritance, environmental factors, and cognitive behavior all have profound implications for educational practices, suggesting that effective learning is influenced by a blend of those factors, as depicted in Figure 1.

Figure 1

*Interactions Among Personal Factors, Environment, and Learning Behavior*



*Note.* The researcher created this original figure based on source material from the collective work of Watson (1930), Skinner (1976/2005), and Bandura (1986).

While these traditional theories effectively explain the acquisition of traits or behaviors, they often do not fully account for how individuals can excel and achieve mastery of certain skills. This gap highlights the need for a deeper exploration of deliberate practice—a concept that emphasizes not just practice but structured and purposeful practice aimed at improving

performance or skill. This theory of deliberate practice offers valuable insights into the processes that enable individuals to surpass basic proficiency and achieve excellence in various domains.

### **Deliberate Practice, the Road to Excellence**

Ericsson and Pool (2016) meticulously designed an experiment to test the limits of short-term memory and the potential for its expansion through practice. In this study, participants were tasked with recalling sequences of digits, delivered at a rate of approximately one digit per second. The initial objective was to determine how performance could be enhanced over time through targeted practice. After four one-hour sessions, participants could typically memorize sequences of up to seven digits—a common benchmark in psychological research, reflecting the average capacity of short-term memory as suggested by earlier studies.

However, as the sessions continued, many subjects reached a point of significant frustration, believing that they had hit an insurmountable limit to their memory capacity. This reaction aligns with long-standing psychological theories that propose the average human can hold about seven items in their short-term memory (Miller, 1956). Yet, Ericsson and Pool's findings challenged this conventional boundary. With continued, deliberate practice—specifically designed to push the limits of cognitive ability—the subjects gradually improved their capacity, eventually being able to recall longer strings of digits consistently.

This breakthrough demonstrates that the human potential for memory is not as fixed as once thought. The key to these remarkable results was the nature of the practice undertaken. Instead of repetitive, rote memorization, the practice was systematic and increasingly challenging, tailored to expand the subjects' memory capacity incrementally. This method of “deliberate practice” emphasizes not just repetition, but a conscious effort to exceed one's current limits, supported by strategies that target specific areas for improvement. Such findings

by Ericsson and Pool underscore the profound impact that deliberate, well-structured practice can have on enhancing cognitive abilities, far beyond previously accepted limits.

The link between deliberate practice and brain structure has been compellingly illustrated by neuroscience research. In a study by Maguire et al. (2000), the brains of licensed London taxi drivers were examined using Magnetic Resonance Imaging (MRI) to understand the neural impact of their extensive navigational experience. This study involved sixteen male taxi drivers, all of whom had extensive experience navigating the complex layout of London streets, and compared their brain structures with those of fifty non-taxi drivers of similar age and health.

The findings revealed that the taxi drivers had significantly larger volumes of gray matter in the posterior hippocampus—a brain region associated with complex spatial navigation and memory. This enlargement is thought to be a direct result of the taxi drivers' daily engagement in demanding navigational tasks, which resembles a form of spatial or navigational “weight training” for the brain. The changes observed in the hippocampus highlight how specific areas of the brain can develop and adapt in response to intensive practice and use.

Maguire et al. (2000) concluded that the increased gray matter in these taxi drivers' brains was akin to the way a bodybuilder's muscles grow from regular, intensive exercise. This analogy vividly captures the concept that deliberate, systematic practice can lead to physical changes in the brain, thereby improving the capacity to perform certain tasks. Thus, the study not only supports the notion that deliberate practice can significantly enhance specific skills but also demonstrates the brain's remarkable plasticity, its ability to adapt structurally to the demands placed upon it.

These findings underscore the potency of deliberate practice as a method to train and restructure the brain, enhancing its functionality in targeted ways. The implications of this

research extend beyond taxi drivers, suggesting that anyone can enhance their cognitive capacities through targeted, deliberate practice.

Deliberate practice, a concept deeply explored by Ericsson and Pool (2016), emphasizes structured, focused training tailored to improve specific performance aspects. Their research highlighted that high achievers in various fields often engage in extensive, deliberate practice sessions over several years. However, it was Gladwell (2008), in his book, *Outliers: The Story of Success*, who introduced the idea that approximately 10,000 hours of such practice are required to achieve mastery. This interpretation has sparked widespread discussion about the application of deliberate practice across different domains.

In *The First 20 Hours: How to Learn Anything . . . Fast*, Josh Kaufman proposes a more accessible approach to skill acquisition. Kaufman argues that a structured approach to learning can yield substantial initial gains with just 20 hours of focused practice (Kaufman, 2013). This idea suggests that while the pursuit of mastery might require a long-term commitment, significant functional skills can be developed in a much shorter time frame. Therefore, it is possible that the application of deliberate practice can be extended to various fields, including academics, where techniques such as immediate feedback and repetitive skill drills enhance learning efficiency. These methods are adaptable and can be particularly useful in educational settings where there is a need to quickly develop a competent understanding of multiple topics.

In summary, the literature review underscores a significant emphasis in educational intervention programs on emotional factors, such as external social influences and internal personality traits, alongside cognitive learning behaviors. However, there appears to be a gap in studies focused on teaching methods that have a direct causal relationship with academic performance. Deliberate practice emerges as a potent avenue for exploration due to its direct



causal linkage to enhanced performance, providing a valuable framework for understanding how academic skills are developed and refined.

### **Statement of the Research Problem**

The persistent low passing rates in professional, vocational, and licensing review programs represent a critical societal problem with broad implications. Despite the importance of these programs in preparing individuals for professional success, evidence suggests that traditional teaching methods are insufficient. Current educational strategies in these settings typically consist of providing subject outlines, delivering weekend-long lectures via live or video formats, and offering practice exams for self-study. However, as noted by Harvey (2004), the reputation and effectiveness of these schools are strongly linked to their success rates, which have stagnated around 40% (Betty, 2020). This stagnation not only undermines the credibility of these educational institutions but also significantly impacts the career prospects of countless aspiring professionals.

If left unaddressed, this issue could lead to a continued decline in the perceived value of these educational programs, potentially reducing enrollment and the number of qualified professionals entering critical fields. Furthermore, the broader social effects include a potential decrease in economic productivity and innovation within professional sectors.

Deliberate practice, characterized by targeted exercises such as expert feedback, focused practice sessions, and continuous performance assessments, has been shown to substantially improve proficiency in complex skills across various domains, including medicine, sports, and arts (Ericsson et al., 1993). Studies by Ericsson and Pool (2016) demonstrate that deliberate practice can significantly enhance memory and skill retention far beyond traditional methods. Additionally, Kaufman (2013) found that even short-term engagement in deliberate practice

could lead to substantial skill acquisition in diverse areas like programming and touch typing within just four weeks.

Thus, integrating deliberate practice into the review course program could revolutionize the efficacy of these programs, enhancing their reputation and, more importantly, increasing the success rates of their students. Failure to innovate in teaching methodologies could result in continued educational inefficiencies, poor professional preparation, and a broader decline in industry standards.

### **Research Purpose**

The primary purpose of this experimental study was to evaluate the efficacy of deliberate practice methods in improving passing rates on the real estate license exam. This investigation employed a controlled experimental design to rigorously compare the performance outcomes between two distinct groups: a control group, which engaged in a traditional review course, and an experimental group, which completed training using deliberate practice techniques. By systematically applying these methodologies, the study aimed to discern the impact of deliberate practice on academic achievement within the context of real estate licensing education.

To conduct this study, 68 participants selected whether to participate in the control group or the experimental group. The control group followed the conventional curriculum that includes standard lectures and practice exams. Conversely, the experimental group received targeted intervention based on the principles of deliberate practice, which included structured skill-building activities, personalized feedback from experts, and repeated performance assessments aimed at continuous improvement.

This methodological approach allowed for a clear comparison between traditional educational strategies and innovative deliberate practice techniques. The findings from this study

provide actionable insights into how deliberate practice can be effectively integrated into educational programs to enhance student outcomes and prepare them more effectively for professional qualifications (see Chapter 5). By addressing the identified problem of stagnating pass rates, this research seeks to contribute to the broader field of educational methodology and inform future teaching practices in professional training programs.

### **Research Questions**

#### **Research Question 1**

To what extent will the deliberate practice method improve the real estate license exam pass rate compared to the traditional method?

*Hypothesis 1.* The experimental group will significantly outperform the control group in the final exam.

*Hypothesis 2.* The experimental group will outperform the control group across all six subtopics tested.

*Hypothesis 3.* The pass rate in the experimental group will be higher than in the control group.

#### **Research Question 2**

Are students satisfied with the deliberate practice method?

### **Definitions and Assumptions**

#### **Definitions of Terms**

##### ***Deliberate Practice***

Deliberate practice is a structured and intentional approach to skill improvement, characterized by specific, repeated exercises aimed at particular aspects of performance (Ericsson & Pool, 2016).

### ***Learning Outcomes***

Learning outcomes refer to measurable changes in knowledge, skills, attitudes, or behavior because of educational interventions (Biggs & Tang, 2011).

### ***Pass Rate***

Pass rate is defined as the proportion of students who successfully pass the exam out of those who attempt it, reflecting the effectiveness of teaching methods (Kuncel & Hezlett, 2010).

### ***Student Satisfaction***

Student satisfaction measures how content students are with their learning experience, influencing their overall educational outcomes (Richardson, 2005).

### ***Interventions***

The study involves an experimental group, which receives the intervention, and a control group, which follows traditional practices, to measure the effectiveness of the intervention (Shadish et al., 2002).

### **Assumptions**

#### ***Normality***

Assumes that the data collected for continuous variables follow a normal distribution. This is crucial for the validity of many statistical tests, such as the  $t$ -test or ANOVA, which might be used to analyze differences between groups.

#### ***Independence of Observations***

Assumes that the data collected from participants are independent of each other. That is, no participant's data should influence another's, which is essential for most statistical tests.

***Homogeneity of Variance***

In studies comparing groups, this means that the variance among groups is approximately equal. This assumption is particularly relevant for tests like ANOVA.

***Measurement Reliability***

Assumes that the instruments or methods used to collect data, such as tests, surveys, or observational protocols, are consistent and reliable over time and across various conditions.

***Treatment Integrity***

Assumes that the interventions or treatments are delivered consistently across all participants within the same group. This means that all individuals in the experimental group experience the same level of intervention intensity and quality.

***Participant Compliance***

Assumes that participants adhere to the protocols of the study, attending sessions as required, completing tasks as directed, and not engaging in behaviors that could confound the results.

***No External Influences***

Assumes that there are no external or confounding variables significantly influencing the outcome variables other than the variables being studied. This includes assuming that there are no unmeasured factors that might better explain the changes observed in the dependent variables.

***Scale of Measurement***

Assumes that the scales or tools used to measure variables are appropriate and sensitive enough to detect changes or differences if they exist.

### ***Generalizability***

While not always stated, there is often an underlying assumption that the findings of the study can be generalized beyond the specific sample used to a broader population.

### ***Ethical Considerations***

Assumes that the study adheres to ethical guidelines protecting the welfare and rights of participants, including informed consent, confidentiality, and the right to withdraw without penalty.

### **Significance of the Study**

The significance of this study is twofold: it extends current research on educational methodologies and directly impacts stakeholders involved in professional licensure, including educational institutions, students, and professional sectors such as real estate, medicine, law, and accounting. By investigating the efficacy of deliberate practice in improving the passing rates for the real estate license exam, this research offers a blueprint that can be adapted to a wider range of professional licensing exams, which are critical to career advancement in various fields.

For educational institutions that provide preparatory courses for professional licenses, this study is particularly significant. According to Harvey (2004), the success rate of licensing exams is a crucial metric used in the accreditation of professional schools. An improvement in pass rates can enhance a school's reputation, attract more students, and potentially increase funding and resources. By demonstrating the effectiveness of deliberate practice, this research encourages institutions to adopt this methodology, thereby directly contributing to improved educational outcomes and higher accreditation standards.

For candidates preparing for professional licenses, the adoption of deliberate practice can transform their learning experience by making their preparation more efficient and effective.

This is especially relevant in fields where licensing exams are seen as challenging barriers to professional entry. By providing empirical evidence of the benefits of deliberate practice, this study empowers students with strategies that maximize their chances of success, thereby potentially accelerating their career progression.

This study contributes to the broader discourse on professional training and education by detailing how targeted practice strategies can be applied across various academic and professional settings. The findings offer valuable insights for future research, particularly studies exploring the application of deliberate practice in diverse educational contexts. This can lead to a more nuanced understanding of how different disciplines might adapt and implement these strategies to meet their unique requirements.

### **Organization of the Research Report**

This chapter introduced the thesis that the real estate license exam passing rate can be improved by using a deliberate practice approach to exam preparation. Chapter 2 presents a literature review, which is followed by chapter 3's description of the study's research methodology and methods. Chapter 4 reports and discusses the study's results, data analysis, and findings, and chapter 5 concludes the study's final report by drawing conclusions, discussing implications for practice, and offering recommendations for future research

## CHAPTER 2: LITERATURE REVIEW

Due to the booming California real estate climate over the last decade, the number of real estate pre-license candidates reached 41,249 in 2020 (Betty, 2020). The entry barriers to the real estate industry are small. Amongst other requirements, including completing a college-level real estate principles course, the candidate must score at least 70% on a multiple-choice exam consisting of 150 questions (105 questions correct). This exam is administered by the California Department of Real Estate (Betty, 2020). Although the exam is not considered difficult, the California Real Estate exam pass rate has consistently stagnated at 42% for first-time test takers (Betty, 2020) and generally hover around 50% overall (License Solution, 2023).

While there are many reasons students fail the state exam—math ineptitude, feeling incompetent, difficulty grasping unfamiliar concepts—students rarely fail the state exam because of their mental abilities; rather, it is due to the way they prepare for the exam (Betty, 2020). Most students sign up for pre-licensing exam review courses based on the promotion by schools, all claiming that their course will yield a higher passing rate than the rest (Betty, 2020). After a thorough review of the courses provided by those vocational schools, it appears that their course reviews are identical. The real estate principles outline is played on video or read aloud in a live lecture and followed up with practice exams to be completed at home by students. Common sense dictates that their passing rate should not differ significantly because the method of delivery is the same (Betty, 2020). According to Xiong (2017), the model of assessment is composed of three elements: assessment, intervention, and reassessment. Since the assessment and reassessment do not move the needle of performance, the problem lies in the intervention. Therefore, it appears that the low passing rate may be due to the inefficacy of the learning method.



A survey of literature on learning performance reveals that its research is often conducted around three theoretical grounds: (a) personal traits, (b) environmental influence, and (c) learning behavior. The dictum based on the current literature is that an individual who becomes a mathematician or an exceptional musician does so due to his or her innate gift or to their exceptionally favorable environment or effective learning behavior (Amirault & Branson 2006). However, according to Ericsson and Pool (2016), an individual is not limited by genetics. An individual's environment may be a factor but is not determinative, and effective learning behavior may advance cognitive function but not exceptional skills, as there exists no evidence of an elite athleticism gene, an innate musical talent gene, a perfect environment, or effective learning behavior. Ericsson and Pool (2016) examine expert performance across various domains—athletics, music, chess, medicine, business, and education. Based on these extensive studies, Ericsson and Pool (2016) concluded that, with the correct method of practice carried out over a sufficient period of time, anyone can improve his or her performance. This kind of practice—deliberate practice—can be applied in all human endeavors. Performance can be achieved by the right kind of practice, albeit with great effort (Ericsson & Pool, 2016).

This chapter provides a concise literature review on learning theories, including personal traits, environmental influences, and cognitive behavior, and then it introduces the concept of deliberate practice as a possible solution to address the literature gap on learning theories.

### **Potential Factors Affecting Learning Outcomes Framework**

#### **Personal Factors**

The idea that success and mental proficiency are innate is not new. Based on a historical case study about the nature of expertise and the roles of experts in educational models, Amirault and Branson (2006) suggested that the innate theory is traced back to classical antiquity. Early

records showed that expertise was often described by the holistic approach because the educational paradigm was designed to explore intellectual function. Hence, the educational model was often based on individualized instruction to a select few who were naturally endowed with the capacity to pursue abstract discipline. This view was continued in the educational model through the Industrial Revolution. According to Galton (1869), the hypothesis that babies are born relatively alike was misguided because genius is not made by the steady application of moral effort but by genetics. Galton wanted to show that individual achievement occurred in families too often to be explained only by effort. He concluded that eminent men have eminent offspring, which was based on a biographical investigation of his contemporaries' ancestries—physicians and scientists of influence (Galton, 1869). The data revealed that each person inherited a specific type of genius. For example, a prominent scientist was born into a family that had already become eminent in science as described in his book, *Hereditary Genius* (Galton, 1869).

Galton's view of personal traits extends to modernity in the Terman studies, encapsulated by intelligence quotient (IQ) (Schultz & Schultz, 2015). Binet believed that genius could be captured by cognitive function in the form of memory, attention, imagination, and comprehension. His conclusion was based on an experiment that he conducted with his two daughters. He noticed significant differences between his daughters in relation to cognitive function. The initial test was then modified to include three cognitive functions: judgment, comprehension, and reasoning (Schultz & Schultz, 2015).

### **Environmental Influences**

Another factor thought to affect learning performance is environmental influences. Darwin observed that variation among individual members of a species is self-evidenced

(Goodenough, 1943). While this spontaneous variability is due to inheritability, it is the environment, through natural selection, that determines what organisms are eliminated or survive (Goodenough, 1943). Just as physical bodies, Piaget argued that mental structures are built to adapt to new environmental demands (Shaffer, 2000). Intelligence is not a fixed trait but was developed due to biological maturation and interaction with the environment (Shaffer, 2000). Thus, if the environment plays a critical role in human development, can we artificially manipulate the environment in a way that can cause the optimal outcome of human development?

The University of Toronto Summer Mentorship Program was established in 1994 to address a concern over the lack of native Canadians and Blacks entering the field of healthcare (Sibbald, 1998). By shadowing professionals, the program is designed to expose minority high school students to the university environment. Specifically, the program targeted minority students who did not believe that university was an educational option because they believed that they were not intelligent enough or did not have the means and skills to achieve at the university level (Sibbald, 1998). The program was so successful that it now includes other departments at the University, including engineering, social work, and law. Now, more than 100 students are admitted into the program every year. The program's effectiveness can be seen by an average improvement of 10% in the participants' high school marks. According to Miriam Rossi, "Once they see that university is a possibility, they double their efforts in high school" (Sibbald, 1998, p. 130). According to Galt (1996), social interaction through environmental influence causes continual step-by-step changes in children's behavior and thoughts.

According to (Tomasello et al., 1993), development depends on interpersonal interaction and certain environmental tools that, through acculturation, can help form the children's worldview in the following three ways as illustrated in Figure 1 and described in Table 1.

**Table 1**

*Three Ways of Learning*

| Way of Learning        | Description   |
|------------------------|---|
| Imitative Learning     | When one person tries to imitate another  |
| Instructed Learning    | Involves remembering teachers' instructions and then using these instructions to regulate oneself.  |
| Collaborative Learning | Involves a group of peers to understand one another and working together to learn a specific skill. |

*Note.* Adapted from Tomasello et al. (1993).

Environmental influence is well illustrated in Cooperative Learning Methods and is a strong example of how academic success can be cultivated by adopting specific practices. For example, cooperative learning refers to a learning method in which students work together in groups to master academic material presented by the teacher. The teacher presents a lesson to the class, and then all members of each team are responsible for making sure that their team members master the content (Slavin, 2000). In essence, students in the group become the "teachers" to their fellow students. Although students work on the lesson in their groups, they are quizzed individually on the material and points are awarded based on the extent to which each student has improved upon his or her own earlier performance (Slavin, 2000).

In short, talent can be cultivated through environmental influences. However, socio-cultural theory ignores the person's role because it does not realize that some can overcome social norms based on their individual effort. Gladwell (2008) documented in his book, *Outliers: The Story of Success*, many stories of individuals who achieved the phenomenon of success despite their hardscrabble background. Gladwell (2008) concluded that our genetic gifts or favorable environment may not be the determining factor after all because talent resulted in hours of cultivation by individual effort manifested through learning behavior.

### **Learning Behavior**

According to Shaffer (2000), research into excellent performance was dominated by behavior learning theories during the 1960s. Watson was one of the first to propose that learning behaviors could replace innate abilities; his seminal work *Behaviorism* (1930) suggested that behaviors could be conditioned by outside stimuli. However, the application of the theory was very limited because the theory missed the key mechanism that connected the stimulus-response (Shaffer, 2000). B. F. Skinner uncovered the mechanism: an enforcement schedule of reward and punishment. In his experimental demonstration, he put a rat inside the Skinner box (Shaffer, 2000). At first, the rat was inactive, but as it gradually adapted to the environment, it began to explore (Shaffer, 2000). The rat eventually discovered a lever, then learned that pressing the lever released food inside the box. So, Skinner theorized that learning improvement is based on the schedule of reward and punishment. While the behavior response under the stimulus-response (S-R) model is elicited by a specific observable stimulus under the conditions of reinforcement, operant behavior happens without any noticeable external preceding stimulus.

Bandura introduced another framework to describe changes in learning behavior: social cognitive theory. In the Bobo doll experiment, Bandura exhibited how certain behaviors can be

learned through imitation and observation (Shaffer, 2000). Bandura (1986) believes that behavior inherently influences both the environment and the person, each affecting behavior and the other. The result is a complex interaction of personal and environmental factors, equally asserting influence on the other. The key presumption of social cognitive theory is that self-reflection and self-regulation, interacting with the environment, determine the expected behavior. As such, we see that learning improvements are influenced by all three factors: personal traits, environmental influence, and learning behavior (Shaffer, 2000). While these theories are designed to explain how a certain trait or skill can be acquired, they fail to explain how these traits or skills can be improved over time. In the opinion of this researcher, deliberate practice can explain how high learning performance can be acquired over time.

### **Deliberate Practice, the Road to Excellence**

Helen Adams Keller lost her sight and hearing at the age of 19 months. At the age of seven, she was under the tutelage of Anne Sullivan. In her autobiography, *The Story of My Life*. Keller described how she learned to read her first words. Anne took Helen to an outside water pump and placed her hand under the spout. As the water poured over Helen's hand, Anne spelled on the other hand the word "w-a-t-e-r" (Keller, 1904). In Helen's mind, the signals created meaning. She learned that "water" meant the cool liquid pouring over her hand. She suddenly stopped and touched the ground and asked for its spelling, and by the evening, she learned dozens of words. Helen quickly mastered the alphabet, both in sign language and in braille, and became proficient in writing and reading.

In 1890, at the age of 10, Helen wanted to learn how to speak, so Anne took her to the Horace Mann School for the Deaf and Hard of Hearing in Boston to see Sarah Fuller. Fuller taught Helen 11 lessons and then passed her off to Anne. In 1898, Keller enrolled at the

Cambridge School for Young Ladies in preparation for Radcliffe College. She joined Radcliffe in 1900 and received a Bachelor of Arts degree cum laude in 1904. Later, she achieved honorary doctoral degrees from several institutions, including Harvard and Temple Universities in the United States, Berlin and Glasgow Universities in Europe, Witwatersrand University in South Africa, and Delhi University in India.

Alabama Senator Lister Hill gave a eulogy during the memorial of her death in 1968. He stated, “She will live on, one of the few, the immortal names not born to die. Her spirit will endure as long as a man can read and while stories are told of the woman who showed the world there are no boundaries to courage and faith” (Hill, 1968, p. 5). How could Helen achieve so much despite her predicament? It was the quality of her mind, favorable environment, and internal motivation. However, all these factors may not have been sufficient had she not been taught by the appropriate method.

A review of psychology education literature in academic settings reveals that extensive studies have been focused on either intrapersonal or interpersonal processes, but no systematic research has examined how the method of the study can affect academic performance, as outlined above. According to Shaffer (2000), during the last two centuries, excellent performance was either explained by innate talent or reward and punishment reinforcement. However, to ascribe excellent performance to innate ability alone cannot explain how some high-performance individuals acquire skills through effort. Likewise, behaviorism practices such as operant conditioning and social cognitive learning may explain how learning can be acquired by a schedule of enforcement or observation, but those theories cannot explain how Tiger Woods, for example, acquired excellent performance in his golf game through hours and hours of practice. This gap is well-documented in the study of Ericsson, Krampe, and Tesch-Römer

(1993) at the Music Academy of West Berlin. The object of the study was to figure out why some violinists are better than others. The researchers collected a significant amount of biographical data on all the subjects. The researchers concluded that the violinists achieved high performance due to the accumulated hours of practice in music performance. Furthermore, according to (Ericsson & Pool 2016), excellent performance was not only due to the hours of practice but also to the hours of the correct type of practice conducted over an ample period.

This kind of practice can be applied in all human endeavors: professional, individual achievement, or academic performance. Ericsson and Pool (2016) conducted a simple experiment in which the subject repeated a set of numerical digits. One goal was to see how the subject could improve with practice. After four sessions of one hour each, the subject could reliably recall seven-digit sets. Then, the subject experienced frustration and believed that he could not get any better. In fact, decades of research show that a person can retain seven-digit strings in their short-term memory. However, with additional practice of a specific type and duration, the subject was able to break the seven-digit boundary and consistently improve his ability to remember longer strings of digits. After 200 training sessions, the subject could reach 82 digits. Ericsson called it *deliberate practice* (Ericsson & Pool, 2016).

Ericsson and Pool (2016) claim that the United States Navy has applied deliberate practice to improve its success rate in air-to-air dogfights with North Vietnamese pilots. The Navy selected its top pilots as trainers. The trainers would act as enemy pilots and engage the students in dogfights. Rather than bullets and missiles, their planes were outfitted with cameras that would record each dogfight. The fights were also recorded and tracked by radar. The real progress occurred when the pilots landed. In these sessions, the trainers would relentlessly provide feedback to the students using films of the encounters and data recorded by the radar



units. Over time, students' air-to-air combat performance improved. The results of this training were astonishing. U.S. pilots brought down an average of 12.5 Vietnamese fighters for every U.S. plane that was shot down, compared to the previous ratio of two-to-one in training sessions (Ericsson & Pool, 2016).

The effectiveness of deliberate practice is well supported by neuroscience. Maguire of University College London (UCL) conducted a study of licensed London taxi drivers. She used Magnetic Resonance Imaging to observe the brains of 16 male cab drivers and compared these scans to the brains of 50 other men of similar age who were not cab drivers (Ericsson & Pool, 2016). Unlike New York's midtown streets arranged in a simple grid or Paris's streets forming a clockwise circle, a map of London's streets looks more like a plate of spaghetti, characterized by one-way streets, traffic circles, and dead ends. Yet, London's drivers traverse the city with ease, quickly calculating the fastest route between any two locations. According to the MRI, the study revealed that London cab drivers had more gray matter in their posterior hippocampus than those of similar age, intelligence, and education who were not taxi drivers.

In a later study, Maguire contrasted the brains of London cab drivers with London bus drivers. Even though the bus drivers still drove around London, they drove identical repeated routes and thus never needed to determine the most optimal route to get from point A to point B (Ericsson & Pool, 2016). Maguire discovered that the posterior hippocampus of the cab driver was significantly larger than the similar parts of the bus driver's brain (Ericsson & Pool, 2016). Since it could be argued that the cab drivers had a larger posterior hippocampus to begin with, Maguire measured (again using MRI) the hippocampi of 79 potential drivers and compared these scans to the brains of 31 people who were of similar age, education, and intelligence but did not drive taxis (Ericsson & Pool, 2016). At the beginning of the study, all participants had the same

size of posterior hippocampus. To earn their licenses, trainee cab drivers spend three to four years driving around London on mopeds, familiarizing themselves with a maze of 20,000 streets within a 10-kilometer radius of Charing Cross train station, as well as thousands of hot spots and tourist attractions. Four years later, of the group of 79 aspiring taxi drivers, 41 of the trainees became licensed, and 38 had stopped training or failed the test.

Maguire then measured the posterior hippocampi of the three groups by MRI. She reported that the newly licensed taxi drivers displayed an enlarged posterior hippocampus that had grown over time while in the other two groups, the size of the posterior hippocampus remained the same (Ericsson & Pool, 2016). The conclusion was that the posterior hippocampus is comparable to the bicep of a bodybuilder. Its volume will grow if it is continuously subjected to training. Deliberate practice is the most effective way to train the brain (Ericsson & Pool, 2016).

Likewise, Coyle (2009) claims that deep practice taps into a neurological mechanism, the cellular insulation—myelin. Deep practice is based much like deliberate practice, involving what Coyle describes as focus, feedback, and fix. The effect on the brain mechanism is very similar to that of deliberate practice. Talent in baseball, music, or cab driving can be developed by way of deliberate practice that creates chains of nerve fibers surrounded by myelin. For example, Brazilian soccer players become highly skilled because they played futsal while growing up. Futsal features a smaller field of play; as such, players touch the ball up to 600% more. In *Outliers*, Gladwell (2008) suggests that one can develop mastery in a new skill in 10,000 hours and notes that the more often an individual repeats a certain action, the more myelin one builds. He also suggests that the sweet spot of deep practice is at the edge of the ability, where the individual can target the struggles that are near the ability level, make those mistakes, and correct

them. In short, deep practice involves quick cycles of repetition of mistakes and quickly fixing them (Gladwell, 2008).

Newport (2010) claims that deliberate practice can be extended to academic settings. As such, he applied it to improve his research skills. It is well evidenced that showing up and working hard are the prerequisites of any skill development, but one will soon reach a performance plateau. To push beyond the plateau, Newport engaged in deliberate practice, in which he focused on the practice, compared his performance to the model, and adjusted his practice based on the high standard set by the model.

The three elements of deep practice are similar to deliberate practice and often unenjoyable. It is an approach to work that may stretch the current level of abilities beyond the comfort zone and then receive ruthless feedback on the performance. This response was exactly how he applied himself in his academic performance. He exercised his abilities by accepting projects that were out of his comfort zone, such as accepting concurrent writing commissions, while still working a day job. He sought feedback obsessively on everything. With this sort of practice, he accomplished a high level of academic performance.

Ericsson et al. (1993) conducted a series of studies into expert acquisition skills across domains, including medicine, sports, music, chess, computer programming, and mathematics. The study examined how Berlin musicians were able to acquire high performance. The study divided the violinists into three groups. In the first group were the stars, the students with the potential to become world-class soloists. In the second were those judged to be merely “good.” In the third group were students who intended to be music teachers in the public school system. All of the violinists were then asked the same question: over the course of their entire career, ever since they first picked up the violin, how many hours had they practiced and how did they

practice. The study results showed that achieving mastery required 10,000 hours of very focused practice based on five components: (a) observation of the work, (b) expert feedback, (c) small learning goals, (d) behavioral rehearsal, and (e) performance assessment.

In 2011, science journalist Joshua Foer personally tested whether deliberate practice can be used to improve memory and, in his study, acquire super-memory. To do this, he entered a memory competition and focused on practicing tasks related to short-term memory (Foer, 2011). He modeled his practice on the performance of past winners of the U.S. Memory Championship. Using repetition over time, he perfected the memory tasks. Foer eventually won the 2006 U.S. Memory Championship, having never engaged in such competition before (Foer, 2011). His accomplishment validated the principles of deliberate practice, demonstrating that expert acquisition of this skill required a lengthy period of effortful engagement.

Kaufman (2013) conducted an ethnography study based on self-reporting. The author conducted an experiment to determine whether deliberate practice can be used to acquire mediocre skills in a short period of time. He used it to learn various skills like programming, touch typing, and windsurfing. He followed exactly the three steps outlined in deliberate practice methodology: focus intensely on the subject matter that he wanted to acquire, compare his performance with the model's performance, and make adjustments to his practice. Based on the comparison, he corrected his mistakes. He repeated this practice for four weeks. While he did not become exceptional in his performance of a particular skill, his final result was astounding in that he was able to acquire a variety of skills at a proficient level in just four weeks.

### **Chapter Summary**

Researchers proposed a variety of learning theories to explain how excellent performance is acquired. Historically, excellent performance, often described as “talent,” has been attributed

to factors such as personal traits (e.g., innate abilities), environmental influences, and learning behaviors. However, researchers who have studied high-performance individuals paint a different picture. Ericsson and Pool (2016) propose that exceptional skills are acquired by hours and hours of deliberate practice. Kaufman (2014) demonstrated that deliberate practice can contribute to not only mastery but also the development of proficiency in learning any subject matter, even in a short time period. As such, it is possible to apply deliberate practice to gain reasonable expertise in any subject matter.

### CHAPTER 3: RESEARCH METHODOLOGY

Real estate pre-licensing classes are intended to enhance the passing rate for students on state-administered real estate exams. The reputation of leading professional schools, vocations, and licensing review schools positively correlates to a successful passing rate among applicants, leading some schools to offer guarantees that a student will pass even up to several attempts (License Solution, 2023). A preliminary survey of the current body of literature reveals that schooling does not adequately address the low pass rate since the average first-time pass rate consistently stagnates at 40% (Betty, 2020). Although the exam is not considered difficult, the California Real Estate exam pass rate has consistently hovered between 45% to 53% among first-time test takers; the second or third attempt is not better, remaining at the same pass rate average as the first attempt (License Solution, 2023).

The purpose of this experimental quantitative study was to compare the exam pass rates between two groups of students taking a review course and then completing a sample real estate exam. The first group (the control group) utilized the traditional method of exam preparation, and the second group (the experimental group) utilized the principles of deliberate practice. After taking the sample exam, participants of the experimental group were then asked to evaluate to what extent they were satisfied with the deliberate practice method of exam preparation. The first research question that guided this study is to what extent the deliberate practice method improved the real estate (sample) exam pass rate compared to the traditional method. The second research question was whether the students were satisfied with the deliberate practice method since this method demands great effort.

## **Research Methodology**

The research methodology of this study was designed to establish that a quantitative approach based on action research is the most appropriate research to answer the study's research questions. The following sections describe the quantitative method, the action research approach, and the experimental quantitative research approach of this study.

### **Quantitative Method**

Quantitative experimental research is designed to investigate the relationships between variables and test hypotheses in a structured and controlled manner (Bloomfield & Fisher, 2019). It is used to determine facts concerning a social phenomenon rather than attempting to understand the phenomenon from the perspective of a sample population (Neuman, 2014). This study is based on a quantitative experimental research design, examining the relationships between two variables—the deliberate practice preparation method and test performance—and testing hypotheses concerning whether the deliberate practice approach and test performance are correlated. As such, the quantitative methodology was selected for the proposed study.

Furthermore, quantitative methods are designed to collect measurable data by using closed-ended questions or numerical values to support or negate a stated hypothesis (Newman, 2014). This study was designed to compare the real estate sample exam pass rates based on the exam performance between two groups of students taking the review course and, using a 5-point Likert scale, compare how much students are satisfied with the deliberate practice method of exam preparation. Since the data collected was quantifiable, it was appropriate for the proposed quantitative study.

Additionally, a quantitative research methodology uses numerical data that allows for statistical analysis, helps reduce biases, and is based on an objectivity paradigm (Taherdoost,

2022). Quantitative research measures include statistical, mathematical, or numerical analyses of data collected through questionnaires and surveys or by the manipulation of pre-existing statistical data using computational techniques (Falligant et al., 2022). Quantitative research provides a scientific understanding of the relationship between the variables. This quantitative method involved a comparative experimental design consistent with the cross-sectional survey method, where the independent variable was whether or not the student completed the “treatment” (Bloomfield & Fisher, 2019), in this case, whether the student was in the experimental group completing the deliberate practice method of exam preparation.

Furthermore, a quantitative method was appropriate for the current research project since the main aim of the study was to establish a causal basis for the association between two numerically measurable variables. This research aimed to establish the causal-effect relationships that contributed to understanding how variables were related within real-world situations (Creswell & Creswell, 2018). The researcher conducted the study in a controlled environment in order to minimize the impact of extraneous variables. Such an approach helps to ensure that the outcomes are more likely to be the result of manipulated variables and not because of other factors (Neubauer et al., 2019).

### **Action Research**

This study also utilized a practical action research approach. Action research aims to simultaneously investigate and solve a real-world issue, in this case, to improve performance (the pass rate) in the real estate license exam. According to Taherdoost (2022), the benefit of action research is that it allows for collaboration and reflection that can contribute to indispensable improvements. Mertler et al. (2021) posit that action research is a valid tool for testing ideas related to education, as it includes educators talking and working with other educators in



empowering relationships. For example, action research is commonly used in K-12 schools because of the teachers' tendency toward collaboration and reflective practices. In many K-12 schools, regular meetings occur in which teachers discuss challenges and best practices on topics such as student learning, instructional feedback, and assessment. This study was based on the principles of action research in which the focus was to develop a pragmatic approach aimed at addressing existing needs in education, namely, in real estate license exam preparation.

While this study was designed to test the pass rate of a sample real estate license exam, it also tested how the exam pass rate reflects how students master the learning material. The findings of the study can be used for collaboration and can contribute to improvement in education since it can be extended into other fields, including the bar, medical licensure, accounting certifications, or, generally, any professional license exam. Indeed, the findings of this study can also be applied to the K-12 schools' learning environment as it also involves student learning outcomes, instructional feedback, and assessment. These elements of learning reflect the core deliberate practice principle: Focus, Feedback, and Fix. Finally, the findings of this may empower students and readers of this study to improve their mastery of learning using deliberative practice principles.

### **Experimental Quantitative Research Approach**

In short, practical experimental quantitative research with a causal relationship was the correct design for the study because the study's objective was to identify and evaluate the relationship between the dependent variable (the conceptual construct based on the principle of deliberate practice) and the independent variables (the real estate license sample exam passing rate, measured by the minimum percentage passing grade of the exam). Action research was the appropriate method since the findings are applicable in the field of education.

## **Research Context**

### **Research Setting**

The research setting refers to its environment or context, which may include a physical location, a social context, and/or an experimental environment in which a research study is conducted (Mertler et al., 2021). The research setting is important because it can influence the results of the study (Mertler et al., 2021). This study focused on determining whether deliberate practice can improve the pass rate of students taking a review course; therefore, the research setting was an accredited vocational real estate school in the city of San Jose. Since the Affordable Investment Academy is a commercial estate school offering the study, the school stood to derive benefit from the study if the study showed a positive correlation between the deliberate practice preparation method and the pass rate. Therefore, it was important that the researcher meticulously follow the research protocol so that the level of bias was minimal. Additionally, the exams were completed online and proctored, so it was important to carefully monitor the testing environment. In summary, since a study's setting may influence the outcome of the study, the researcher carefully observed the research protocol.

### **Participant Recruitment and Selection**

The researcher began the recruitment process after the site authorization and approval from Bradley University's Institutional Review Board (IRB) were obtained. All participants signed an informed consent form (see Appendix B) before data collection, which was sent out during the recruitment process. Informed consent protects the participants from unethical behaviors or harm. It follows the protocols set by Bradley University and the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research [NCPHSBBR], 1979). The researcher used convenience sampling to recruit the

necessary number of participants. A convenience sample is considered a sampling method that relies on the availability or location of the researcher for participant selection (Mohajan, 2020). Convenience sampling is used for recruiting participants in research settings where the participants meeting the inclusion criteria are easily accessible and within close proximity to the researcher.

The participants were students who signed up for the online real estate review course offered at the Affordable Investment Academy. Based on the registration, the invitation was emailed to those who signed up for the review course (see Appendix A). Those who agreed to participate in the research study signed the informed consent and were assigned to the experimental group. This group took the review course using the deliberate practice method. This was a special type of review that broke up the material into 16 review modules, with each session lasting about 50 minutes. These modules required focused attention, feedback was provided instantly, and there was a specific goal of improvement in performance specified during each session. Those who declined the invitation to participate in the research study took the review course under the traditional format (lecture/practice exam). This group represented the control group. Again, it should be noted the review was online for both groups.

### **Participant Population**

The participant population is a subset of the target population in a research study and refers to the group of individuals who participate in the study (Mertler et al., 2021). While the target population in this study is students who take the real estate review course at any institution, the participant population for this study was comprised of students who registered for the review course at Affordable Investment Academy. As such, it was not considered a randomized sample. According to Mertler et al. (2021), information on the participation

population should include participant characteristics and provide sufficient facts about the participants themselves. This study was made up of 64 total participants who registered for the online real estate salesperson review course offered at the Affordable Investment Academy on October 14–15, 2023. The criteria for inclusion required that participants be at least 18 years old, represent a wide range of ages (18 to 50), that participation be gender indiscriminate, and that participants complete the real estate principles course at an accredited institution. The age range was bound at the 18 to 50 range because the lower bound is the legal requirement to apply for a real estate license, while the upper bound is designed to maintain the normal distribution of the age of those who normally sign up for the exam. The exclusion of students over 50 years is non-discriminatory because it is designed to maintain the credibility of data collection; the assumption is that few people change their careers after the age of 50. Therefore, this study set the boundary of such an age range to maintain the normal distribution of the data. The documents required for the inclusion criteria included state identification and certification of completion of the course by an accredited institution. Furthermore, this research was designed to provide new insights into how to prepare candidates for taking professional license exams across domains, including accounting, medicine, or law. Therefore, such exclusion criteria are equitable since they could be generalized to a large population if it is shown that deliberate practice can effectively improve the pass rate of a professional exam because anyone can utilize deliberate practice in his/her exam preparation.

The demographic data for the participants included age, gender, income, and ethnicity. All of the following measurements represent participant data at the time of the study. Of those 64 participants, 38 students were males, and 26 students were female. Of the 36 males, 10 students were willing to take the review using the deliberate practice preparation method, and of 26

female students, 18 students agreed to use the deliberate practice method. All participants were residents of San Jose, California. Their ages were in the range of 30 to 47 years old. Their incomes were in the range of \$0 to \$75,000. The participants' ethnicities were primarily Hispanic and Asian since the Affordable Investment Academy is located right in the center of Vietnamese Town and Hispanic Heritage Center. Finally, all participants completed the real principles course at an accredited institution. See Table 2 for the demographic information of the participants.

**Table 2***Demographic Information of Participants*

|                    | Experimental Group | Control Group |
|--------------------|--------------------|---------------|
| <b>Age</b>         |                    |               |
| 19–30              | 8                  | 14            |
| 30–55              | 10                 | 22            |
| <b>Gender</b>      |                    |               |
| Female             | 18                 | 10            |
| Male               | 10                 | 26            |
| <b>Income</b>      |                    |               |
| \$0–\$25,000       | 6                  | 4             |
| \$25,000–\$50,000  | 13                 | 18            |
| \$50,000–\$75,000  | 9                  | 14            |
| <b>Ethnicities</b> |                    |               |
| Asian              | 12                 | 18            |
| Hispanic           | 14                 | 12            |
| Caucasian          | 2                  | 6             |
| Total              | 28                 | 36            |

Note. Demographic characteristic of study participants computed using descriptive statistics.

## Research Positionality

Research positionality refers to the stance or perspective of a researcher in relation to the social and political context of a study—the background, experiences, and values of the researcher (Mertler et al., 2021). In this case, this researcher has been active in the field of real estate for over 25 years. Therefore, the researcher is familiar with the real estate business cycles and active recruitment of real estate schools during a bull market. Usually, people try to get into the real estate business when it is a bull market. However, because the real estate industry is regulated by the California Department of Real Estate, the candidate must pass the real estate professional license exam.

The real estate business in California has recently experienced a boom; therefore, many individuals aspire to get into the real estate business. Thus, many real estate schools offer review courses and promise an unrealistic pass rate. Without different methods of study, however, this researcher believes that the pass rate will remain at 45% to 50%. Furthermore, the researcher believes that the real estate license exam is not hard. Students struggle to pass the exam because they are ineffectively prepared for the exam. This researcher has studied how the deliberate practice method has been effectively applied in many professional domains to improve performance, including chess, medical training, and sports. The position of this researcher is that this method can improve learning outcomes. Because of the researcher's *a priori* belief and the choice of topic, the researcher consistently monitored his biases during the research to ensure that his personal position did not impact the research. Fortunately, since this research was based on quantitative methodology, the analysis and interpretation of data were objective, mitigating potential issues with the researcher's positionality.

## **Research Methods**

### **Study Instruments**

The study instruments consisted of the real estate sample exam and the survey. The sample exam was based on a past exam administered by the California Department of Real Estate consisting of 150 multiple-choice questions, with four possible answers (labeled a, b, c, d) for each question (see Appendix D). This instrument was used as a basis for hypothesizing and generalizing how well the students would perform on an actual state licensing exam. The answers to the sample exam can be reviewed in Appendix E. The post-training survey was designed to determine the satisfaction level of students in the experimental group who completed training using the deliberate practice approach (see Appendix F). The survey consisted of 10 questions scored on a five-point Likert scale, where 1 = Very Slightly; 2 = A Little; 3 = Moderately; 4 = Quite a Bit; and 5 = Extremely.

### **Data Collection**

According to Mertler et al. (2021), the methods of data collection in quantitative research can include surveys, experiments, observations, and secondary data analysis. Surveys constitute the most common method because they can collect a large amount of data at once from many people. Surveys can be conducted online, over the phone, or in person and typically ask participants to answer a series of questions. Quantitative data collection consists of numeric data. As such, it can be quantified and analyzed statistically (Mertler et al., 2021).

At the beginning of this study, participants completed a questionnaire requesting demographic information (see Appendix C), which enabled the researcher to develop a demographic profile of participants (see Table 2). After the control and experimental groups completed the training designated for each group, the researcher collected data from the study's



research instruments, including the participants' exam performance on the sample real estate exam and the Likert-scaled responses from the survey completed by participants in the experimental group. This data was quantified and analyzed statistically. Since the main independent variable of interest is based on the method of review—the traditional training method or the deliberate practice method—the data was binary coded, coding “0” for the traditional method and “1” for the deliberate practice method. The variable of interest was the participant's score on the real estate license sample exam. Since the participant population comprised 64 students, it was sufficiently large to extrapolate to a larger population.

### **Study Procedures**

Students initially registered for the review course. Subsequently, they received an invitation via email along with an informed consent statement about the study (see Appendix B). In the invitation to participate in the study, the students were given two options: to complete the review course using the traditional method or the deliberate practice method (see Appendix A). The researcher provided the students with an explanation of the deliberate practice method that described the method as a special type of review that breaks the material into 16 review modules, with each session lasting about 50 minutes and requiring focused attention, instant feedback, and a specific goal of improvement performance specified at each session. The participants were also informed that the traditional method was the usual, lecture-based review format. The participants all signed the informed consent. Those who agreed to take the review course under the deliberate practice method were assigned to the experimental group, while the other participants completed the course under the traditional method and were thus assigned to the control group.

Upon completion of the review course, both groups were required to take the online, proctored comprehensive sample exam that was comparable to the exam given by the California

Department of Real Estate. In addition, the experimental group completed the survey concerning their satisfaction with the deliberate practice method of preparation. After student assessment, the researcher collected the participants' exam scores and compared the scores of the two groups to determine whether there was a significant difference in the test scores. Likewise, the survey scores for the experimental group who used the deliberate practice method were also tabulated.

### **Study Timeline**

Study deliverables, goals, and expectations are conveyed in depth in Table 3. To ensure the success of this research, on September 5, invitations were sent out to 64 students who signed up for the course review on October 14–15. Of the 64 invitations sent out, 28 students agreed to take the review course using the deliberate practice preparation method and were assigned to the experimental group. The other group of 36 students preferred to take the course using the traditional method and were assigned to the control group. During the research period, two students dropped out for personal reasons, and two students wanted to switch to the traditional preparation method. The experimental group population decreased to 24 students, and the control group increased to 38 students. The 24 students in the experimental group completed the final exam and the survey, while the 38 students in the control group only completed the final exam. Students were given three hours to complete the final exam and 30 minutes to complete the survey. The exam was virtually proctored.

**Table 3***Study Timeline of Research Deliverables and Goals*

| Date      | Activities  |
|-----------|---|
| August    | Obtain permit from school to conduct research on October 14–15  |
| September | Obtain students from registrar<br>Email invitation and informed consent<br>Explain the purpose of the research to the students<br>Explain the informed consent to those who are not clear about the research  |
| October   | Finalize participant list<br>Start data collection<br>Tabulate data<br>Review course starts<br>Conduct the reviews<br>Start data collection<br>Provide sample exam<br>Conduct survey<br>Analyze the students' profile<br>Transfer the data into SPSS for analysis |

## **Data Analysis**

According to Mertler et al. (2021), the two main approaches to quantitative analysis are descriptive and analytical. While descriptive analysis determines the characteristics of a particular phenomenon, analytical analysis identifies the underlying causes of a particular phenomenon. In this research, analytical analysis was the primary mode of analysis since the two research questions could only be answered by inferential statistics. Descriptive analysis was a secondary mode of analysis, for the research questions were not focused on the characteristics of the population.

Analysis of the resulting quantitative data was conducted using the statistical software suite Statistical Package for the Social Sciences (SPSS, Version 23). The dependent variable was a conceptual construct based on the principles of deliberate practice, while the independent variable was the real estate passing rate, measured by the minimum percentage passing grade of the sample exam. The researcher performed “data cleaning,” ensuring that no missing and variable data existed in the final data set. The researcher calculated the overall student scores from the student assessment via the Mastery Manager database. This process was recommended by Meyers et al. (2013), who suggest that screening the data and ensuring the completeness of surveys should be carried out before data analysis to detect potential errors and problems involved in a data set. The use of data screening improved the validity of the research.

The two types of statistical techniques in this research included descriptive and inferential statistics. Descriptive statistics provided a crude analysis of the research questions, including relevant measures of central tendency and other graphics that allowed the researcher to explore and visualize the data in the context of the research questions. In this study, the analysis of descriptive statistics was the description of the study population. As to the inferential analysis,

the study conducted *t*-tests to determine whether there was a significant mean difference between the two groups. Analysis of the *t*-test data also included a review of the group's *t*-distribution given  $df = 62$ , and an evaluation of significance when the *p*-values were tested against the alpha ( $\alpha$ ) level of 0.05.

### **Ethical Procedures**

Ethical procedures are an integral part of all research. The Belmont Report (U.S. Department of Health and Human Services, 1979) describes the ethical considerations researchers must address. Researchers must protect vulnerable participants and respect persons, beneficence, and justice. The study employed convenience sampling, and the data collected did not include any personally identifying information such as names and IP addresses. The researcher adhered to respect for persons by ensuring that no personally identifiable information was collected. All personal identifying information and specifics about the people in the sample population were de-personalized by assigning each data point an alphanumeric identifier (Duckett, 2021). If by the end of the study, the results did contain any such identifiable data, it was stripped by the researcher prior to data analysis. The researcher also respected the person by respecting their autonomy, ensuring that individuals voluntarily participated in the study and were not coerced to participate. The researcher also considered the principle of beneficence by safeguarding the welfare of participants by obtaining IRB approvals for the study. The IRB reviewed the study to determine that there was minimal risk to participants.

Ethical procedures also include the confidentiality and security of human subjects, their civil liberties, and rights within the constitution of participation in the current study. The researcher ensured that all protections to safeguard the rights of the participants were in place and did not limit these protections. The researcher notified participants in writing and provided

verbal assurances regarding the framework for the data's use in the study (see Appendixes A and B) . All procedures utilized for recruiting, data collection, data analysis, and data distribution followed the specified guidelines from the university's IRB requirements and the Belmont Report (NCPHSBBR, 1979).

Based on the fundamental principles of the Belmont Report, each participant was respected and treated autonomously, remained unharmed while maximizing participation benefits, and was treated fairly and equally. All results were published with the permission of each participant without disclosing the participant's full name. The researcher respected any communication from participants regarding their well-being, desire for anonymity, and rights when communicating about the data and its usage (Mehrad & Zangeneh, 2019). Finally, all data, including demographic information and informed consent, was and is safeguarded electronically on the researcher's secured computer, which includes password-protected files that only the researcher can access. After three years, the researcher will permanently delete all data from this computer.

### **Chapter Summary**

The purpose of this experimental quantitative study was to compare the real estate license sample exam passing rates between two groups of students taking a review course (either the traditional course or the course using a deliberate practice approach). While most schools claim that their passing rate is significantly higher compared to others, the actual exam results and performance indicate the passing rate remains at a low rate. Deliberate practice can be applied in all human endeavors, including in professional, organizational, individual achievement, and academic environments. In this chapter, the researcher described the research methodology, research instruments, data collection and analysis, ethical considerations, and the measures put in

place to ensure that the research was valid and could be extrapolated to other contexts in the future. In Chapter 4, the data analysis and findings are presented.

## CHAPTER 4: RESULTS

This chapter presents the results and interprets the data analysis for this study. Ericsson et al. (1993) established that deliberate practice can apply across domains, including medicine, sports, music, computer programming, and mathematics. The first research question in this study asked whether deliberate practice can be applied to improve learning outcomes for students in preparing for the real estate exam. Thus, the data collected from the real estate sample exam scores, the scores on the exam's six sub-topics, and the post-course surveys were analyzed to assess the impact of the deliberate practice method on learning (preparation) for the pre-license real estate exam. Tables are used to visually depict the data for the exam results for both groups and provide a clear indication of the satisfaction level of the experimental group concerning the deliberate practice method.

This chapter begins by presenting the descriptive statistics of the study and then proceeds to the inferential analysis that addresses each research question and its corresponding hypothesis. By connecting the methodological approach with the empirical data collected, this chapter aims to illuminate (a) whether deliberate practice can improve pass rates for the California real estate license exam and (b) if it is a practical method of preparation, thereby contributing to our understanding of how deliberate practice affects learning outcomes. Finally, this chapter provides the researcher's initial interpretations of the study's findings, setting the stage for a more detailed discussion in Chapter 5.

### **Study Results**

#### **Study Data Set**

The population sample for this study comprised a total of 64 students who registered for the online real estate salesperson review course at Affordable Investment Academy from October



14–15, 2023. The demographic breakdown of participants is as follows: There were 38 male and 26 female students. Of these, 10 males and 18 females chose to undergo the review using a deliberate practice approach. These students were assigned to the experimental group. The control group comprised 28 male and 8 female students who opted out of the deliberate practice approach and completed the review under the traditional lecture format.

All participants were residents of San Jose, California, at the time of the study, and were between 30 to 47 years old, earned an annual income ranging from \$0 to \$75,000, and predominantly identified as Hispanic and Asian. This detail is significant, considering the location of Affordable Investment Academy, which is situated at the heart of Vietnamese Town and near the Hispanic Heritage Center. This influenced the demographic composition of the participant group. The study's eligibility criteria required participants to be at least 18 years old, with a broader age acceptance range of 18–50 years, and there was no gender bias. The participants completed the real estate principles course at an accredited institution (Affordable Investment Academy) as required by California's Department of Real Estate. Additional data was collected from the experimental group that completed the training based on the deliberate practice method. The results of this survey instrument are provided in Table 5.

### **Contextual Data Findings to Research Question 1**

The first research question was: To what extent will the deliberate practice method improve the real estate sample exam pass rate compared to the traditional method? Table 4 summarizes the results of the control and experimental groups based on total test scores, the test scores of the six subtopics, and the pass rate. The sample exam consisted of 150 questions in six subtopics: Land Acquisition Title, Real Estate Agency, Real Estate Contract, Real Estate Finance, Real Estate Appraisal, and Land Use Control. The passing grade is 105 out of 150 total

points. Table 4 presents the performance of students in two groups (Control = C; Experimental = E) in the sample exam, including the mean total test score, the mean scores in each of the six subtopics, the standard deviation (*SD*), the standard error (*SE*), and the number of students in each group that passed the sample exam.

**Table 4**

*Comparison of Test Scores and Subtopic Mastery in Control and Experimental Groups*

| Variable                  | Mean                      | Mean                           | <i>SD</i>             | <i>SE</i>          | <i>p</i> -value |
|---------------------------|---------------------------|--------------------------------|-----------------------|--------------------|-----------------|
|                           | Control<br>"C"<br>pop. 36 | Experimental<br>"E"<br>pop. 28 |                       |                    |                 |
| Total Test Score          | 105.58                    | 118.93                         | C= 20.092<br>E=19.577 | C=3.349<br>E=3.700 | .01             |
| Land Acquisition<br>Title | 28.64                     | 32.14                          | C=5.441<br>E=5.324    | C=0.907<br>E=1.006 | .01             |
| Real Estate<br>Agency     | 20.03                     | 22.64                          | C=3.836<br>E=3.714    | C=0.639<br>E=0.702 | .01             |
| Real Estate<br>Contract   | 14.25                     | 12.25                          | C=2.402<br>E=2.351    | C=0.400<br>E=0.444 | .01             |
| Real Estate<br>Finance    | 9.5                       | 10.68                          | C=1.859<br>E=1.906    | C=0.310<br>E=0.360 | .01             |
| Real Estate<br>Appraisal  | 16.86                     | 19.07                          | C=3.200<br>E=3.138    | C=0.533<br>E=0.593 | .005            |
| Land Use<br>Control       | 18.03                     | 20.32                          | C=3.558<br>E=3.345    | C=0.593<br>E=0.632 | .02             |
| Passing Rate              | 18 out of 36              | 20 out of 28                   |                       |                    |                 |

*Note.* *SD* refers to the standard deviation in the means for a particular value within a population sample; *SE* refers to the standard error in the means across population samples; *p*-value represents the significance level of the differences between groups. Passing Rate indicates the number of students who passed the course in each group.

### ***Comparison of Total Test Scores of the Two Groups***

The control group had a mean test score of 105.58, with an  $SD = 20.092$ . The  $SD$  measures the spread of the scores around the mean, with a high  $SD$  value indicating a high variability of scores around the mean and a low  $SD$  value indicating a lower variability of scores. The experimental group showed a higher mean test score of 118.93, with an  $SD = 19.577$ , suggesting a similar variability in scores but at a higher performance level. The  $SE$  for both groups ( $C = 3.349$ ;  $E = 3.700$ ) provides an indication of the accuracy of the sample's mean as an estimate of the population's mean, with smaller values indicating more precision. The two-sample  $t$ -test assuming equal variances yielded a  $t$ -value of  $-2.666$  with a  $p$ -value =  $.01$ , well below the typical alpha ( $\alpha$ ) level of  $0.05$ , indicating that the difference in mean scores between the control and experimental groups is statistically significant.

### ***Comparison of Six Subtopic Scores of the Two Groups***

This section focuses on evaluating the effectiveness of the traditional versus the deliberate practice method on specific components of the real estate exam that are covered during the real estate principles course and on the real estate license exam: Land Acquisition Title, Real Estate Agency, Real Estate Contract, Real Estate Finance, Real Estate Appraisal, and Land Use Control. As with the general test scores, the aim here is to discern whether the intervention offered to the experimental group yielded a significant improvement in performance on the subtopics compared to the control group that did not receive this intervention.

**Land Acquisition Title.** The control group had a mean score of 28.64 on the land acquisition component, with an  $SD = 5.441$ . The experimental group's mean score of 32.14 was significantly higher, and its slightly lower  $SD = 5.324$  again suggests a more concentrated performance around the higher mean. The difference in  $SE$  scores for both groups ( $C = 0.907$ ;  $E$

= 1.006) was nominal. The  $t$ -test resulted in a  $t$ -value of  $-2.580$  and a  $p$ -value =  $.01$ , again demonstrating a statistically significant difference. This suggests that the experimental group's performance was significantly better than the control group's on the land acquisition component.

**Real Estate Agency.** The control group had a mean score of 20.03, with an  $SD = 3.836$ . The experimental group had a higher mean score of 22.64, with  $SD = 3.714$ . The difference in  $SE$  scores for both groups ( $C = 0.639$ ;  $E = 0.702$ ) was again nominal. The slightly lower  $SD$  for the experimental group reflected less variability in the group's scores relative to the control group. The  $t$ -value of  $-2.743$  and  $p$ -value =  $.01$  proves there is a statistically significant difference in the mean scores of the experimental group in comparison to the control group.

**Real Estate Contract.** The control group had a mean score of 12.67, with an  $SD = 2.402$ . The experimental group had a higher mean score of 14.25, and a slightly lower  $SD = 2.351$ . The somewhat tighter spread of scores around a higher mean suggests not only improved performance on average but also a slightly more consistent understanding among participants subjected to the intervention. The  $t$ -value of  $-2.640$  and  $p$ -value =  $.01$  indicates a statistically significant difference between the mean scores of the two groups.

**Real Estate Finance.** The control group had a mean score of 9.53, with an  $SD = 1.859$ . The experimental group had a higher mean score of 10.68, and a slightly lower  $SD = 1.906$ . The lower and similar standard deviation for both groups suggests less variability in the group's scores relative to the mean. The experimental group outperformed the control group in real estate finance. A  $t$ -value of  $-2.430$  and  $p$ -value =  $.01$  indicates a statistically significant difference between the mean scores of the two groups.

**Real Estate Appraisal.** The control group had a mean score of 16.86, with an  $SD = 3.200$ . The experimental group had a higher mean score of 19.07, and a slightly lower  $SD =$

3.138. The close standard deviation values between the two groups indicate a similar level of score variability, but the higher mean score for the experimental group suggests that these participants had a better understanding or skill set in real estate appraisal. The  $t$ -value of  $-2.765$  and  $p$ -value =  $.004$  indicate a statistically significant difference in the mean scores of the control and experimental groups.

**Land Use Control.** The control group had a mean score of 18.03, with an  $SD = 3.558$ . The experimental group had a higher mean score of 20.32, and a slightly lower  $SD = 3.345$ . This suggests a moderate but similar spread of scores around the mean for both groups. The  $t$ -value of  $-2.626$  and  $p$ -value =  $.005$  indicates a statistically significant difference between the mean scores of the control and experimental groups. This difference suggests that the intervention positively impacted the experimental group's understanding of land use control.

#### ***Comparison of Pass Rate Between the Two Groups***

Of the 36 students in the control group, 18 students passed and 18 failed, resulting in a pass rate of 50.0%. Of the 28 students in the experimental group, 20 students passed and 8 failed, resulting in a higher passing rate of 71.4%.

#### **Contextual Data Findings to Research Question 2**

The second research question asked: Are students satisfied with the deliberate practice method? The following results investigate the students' satisfaction with their training experience using the deliberate practice approach. The survey consisted of 10 questions assessed using a five-point Likert scale 1–5, where 1 = Very Slightly; 2 = A Little; 3 = Moderately; 4 = Quite a Bit; and 5 = Extremely (see Appendix F). The survey instrument measured the participants' perceptions of the deliberate practice approach across ten dimensions: (a) the helpfulness of the training material, (b) the ability to engage and interact with the material, (c)

the quality of the training, (d) the quality of the instructor's teaching, (e) the pace of the training, (f) if the trainer was engaging and supportive, (g) the participant's satisfaction with the learning content, (h) the sufficiency of the training content and material, (i) if the training met the participant's expectation, and (j) if the participant had suggestions for improvement. See Table 5 for a summary of the results, which were used to determine how the participants responded to the deliberate practice approach. For questions 1 through 9, a higher rating of 4 to 5 indicated the participant's agreement that the deliberate practice approach was beneficial. For question 10, the participant's higher rating indicated that the participant had suggestions for improvement for the researcher.

**Table 5***Participant Level of Satisfaction with Deliberate Practice Approach*

| Question  | 1<br>(Little) | 2<br>(Slight) | 3<br>(Moderately) | 4<br>(Quite a bit) | 5<br>(Extremely) |
|---|---------------|---------------|-------------------|--------------------|------------------|
| 1 Was the training material and content helpful to you?                       | 17.9%         | 14.3%         | 25.0%             | 25.0%              | 17.9%            |
| 2 Was the training program interactive and engaging?                          | 17.9%         | 7.1%          | 25.0%             | 32.1%              | 17.9%            |
| 3 How would you rate the quality of the training session?                     | 17.9%         | 10.7%         | 21.4%             | 32.1%              | 17.9%            |
| 4 How would you rate the teaching quality of the instructor?                  | 10.7%         | 14.3%         | 32.1%             | 21.4%              | 21.4%            |
| 5 Was the training at a comfortable pace?                                     | 7.1%          | 7.1%          | 25.1%             | 35.7%              | 25.0%            |
| 6 Was the trainer engaging and supportive?                                    | 7.0%          | 25.0%         | 21.4%             | 28.6%              | 17.9%            |
| 7 Were you satisfied with the learning content and material?                  | 21.4%         | 25.0%         | 17.9%             | 21.4%              | 14.3%            |
| 8 Did you think the content in the training material was sufficient?          | 14.3%         | 3.6%          | 25.0%             | 39.3%              | 17.9%            |
| 9 Did the training meet your expectations?                                    | 17.9%         | 25.0%         | 17.9%             | 17.9%              | 21.4%            |
| 10 Do you have any suggestions that can help us improve the training program? | 17.9%         | 25.0%         | 17.9%             | 17.9%              | 21.4%            |

*Significant Findings from Survey Responses*

**Question 1: General satisfaction.** The deliberate practice method showcased its effectiveness in improving learning outcomes, as evidenced by the considerable percentage of participants positively rating aspects of the training program. Specifically, 42.9% rated the helpfulness of the material as ‘Quite a Bit’ to ‘Extremely’ satisfying. However, a smaller yet significant proportion of 32.2% gave lower ratings (‘Little’ to ‘Slight’), suggesting some areas did not meet all participants’ expectations.



**Question 2: Interactivity and engagement.** The program's interactive nature was well-received, with 50.0% of responses indicating high levels of engagement ('Quite a Bit' to 'Extremely'). On the other hand, those who rated the interactivity low (17.9%) highlight a potential gap in keeping all participants equally engaged, which could be critical for ensuring the effectiveness of the training.

**Question 3: Quality of instruction.** Most felt the training sessions were of high quality, with 50.0% expressing substantial satisfaction. In contrast, 28.6% of the participants felt the sessions were lacking, which might reflect variability in delivery or the subjective nature of quality perception.

**Question 4: Quality of instructor.** Responses to the instructor's teaching quality were diverse, with 42.8% rating it as 'Quite a Bit' to 'Extremely' good quality, demonstrating approval of instructional methods. However, 25% of participants indicated a concern with the instructor's teaching effectiveness versus participant expectations, warranting further investigation into instructional approaches.

**Question 5: Training pace.** The training pace was comfortable for a significant majority, with 60.7% rating it 'Quite a Bit' to 'Extremely' comfortable. This suggests a well-calibrated delivery speed. Nevertheless, 14.2% of participants found the pace inadequate, indicating the need for adaptive pacing strategies to accommodate diverse learning speeds.

**Question 6: Trainer's engagement and support.** While 28.6% of participants rated the trainer's engagement and support 'Quite a Bit' engaging and 17.9% rated it 'Extremely' engaging, a notable 25% rated it only as 'Slightly' engaging, indicating that some participants felt this area could be improved.

**Question 7: Participant's satisfaction with content.** This question addressed satisfaction with learning content and showed varied responses: while 35.7% expressed 'Quite a Bit' or 'Extremely' high satisfaction, a greater percentage (46.4%) indicated 'Little' or 'Slight' satisfaction, suggesting that the content met expectations for some but not all and indicating potential adjustments to better align with diverse learning goals.

**Question 8: Sufficiency of training content.** While 57.2% of the participants found the content sufficient, 25% found it moderately sufficient, and a combined 17.9% found it only slightly or less sufficient. This suggests some participants felt the training could be more comprehensive or aligned better with their personal learning goals.

**Question 9: Met participant expectations.** This question focused on whether the training met participants' expectations and revealed mixed responses, with satisfaction levels fairly balanced across categories, from 'Slight' to 'Extremely.' This variation suggests that while the training largely aligned with expectations, some participants had greater expectations for the training.

Collectively, the responses to the first nine questions indicate that while the training program was generally well-received, aspects like trainer engagement, content satisfaction, sufficiency, and meeting expectations may benefit from further development to enhance overall participant satisfaction and training effectiveness.

**Question 10: Areas for improvement.** The responses to suggestions for improvement were evenly distributed, indicating that while many participants see areas for potential enhancement, they are not overwhelmingly critical. This balanced feedback provides a constructive pathway for refining the training program to enhance its effectiveness and reach.

In summary, the detailed examination of high versus low ratings strengthens the understanding that while the deliberate practice method is mainly effective and well-received, the criticisms and lower ratings offer invaluable insight. Addressing these concerns is essential for optimizing the training program and ensuring it meets all participants' diverse needs and expectations. This approach affirms the method's strengths and embraces its critiques as opportunities for meaningful improvements.

### **Chapter Summary**

This chapter reported the results of the data analysis. The findings supported the hypothesis that deliberate practice, as implemented in the training program, improves learning outcomes. The positive responses across various aspects of the training program suggested that deliberate practice is effective. However, attention should be given to the suggestions for improvement to refine the training program further. Chapter 5 concludes the study's final report by drawing conclusions, discussing implications for practice, and offering recommendations for future research.

## CHAPTER 5: DISCUSSION

This study investigated the effectiveness of applying deliberate practice principles to improve pass rates in real estate licensing exams. The results showed that students in the experimental group who were exposed to more structured, goal-oriented activities similar to deliberate practice (Ericsson et al., 1993) performed better on a sample real estate exam and were more likely to pass than students in the control group who studied using the traditional, lecture-based approach. This aligns with prior research that has shown the effectiveness of deliberate practice in skill acquisition across various fields, including education (Macnamara et al., 2014; Ericsson & Pool, 2016). Furthermore, students reported high levels of satisfaction with the deliberate practice approach, suggesting that the method enhances performance and fosters a positive learning experience.

These findings extend the existing literature by confirming that deliberate practice can be successfully applied to academic and professional licensing contexts, providing a structured framework that promotes deeper learning and higher retention. This chapter will discuss the study's contributions to the educational field, suggest directions for future research, and address the study's limitations regarding the broader body of research.

### **Experimental Purpose**

The primary purpose of this experimental study was to evaluate the efficacy of applying the deliberate practice approach for exam preparation to improve the passing rate on a simulated real estate exam. This research employed a controlled experimental design to compare the performance outcomes between two groups: a control group, which was engaged in a traditional review course, and an experimental group, which underwent training using deliberate practice techniques. By systematically applying the research methodology outlined in Chapter 3, this

study aimed to discern the impact of deliberate practice on academic achievement within the context of real estate licensing education. In this study, 64 participants were recruited and then self-selected to join either the control or experimental group. The control group followed the traditional curriculum, which included standard lectures and practice exams. In contrast, the experimental group received targeted interventions based on the principles of deliberate practice, which involved structured skill-building activities, personalized feedback, and repeated performance assessments.

### **Empirical Key Findings in Relation to Research Questions**

This study sought to address two main research questions through quantitative methodologies. Study outcomes validated results in alignment with the current literature while also bridging the gap of knowledge.

#### **Findings Related to Research Question 1**

The first research question asked to what extent the deliberate practice method would improve the real estate simulated exam pass rate compared to the traditional method of preparation for the exam. Overall, the findings support the hypothesis that deliberate practice, as implemented in the training program, improves learning outcomes.

#### ***Hypothesis 1 Findings***

The first hypothesis was that the experimental group would significantly outperform the control group in the final exam. The study results show that the experimental group achieved significantly higher performance on the final exam compared to the control group, with a mean score of 118.93 ( $SD = 19.577$ ) versus 105.58 ( $SD = 20.092$ ) for the control group. This significant difference, with its lower variability, indicates a substantial improvement in performance attributable to the deliberate practice method.

### ***Hypothesis 2 Findings***

The second hypothesis was that the experimental group would outperform the control group across all six subtopics tested. Analysis showed that the experimental group consistently scored higher across all subtopics: Land Acquisition Title, Real Estate Agency, Real Estate Contract, Real Estate Finance, Real Estate Appraisal, and Land Use Control. T-test results demonstrated a positive, statistically significant increase in mean scores of the experimental group ( $p$ -values  $< 0.05$ ). The consistent increase across all of the subtopics, which were diverse in nature, confirms that deliberate practice effectively deepens understanding and skill acquisition in real estate concepts.

### ***Hypothesis 3 Findings***

The third hypothesis was that the pass rate in the experimental group would be higher than in the control group. The study results showed that the proportion of students passing the exam in the experimental group was notably higher than that in the control group. Of the 36 students in the control group, 18 students passed and 18 failed, resulting in a pass rate of 50.0%. Of the 28 students in the experimental group, 20 students passed and 8 failed, resulting in a higher passing rate of 71.4%. This result directly underscores the efficacy of the deliberate practice method in boosting exam success rates.

### **Significance of Findings for Research Question 1**

The findings robustly support the hypotheses that the deliberate practice method substantially improves learning outcomes and exam performance in real estate pre-license education, leading to higher certification pass rates compared to traditional study methods.

## **Findings Related to Research Question 2**

The second research question asked whether students participating in the experimental group were satisfied with the deliberate practice approach to exam preparation. Among other data points described in Chapter 4, the data analysis of the participant survey demonstrated that 67.9% of the participants found the training moderately to extremely helpful (see question 1), 87.2% found the material sufficient (question 8), and 57.2% responded that the training met their expectations.

## **Significance of Findings for Research Question 2**

The data illustrates a generally favorable response, with a significant commendation for the method's interactivity, instructional quality, and content relevance. These elements are pivotal in fostering an engaging and enriching learning environment. Most participants rated these aspects highly, indicating that the deliberate practice method effectively captivates and educates its audience, providing substantial educational benefits. Although the participants noted potential improvements could be made to the training, the data analysis showed that participants found the training to be an effective means of preparation for the real estate license exam.

## **Feedback and Focus Area from Study Participants**

Alongside the positive feedback from the experimental group participants, the survey revealed areas needing future enhancement, including the pacing of the training and the interactivity/engagement of a qualified instructor. This feedback suggests that while the method proves effective for a large segment of learners, it falls short of universally addressing all learning styles and preferences. Specifically, some feedback emphasized a demand for diversified instructional strategies to better support individual learning trajectories.

These responses highlight the intricate nature of educational satisfaction and the essential need for adaptability in teaching methods. The contrasting survey responses are a vital reminder of the importance of continuously refining educational approaches to more comprehensively cater to a diverse student body. Although the deliberate practice method receives widespread accolades, the varied feedback underscores the need for ongoing modifications and enhancements. This will ensure that the method maintains its efficacy and extends its reach and impact by accommodating an expansive spectrum of student preferences and learning needs.

The findings revealed that students exposed to deliberate practice methods demonstrated significantly higher pass rates (71.4%) than those in the control group (50.0%). This suggests that deliberate practice, characterized by structured, targeted activities and immediate feedback, positively influences student performance. Survey results showed that the majority of students expressed satisfaction with the deliberate practice method, with positive feedback across multiple dimensions such as training interactivity, quality, and engagement. These findings support the hypothesis that deliberate practice is an effective and well-received method for improving educational outcomes.

### **Implications of Key Findings**

The methodological approach of this study allowed for a clear comparison between traditional educational strategies and innovative deliberate practice techniques. The findings from this study provided actionable insights into how deliberate practice was effectively integrated into educational programs to enhance student outcomes and better prepare them for professional qualifications. By addressing the problem of stagnating pass rates, this research contributed to the broader field of educational methodology and informed future teaching practices in professional training programs.



## **Outcomes Bridge Knowledge Gap**

This experimental study on the deliberate practice method in real estate education addresses critical gaps in the literature concerning its application within academic settings. According to Ericsson et al. (1993), deliberate practice is a planned, structured method of practice that aims to improve performance in particular fields like chess, music, and sports. Although deliberate practice has been well-documented in these traditional domains, recent research suggests its potential applicability in education to enhance learning outcomes (Macnamara et al., 2014; Ericsson & Pool, 2016). This study sought to expand on these findings by investigating whether the principles of deliberate practice could be effectively adapted to an academic environment, particularly in the context of professional licensing exams. It specifically considered how the deliberate practice method affected students' pass rates for a simulated real estate exam (based on actual past exams) compared to traditional study methods. This helps us learn more about how deliberate practice can improve academic performance at all levels.

## **Study Outcomes Elucidate the Power of Deliberate Practice**

In every component analyzed, the experimental group—those subjected to deliberate practice—consistently scored higher on average than the control group. This suggests a broad efficacy of the intervention across various topics critical to real estate education, including finance, appraisal, and land use. Furthermore, the statistical analysis, particularly the *t*-tests for equality of means, consistently showed statistically significant differences between the groups' scores. With *p*-values well below the conventional threshold of 0.05, these differences are not likely due to chance, indicating a real effect of the intervention. The close standard deviations between groups across the components suggest that while the intervention improved scores, it did so without disproportionately benefiting or disadvantaging specific subsets of participants.

This indicates a uniform enhancement of understanding or skill across the experimental group. Additionally, the precision of the mean scores, as indicated by the standard error means, underscores the reliability of the estimates. This suggests confidence in the intervention's effectiveness as reflected in the sample means.

### **In Comparison with Existing Literature**

The positive outcomes observed in this study—improved performance on the simulated exam, including critical real estate subtopics, by the experimental group—provide empirical support for Ericsson and Pool's (2016) assertion that deliberate practice can significantly enhance performance through structured and rigorous practice regimes. This finding is consistent with the broader educational literature that advocates for more effective learning behaviors over innate abilities or environmental factors alone (Amirault & Branson, 2006; Ericsson & Pool, 2016).

The survey results suggest that the material was helpful, the training was sufficient and meaningful, and the quality of teaching was highly rated. These factors indicate a learning environment conducive to deliberate practice, in which learners are actively engaged and receive quality instruction. The trainer's comfortable pace and high engagement likely contributed to the overall positive perception of the training's effectiveness. The high satisfaction with the learning content and the perception that the material was sufficient suggests that the training program was well-designed to facilitate deliberate practice.

### **Scope for Improvement and Enhancement**

While most responses were positive, there were still notable percentages of participants who only slightly or moderately felt the benefits, indicating that there might be room for improvement in certain areas. The suggestions for improvement, while not overwhelmingly high,

still indicate that a significant proportion of participants saw potential areas for enhancement, which could further increase the effectiveness of the training in fostering deliberate practice. According to Newport (2012), deliberate practice is often the opposite of enjoyable. It is an approach to work that may stretch the current abilities beyond the comfort zone, especially when receiving challenging feedback on one's performance. This aligns with the findings of this study in which only some students preferred this method; this mirrors the literature that acknowledges the challenging nature of deliberate practice.

Furthermore, the diverse responses to the training echo the literature on adaptive teaching strategies and may support a more individualized approach to implementing the principles of deliberate practice. This aligns with modern educational theories emphasizing personalized learning environments as crucial for maximizing student engagement and achievement (Slavin, 2000; Tomasello et al., 1993). The need for adaptation is particularly resonant with the findings from Coyle (2009) and Newport (2010), who suggest that while deliberate practice is highly effective, its implementation must be tailored to individual learner profiles to avoid the pitfalls of overgeneralization.

### **Implications for Practice**

This study confirms the efficacy of deliberate practice in academic settings and illustrates its practical application in real estate education—a field not extensively covered in existing studies. Integrating deliberate practice into real estate training programs can be seen as a novel approach to addressing the historically low pass rates highlighted by Betty (2020). By applying a method proven in other fields, this research contributes to a growing body of evidence that supports a shift towards more skill-oriented, practice-based learning in professional education. The overall positive feedback and significant learning gains observed in this study support the

research hypothesis that deliberate practice can enhance learning outcomes and specifically improve pass rates and student satisfaction. The findings of this study have several implications for educational methodologies and business practices.

### **Educational Institutions**

Incorporating deliberate practice into vocational and professional training programs can significantly enhance learning outcomes, particularly in high-stakes environments like licensing exams. Deliberate practice is a structured approach to skill acquisition involving repeated practice of specific tasks with targeted feedback to improve performance. This method is especially valuable in preparing students for professional exams that require a high level of competence and mastery (Ericsson et al., 1993). Studies have shown that deliberate practice can greatly improve performance across various disciplines. In vocational and professional settings, where the acquisition of specific, measurable skills is crucial, deliberate practice has numerous positive outcomes.

#### ***Higher Pass Rates on License Exams***

As Ericsson (2008) outlined, deliberate practice involves breaking complex skills into smaller, manageable tasks and providing focused, constructive feedback. This method allows students to concentrate on specific components, reducing cognitive overload and facilitating deeper understanding. For example, key concepts are practiced incrementally rather than covering entire chapters, promoting mastery over time. Research shows that learners engaging in deliberate practice perform better and retain skills longer due to structured and targeted learning sessions. Evaluation of this approach highlights its effectiveness in bridging the gap between theory and application through immediate feedback and repeated practice. However, successful implementation relies on high-quality feedback and the learner's commitment to continuous

improvement. Thus, deliberate practice enhances performance and fosters a mindset of ongoing growth, making it a powerful tool in both academic and professional training contexts.

### ***Increased Retention and Application of Knowledge***

Deliberate practice involves repeated engagement with the material, enhancing long-term retention and practical application (Schmidt & Bjork, 1992). Studies show consistent exposure strengthens neural connections, making recall and skill transfer more effective. In contrast to passive learning, deliberate practice requires active participation, focused effort, and strategic repetition, reinforcing understanding and adaptability. Evidence suggests that students who employ deliberate practice perform better on assessments and retain and apply knowledge more effectively in diverse contexts. Consequently, deliberate practice is superior to mastering complex skills and preparing students to excel in real-world scenarios.

### ***Higher Levels of Student Satisfaction***

Students report feeling more confident and prepared when deliberate practice is incorporated into their training programs. The clarity of expectations and regular feedback helps reduce anxiety, particularly in high-stakes testing environments (Ericsson et al., 1993). For example, deliberate practice is commonly used in simulation-based learning in medical and nursing programs. Research has shown that students who engage in repeated practice with feedback in simulated clinical environments are likelier to perform well on exams and in actual clinical settings. Similar outcomes have been observed in law, aviation, and other fields where precise skill application is critical (Issenberg et al., 2005).

The structured approach of deliberate practice ensures that learning is not passive but highly interactive and progressive. Unlike traditional study methods, where students may focus on rote memorization or broad overviews, deliberate practice zeroes in on specific skills or areas

of weakness that need improvement (Ericsson et al., 1993). This focused approach strengthens these areas and builds a student's competence and confidence. Additionally, the repetitive nature of deliberate practice helps students achieve muscle memory or cognitive mastery in their field, which is particularly important for vocational training requiring hands-on application, such as healthcare, engineering, or trades. However, it is important to note that deliberate practice requires commitment and time. The repetition and need for constant feedback may be perceived as demanding, and students may initially need help with the intensity of this approach. Furthermore, the successful implementation of deliberate practice depends heavily on the quality of the feedback provided by instructors or mentors. With targeted, constructive feedback, students may recognize areas where they need to improve, potentially limiting the benefits of the practice (Ericsson et al., 1993).

In short, incorporating deliberate practice into vocational and professional training programs has clear benefits, particularly for students preparing for high-stakes licensing exams. The method's focus on repetitive skill-building and targeted feedback helps students achieve higher pass rates, better knowledge retention, and greater overall satisfaction with their educational experience. While deliberate practice may be time-consuming and demanding, the long-term benefits for students' professional success, particularly in fields that require precision and competence, make it a valuable educational strategy (Ericsson et al., 1993).

Incorporating deliberate practice into vocational and professional training programs can significantly enhance learning outcomes, particularly in high-stakes testing environments like licensing exams. The structured nature of deliberate practice, which includes targeted feedback and repetitive skill-building activities, can help students achieve higher pass rates and greater satisfaction with their educational experience.

## **Business Organizations**

The principles of deliberate practice can be effectively applied to corporate training programs, where employees must develop specific competencies. Deliberate practice emphasizes targeted skill-building, structured feedback, and repeated exercises designed to improve performance in specific areas. In the corporate setting, implementing these principles can result in a more skilled and productive workforce, as employees can focus on their weaknesses and receive continuous feedback to guide their improvement. Research shows that deliberate practice can be successfully adapted to the corporate environment. Several studies have demonstrated that businesses that adopt structured learning techniques, similar to deliberate practice, significantly improve employee performance and productivity. Instead of generalized training, deliberate practice focuses on identifying and addressing specific skill gaps. This approach is particularly beneficial in industries where specialized skills are essential, such as technology, finance, or healthcare. For instance, companies that train their employees using simulated real-world scenarios followed by feedback and correction see higher competency levels (Salas et al., 2012). Regular, targeted feedback is a key component of deliberate practice. In corporate training programs, providing employees with immediate, constructive feedback on their performance allows them to make incremental improvements, increasing their proficiency over time (Ericsson, 2008). Deliberate practice emphasizes repetition, ensuring that employees consistently engage with the same skills until they reach mastery. This form of training is particularly effective in tasks that require precision, such as technical skills or complex problem-solving (Schmidt & Bjork, 1992).

In a corporate setting, companies like IBM, Microsoft, and Google have successfully implemented deliberate practice principles in their employee training programs. For example,

Google's "Project Oxygen" emphasized structured coaching, regular feedback, and skill-specific training, improving employee satisfaction and management performance (Buckingham & Goodall, 2019). Deliberate practice offers a highly effective framework for improving employee performance in corporate training programs, particularly in high-skill industries where specific competencies are critical to job success. Unlike traditional corporate training that may focus on broad knowledge or general professional development, deliberate practice emphasizes skill precision. This method ensures that employees improve in the specific areas where they are weakest, resulting in higher overall proficiency and job performance. The structured nature of feedback in deliberate practice is essential in a corporate environment. Employees often benefit from timely, clear feedback on their performance in key areas and where to improve. This targeted guidance helps employees focus their efforts on meaningful changes rather than vague suggestions for improvement.

Additionally, repeated practice, a core tenet of deliberate practice, ensures that employees are not merely introduced to new skills but master them over time, reducing the likelihood of errors in performance-critical tasks. However, implementing deliberate practice in corporate training programs requires time and resources. Focusing on repetition and continuous feedback means companies must have adequate resources to support employees' ongoing development. Moreover, the success of deliberate practice depends on the quality of the feedback and coaching provided by supervisors or trainers. With high-quality, focused feedback, employees may fully benefit from the deliberate practice approach (Ericsson, 2008).

In short, incorporating deliberate practice principles into corporate training programs can greatly enhance employee performance and lead to a more skilled and productive workforce. By focusing on specific skill deficiencies, providing structured feedback, and emphasizing repetitive



learning, businesses can help employees achieve higher competency levels in their roles. While this method may require significant investment in time and resources, the long-term benefits for employee performance, job satisfaction, and organizational productivity make deliberate practice valuable for corporate training. When properly implemented, deliberate practice can transform not only individual performance but also the overall success of an organization.

### **Limitations**

Several limitations in this study must be acknowledged, including the use of a non-randomized sample, reliance on self-reported data, the study's short duration, and the potential limitations of the instruments used to measure outcomes. These factors impact the findings' generalizability, reliability, and scope, suggesting that caution is necessary when interpreting the results and considering their application to broader contexts.

### **Non-Randomized Sample**

The study did not employ a randomized sampling method, meaning participants were likely selected based on specific criteria or availability rather than randomly drawn from a larger population. This lack of randomization may introduce selection bias and limit the generalizability of the findings to other groups (Campbell & Stanley, 1963). For example, if the participants were drawn from a specific educational institution or demographic group, the results may not accurately reflect the effectiveness of deliberate practice in a broader or more diverse population. Consequently, the absence of randomization complicates efforts to ensure that the findings apply universally across varied cultural or educational contexts.

### **Reliance on Self-Reported Data**

Student satisfaction and learning experiences were measured through self-reported data, which can introduce multiple forms of bias, such as subjective perceptions, memory recall issues,

and external influences like social desirability (Paulhus, 1984). For instance, students may rate their satisfaction based on external factors such as the instructor's personality or the setting of the evaluation rather than on the deliberate practice techniques themselves. Furthermore, response bias may occur when participants provide answers they believe are expected or socially acceptable rather than reflecting their genuine opinions. Consequently, using self-reported data complicates drawing firm conclusions regarding the effectiveness of deliberate practice, making it difficult to separate true impacts from perceived ones.

### **Short Study Duration**

The limited timeframe of the study is another significant limitation. Deliberate practice is a structured, repetitive method that typically requires sustained effort and feedback over extended periods to achieve long-term skill development and mastery (Ericsson, 2008). Because this study only measured short-term outcomes, it may not capture the full impact of deliberate practice on long-term learning and retention. The findings may only reflect initial changes in performance and satisfaction without indicating whether these gains persist or diminish over time. Thus, a longer study period would be necessary to evaluate the enduring effects of deliberate practice on learning and performance.

### **Potential Limitations of Instruments**

The instruments used to measure satisfaction, and performance may also pose limitations. While surveys and self-assessments are useful for capturing perceptions and initial reactions, they may not fully reflect actual learning gains or the nuances of skill development (Creswell & Creswell, 2018). If the instruments are not sufficiently sensitive to detect subtle changes or diverse learning experiences, the study's conclusions may be incomplete or skewed. Therefore,

the reliability and validity of the instruments must be carefully considered to ensure an accurate assessment of deliberate practice's true impact.

Each of these limitations potentially impacts the study's findings and limits their broader applicability. The use of a non-randomized sample reduces the generalizability of the results, making it difficult to ensure that the findings can be extended to more diverse or varied populations, particularly in educational settings with different student demographics and institutional contexts (Campbell & Stanley, 1963). Similarly, the reliance on self-reported data introduces the risk of bias, as subjective perceptions may not accurately reflect the actual learning gains or the effectiveness of the deliberate practice method (Paulhus, 1984). Furthermore, the use of potentially limited measurement instruments may have restricted the ability to capture subtle changes or comprehensive learning outcomes (Creswell & Creswell, 2018). Addressing these limitations in future research—through randomized sampling, objective performance measures, and the use of more reliable and validated instruments—would strengthen the validity and generalizability of the findings, providing a clearer understanding of the impact of deliberate practice on learning outcomes.

### **Suggestions for Future Research**

Future research should expand upon the current study's findings by exploring the broader application of deliberate practice across various fields, identifying optimal implementation strategies and conducting longitudinal studies to assess its long-term impact.

#### **Broader Application Across Different Fields**

While current research on deliberate practice has focused on specific fields like real estate and sports, there is significant potential to expand its application to other high-skill professions such as medicine, law, and technology. These fields, which require high levels of

expertise and precision, could benefit from the structured feedback and targeted skill-building that deliberate practice offers. For instance, in medicine, Issenberg et al. (2005) found that simulation-based training using deliberate practice principles improved both test outcomes and real-world applications, such as surgical performance and patient care. Similarly, in law, where accuracy in argumentation and legal procedures is crucial, deliberate practice could enhance performance through repeated, focused practice paired with expert feedback (Ericsson, 2008). However, the application of deliberate practice in these fields must be carefully tailored to meet the specific needs of each profession. For example, medical professionals could benefit from high-pressure simulations, while legal practitioners might focus on complex case studies or oral arguments. Although integrating deliberate practice into these professions presents challenges, such as resource allocation and access to expert feedback, its emphasis on continuous skill development offers substantial benefits in maintaining competence and improving outcomes over time. Thus, future research should explore how deliberate practice can be adapted to these high-skill professions, unlocking new opportunities for enhancing expertise and ensuring better outcomes across a range of disciplines.

### **Optimal Implementation Strategies**

While the concept of deliberate practice is well-established, the optimal strategies for its implementation still require further exploration. Future research should primarily address several key questions that are crucial in determining the most effective ways to incorporate deliberate practice into professional and educational settings. These questions include: What is the ideal frequency and duration of deliberate practice sessions? What types of feedback are most effective in improving performance? How can deliberate practice be adapted to diverse learning environments? By addressing these questions, future research can provide evidence-based

guidelines to help educators and employers implement deliberate practice that maximizes learning outcomes and performance improvements across various fields.

### ***Frequency and Duration of Practice***

Determining the optimal frequency and duration of deliberate practice sessions is essential for maximizing skill acquisition. Some studies, such as Ericsson's (1993), suggest that shorter, more frequent sessions enhance skill retention by allowing regular engagement with material, which prevents cognitive overload and promotes gradual mastery. However, other research indicates that longer, more intensive sessions may be necessary for mastering complex skills, as they enable deeper focus and immersion. Each approach's effectiveness depends on the task's complexity and the learner's individual needs. Shorter sessions may be better for reinforcing foundational skills, while longer sessions may facilitate mastery of more advanced tasks. Ultimately, a tailored approach that balances frequency and duration based on the specific learning context is crucial to achieving the best results.

### ***Types of Feedback***

Research on the most effective types of feedback for improving performance suggests that different approaches may be suited to different skills. Immediate feedback, for example, is often more beneficial for tasks requiring precision and quick adjustments, while delayed feedback can encourage deeper reflection and promote long-term retention (Shute, 2008). Additionally, the source of feedback—whether from peers, instructors, or automated systems—may play a role in its effectiveness, with specific contexts benefiting more from one source over another. Further exploration is needed to determine which types and sources of feedback yield the best results across various learning environments, allowing for more targeted and effective practice strategies.

### *Adapting to Diverse Environments*

Adapting deliberate practice to diverse learning environments is crucial for ensuring its effectiveness across educational and professional settings. Research shows that while deliberate practice has been widely studied in domains like music and sports (Ericsson, 1993), it can be successfully applied to other fields, such as vocational training and healthcare, when tailored to the specific needs of those environments. For instance, in medical education, simulation-based training has been shown to improve skill acquisition through repeated practice and immediate feedback (Issenberg et al., 2005). However, the structure of practice sessions, feedback methods, and intensity must be modified to suit learners' needs, resources, and institutional goals. Challenges arise when learners in resource-constrained environments need access to advanced technology or mentorship, requiring alternative approaches like peer-based feedback or cost-effective simulation tools. Additionally, cultural differences in how feedback is received must be considered to ensure that the practice method is effective and relevant. In summary, for deliberate practice to reach its full potential, it must be thoughtfully adapted to the specific context of learners and institutions, ensuring that its benefits can be maximized across a wide range of fields and settings

### **Longitudinal Studies**

Longitudinal studies are essential for understanding the long-term effects of deliberate practice, as they offer insights into whether its benefits extend beyond short-term improvements. While much research on deliberate practice focuses on immediate performance gains, longer-term studies are needed to evaluate whether these improvements persist throughout a person's career. For instance, Ericsson's (1993) research demonstrated that experts in music and sports achieved mastery through years of deliberate practice. However, whether these principles apply

to maintaining expertise in other professions still needs to be explored. Longitudinal studies could track individuals in fields such as medicine, law, or engineering to assess how deliberate practice continues to impact skill retention, career longevity, and adaptability over time. These studies could also reveal whether factors such as the frequency and intensity of practice or the quality of feedback influence long-term success. With this long-term perspective, we may partially understand deliberate practice's effectiveness. Therefore, longitudinal studies are crucial for providing a comprehensive view of how sustained engagement in deliberate practice contributes to professional growth, skill maintenance, and adaptability throughout one's career.

In short, future research should focus on three key areas to maximize the potential of deliberate practice. First, broader application studies are needed to explore the effectiveness of deliberate practice in high-skill fields such as medicine, law, and technology. Second, research into optimal implementation strategies, including the frequency and duration of practice sessions, the types of feedback, and adapting to diverse environments, will help refine how deliberate practice is applied across different fields. Finally, longitudinal studies will provide insight into the long-term effects of deliberate practice on professional development and career success. By addressing these areas, researchers can ensure that deliberate practice remains a versatile and powerful tool for professional training and development.

### **Conclusion**

This chapter concluded that deliberate practice is highly effective for improving learning outcomes in real estate licensing education. The findings suggest that adopting deliberate practice methods can enhance pass rates and student satisfaction, providing valuable insights for educators and policymakers. By integrating structured, feedback-driven practice into educational

programs, institutions can better prepare students for professional qualifications, ultimately contributing to a more competent and qualified workforce.



## REFERENCES

- Amirault, R., & Branson, R. (2006). Educators and Expertise: A Brief History of Theories and Models. In M. Bevir (Ed.), *Interpretation and method: Empirical research methods and the interpretive turn* (pp. 69-86). Cambridge University Press.
- Bandura, A. (1986). *Social foundations of thought & action: A social cognitive theory*. Prentice Hall.
- Betty, J. (2020). Real estate education trends in California. *Journal of Real Estate Practice and Education*, 15(2), 112–125.
- Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27–30.  
<https://search.informit.org/doi/abs/10.3316/INFORMIT.738299924514584>
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Society for Research into Higher Education. McGraw-Hill Education (UK).
- Buckingham, M., & Goodall, A. (2019). Reinventing performance management. In *HBR's 10 must reads on reinventing HR*. Harvard Business Review Press.
- Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Rand McNally College Publishing Company.
- Coyle, D. (2009). *The talent code: Greatness isn't born. It's grown. Here's how*. Random House.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach* (5th ed.). SAGE Publications.
- D'Ottone, R. (2019, April 30). Florida real estate license aspirants, students, and candidates' dropout: A qualitative analysis. *Journal of Education and Practice*, 10(11), 50–57.  
<https://iiste.org/Journals/index.php/JEP/article/view/47471>

- Duckett, L. J. (2021). Quantitative research excellence: Study design and reliable and valid measurement of variables. *Journal of Human Lactation*, 37(3), 456–463.  
<https://doi.org/10.1177/08903344211019285>
- Ericsson, K. A. (2008). Deliberate practice and acquisition of expert performance: A general overview. *Academic Emergency Medicine*, 15(11), 988–994.  
<https://doi.org/10.1111/j.1553-2712.2008.00227.x>
- Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363–406.  
<https://doi.org/10.1037/0033-295X.100.3.363>
- Ericsson, K. A., & Pool, R. (2016). *Peak: Secrets from the new science of expertise*. Houghton Mifflin Harcourt.
- Falligant, J. M., Kranak, M. P., & Hagopian, L. P. (2022). Further analysis of advanced quantitative methods and supplemental interpretative aids with single-case experimental designs. *Perspectives on Behavior Science*, 45, 77–99. <https://doi.org/10.1007/s40614-021-00313-y>
- Foer, J. (2011). *Moonwalking with Einstein: The art and science of remembering everything*. Penguin Press.
- Galton, F. (1869). *Hereditary genius: An inquiry into its laws and consequences*. Macmillan and Co.
- Gladwell, M. (2013). *David and Goliath: Underdogs, misfits, and the art of battling giants*. Little, Brown and Company.
- Gladwell, M. (2008). *Outliers: The story of success*. Little, Brown and Company.
- Goodenough, F. L. (1943). *Genetic psychology*. John Wiley & Sons.

- Harvey, L. (2004). The power of accreditation: Views of academics. *Journal of Higher Education Policy and Management*, 26(2), 207-223.  
<http://dx.doi.org/10.1080/1360080042000218267>
- Hill, L. (1968, June 5). *Eulogy delivered by Senator Lister Hill at the memorial for Miss Helen Keller* [speech transcript]. American Foundation for the Blind: Helen Keller Archive.  
<https://www.afb.org/HelenKellerArchive?a=p&p=helenkellerdocumentdisplay&d=A-HK01-03-B044-F07-081&>
- Issenberg, S. B., McGaghie, W. C., Petrusa, E. R., Gordon, D. L., & Scalese, R. J. (2005). Features and uses of high-fidelity medical simulations that lead to effective learning: A BEME systematic review. *Medical Teacher*, 27(1), 10–28.  
<https://doi.org/10.1080/01421590500046924>
- Kaufman, J. (2013). *The first 20 hours: How to learn anything . . . fast!* Portfolio/Penguin.
- Keller, H. (1904). *The story of my life*. In the public domain.
- Kuncel, N. R., & Hezlett, S. A. (2010). Fact and fiction in cognitive ability testing for admissions and hiring decisions. *Current Directions in Psychological Science*, 19(6), 339–345.  
<https://doi.org/10.1177/0963721410389459>
- License Solution. (2023, May 5). *Ultimate guide to CA real estate exam pass rates and scores*.  
<https://licensesolution.com/ca-exam-pass-rates-scores/>
- Macnamara, B. N., Hambrick, D. Z., & Oswald, F. L. (2014). Deliberate practice and performance in music, games, sports, education, and professions: A meta-analysis. *Psychological Science*, 25(8), 1608–1618. <https://doi.org/10.1177/0956797614535810>

- Maguire, E. A., Gadian, D. G., Johnsrude, I. S., Good, C. D., Ashburner, J., Frackowiak, R. S., & Frith, C. D. (2000). Navigation-related structural change in the hippocampi of taxi drivers. *Proceedings of the National Academy of Sciences*, 97(8), 4398–4403.  
<https://doi.org/10.1073/pnas.070039597>
- Mehrad, A., & Zangeneh, M. H. T. (2019). Comparison between qualitative and quantitative research approaches: Social sciences. *International Journal for Research in Educational Studies, Iran*, 5(7), 1–7. <https://api.semanticscholar.org/CorpusID:201130084>
- Mertler, C. A., Vannatta, R. A., & LaVenía, K. N. (2021). *Advanced and multivariate statistical methods: Practical application and interpretation* (7th ed.). Routledge.
- Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63(2), 81–97.  
<https://doi.org/10.1037/h0043158>
- Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People*, 9(4), 50–79.  
<https://www.ceeol.com/search/article-detail?id=939590>
- Neubauer, B. E., Witkop, C. T., & Varpio, L. (2019). How phenomenology can help us learn from the experiences of others. *Perspectives on Medical Education*, 8(2), 90–97.  
<https://doi.org/10.1007/s40037-019-0509-2>
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Pearson Education Limited.
- Newport, C. (2010). *So good they can't ignore you: Why skills trump passion in the quest for work you love*. Grand Central Publishing.

- Paulhus, D. L. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology*, 46(3), 598–609. <https://doi.org/10.1037/0022-3514.46.3.598>
- Richardson, J. T. E. (2005). Instruments for obtaining student feedback: A review of the literature. *Assessment & Evaluation in Higher Education*, 30(4), 387–415. <https://doi.org/10.1080/02602930500099193>
- Salas, E., Rosen, M. A., Held, J. D., & Weissmuller, J. J. (2017). Performance measurement in simulation-based training: A review and best practices. *Simulation & Gaming*, 40(3), 328–376. <http://dx.doi.org/10.1177/1046878108326734>
- Schmidt, R. A., & Bjork, R. A. (1992). New conceptualizations of practice: Common principles in three paradigms suggest new concepts for training. *Psychological Science*, 3(4), 207–217. <https://doi.org/10.1111/j.1467-9280.1992.tb00029.x>
- Schultz, D. P., & Schultz, S. E. (2015). *A history of modern psychology* (11th ed.). Cengage Learning.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin.
- Shaffer, D. (2000). *Social and personality development* (4th ed.). Wadsworth Publishing Company.
- Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153–189. <https://doi.org/10.3102/0034654307313795>
- Sibbald, Barbara. (July 1998). The health sciences are for you too, minority students told. *Journal of the Canadian Medical Association*, 159(2): 130. <https://www.cmaj.ca/content/cmaj/159/2/130.full.pdf>

Skinner, B. F. (1976/2005). *Walden two*. Hackett Publishing. (Original work published 1976)

Slavin, R. E. (2000). *Cooperative learning: Theory, research, and practice*. Allyn & Bacon.

Taherdoost, H. (2022). What are different research approaches? Comprehensive Review of qualitative, quantitative, and mixed method research, their applications, types, and limitations. *Journal of Management Science & Engineering Research*, 5(1), 53–63.  
<https://doi.org/10.30564/jmsr.v5i1.4538>

Terman, L. M. (Ed.). (1925–1959). *Genetic studies of genius* (Vols. 1–4). Stanford University Press.

Tomasello, M., Kruger, A. C., & Ratner, H. H. (1993). Cultural learning. *Behavioral and Brain Sciences*, 16(3), 495–511. <https://doi.org/10.1017/S0140525X0003123X>

Watson, J. B. (1930). *Behaviorism*. W. W. Norton.

Xiong, X. (2017). *Theory and practice: Improving retention performance through student modeling and system building* [PhD thesis, Worcester Polytechnic Institute].  
<https://digital.wpi.edu/downloads/kd17ct060?locale=fr>

## APPENDIX A

## INVITATION TO PARTICIPATE

Dear Student,

My name is Phuc D Do, a Principal Investigator in this study. My Co-investigator is Dr. Jeffrey P. Bakken, Professor at Bradley University. He can be reached at: 309 242 7197; email: bakken fmail.bradley.edu.

As a candidate for the Ed. D at Bradley University, I invite you to participate in a study on how deliberate practice effectively improves the real estate licensing exam passing rate. It is reflected in the title of my study: **Deliberate Practice: An Effective Way to Raise the R.E. Licensing Passing Rate**. Again, the purpose of this experiment is to compare the real estate pre-license exam passing rates between two groups of students taking a review course: One group will be taught by the traditional lecture format while the other group will be introduced to the method of deliberate practice.

Specifically, here is what you **will be asked to do** If you decide to take part in this research. You will be randomly assigned into an experimental group or a control group of participants. If you are assigned into the control group, you will proceed with the traditional lecture-based teaching method. If you are assigned into the experimental group, your attendance is required on video conference for one weekend, Saturday and Sunday, starting at 9:00 am to 5:00 pm, with a lunch break at 12am–1pm, and a 10 minute break between sessions, during which you will study your review course by the deliberate practice method. The class will be divided into 16 modules, each lasting about 50 minutes, with 10 minutes breaks in between. Here, in each session you will work on 30 questions, one minute for each question and the instructor will explain the solutions in 20 minutes.

At the end of the study, both participant groups will take a practice exam and be asked to complete a satisfaction survey. Scores from both the practice exam and the actual Board exam will be compared across participation groups. Note that you must be at least 18 years old and have completed the real estate principle course at an accredited institution. We hope to cover a wide range of ages and include an equal number of women and men.

Your participation is **completely voluntary** and will not lead to any negative impacts on your relationship with the school. Additionally, by agreeing to participate, you will be giving permission for your scores to be used for the purpose of research. As such, during the research study, you may decide to opt out if you so choose, if you feel uncomfortable. All the registration fees for the review course are fully refunded if you decide to cancel the review course altogether, so there will be no financial risk for the participant.

This could be a lifetime benefit to you since deliberate practice in all learning endeavors including picking up a hobby or studying a foreign language. All data collected will be confidentially stored in the study database.

If you are willing to participate, please complete the attached Informed Consent Form and email a signed copy to [Phucdinhdo@gmail.com](mailto:Phucdinhdo@gmail.com) or fax to (408) 350-9158. Please also keep a copy for your own records.

If you have any questions about the study, please contact me at phone 408-472-1119; email: [Phucdinhdo@gmail.com](mailto:Phucdinhdo@gmail.com). Any questions about your right as a research participant, you may contact **Bradley University's CUHSR Office** at 1501 SW. Bradley Avenue, Peoria, IL 61625; Phone 309 677-100



APPENDIX B  
INFORMED CONSENT FORM

Subject Matter:

Participation in Doctoral Research Study on how deliberate practice improves learning experience.

Dear Student,

As a requirement for completion of the Ed.D. degree in Higher Education Administration at Bradley University, I am conducting an experimental study as part of a research study to determine to what extent deliberate practice can effectively improve the real estate license salesperson passing rate.

Since you have registered for the review course at Affordable Investment Academy, you automatically qualify for the study. Specifically, here is what you **will be asked to do** if you decide to take part in this research. You will be randomly assigned into an experimental group or a control group of participants. If you are assigned into the control group, you will proceed with the traditional lecture-based teaching method. If you are assigned into the experimental group, your attendance is required on video conference for one weekend, Saturday and Sunday, starting at 9:00 am to 5:00 pm, with a lunch break at 12am-1pm, and a 10 minute break between sessions, during which you will study your review course by the deliberate practice method. The class will be divided into 16 modules, each lasting about 50 minutes, with 10 minutes breaks in between. Here, in each session you will work on 30 questions, one minute for each question and the instructor will explain the solutions in 20 minutes.

Your group will be randomly divided into subgroups for the purpose of comparison: experimental group and control group. At the end of the study, you will take the practice exam; your grade will be compared to the control group. Furthermore, when you take the actual exam board, we will obtain the result and compare it to the counterpart.

Your name or any identifiable information will not be disclosed and kept confidential. Please note that there is no compensation for participating in this study. However, your participation is very valuable since research will provide new insights into how to prepare candidates taking professional license exams across domains including accounting, medicine or law. Furthermore, this could be a lifetime benefit to you since deliberate practice can be applied in all learning endeavors including picking up a hobby or studying a foreign language.

At the end of the study, both participant groups will take a practice exam and be asked to complete a satisfaction survey. Additionally, by agreeing to participate, you will be giving permission for your scores to be used for the purpose of research.

Your participation is **completely voluntary** and will not lead to any negative impacts on your relationship with the school. Deliberate practice is a special type of study, requiring focused attention, timely feedback and a specific goal of improvement performance. As such, it may be mentally exhausting for those who are not well trained in this type of study. Therefore, it may cause stress and mental fatigue. So, if you feel comfortable, you may withdraw anytime. As such, during the research study, you may decide to opt out if you so choose. All the registration fee for the review course is fully refunded if you decide to cancel the review course altogether.

If you have questions about this study, please reach out to me any time. If you have general questions about being a research participant, you may contact Bradley University Institutional Review Board at (309) 677-3877.

Thank you for your time and I look forward to your reply on or before September 12, 2023.

You are voluntarily deciding to participate in this study. Your signature means that you have read and understood the information presented and have decided to participate. Your signature also means that the information on this consent form has been fully explained to you and all your questions have been answered to your satisfaction. If you think of any additional questions during the study, you should contact the researcher(s).

I agree to participate in this study.

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|                          |                             |      |
|--------------------------|-----------------------------|------|
| Signature of Participant | Printed Name of Participant | Date |
|--------------------------|-----------------------------|------|

Please email the completed form to [Phucdinhdo@gmail.com](mailto:Phucdinhdo@gmail.com) or fax to (408) 350–9158. Please also retain a copy for your personal records.

Sincerely,

Phuc D Do.

408 472 1119 Email [Phucdinhdo@gmail.com](mailto:Phucdinhdo@gmail.com)

## APPENDIX C

## DEMOGRAPHIC QUESTIONNAIRE

Please provide responses to the following questions to help us understand the background characteristics of our participants. Your answers will remain confidential and be used solely for research purposes.

**Participant Information****1. Age:**

- 18-30
- 31-40
- 41-50
- 51 or older

**2. Gender:**

- Male
- Female
- Other (please specify): \_\_\_\_\_

**3. Ethnicity:**

- Hispanic or Latino
- Asian
- Caucasian
- Black or African American
- Native American or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Other (please specify): \_\_\_\_\_

**4. Annual Income:**

- \$0 - \$25,000
- \$25,001 - \$50,000
- \$50,001 - \$75,000
- \$75,001 - \$100,000
- Over \$100,000

**5. Educational Background:**

- Please specify the highest level of education you have completed:
  - High School Diploma
  - Associate Degree
  - Bachelor's Degree
  - Master's Degree
  - Doctoral Degree
  - Other (please specify): \_\_\_\_\_

**6. Real Estate Course Completion:**

- Have you completed the real estate principles course at an accredited institution?
  - Yes
  - No

**7. Residence Location:**

- City: \_\_\_\_\_
- State: \_\_\_\_\_

**8. Number of Times Taken the Exam:**

- 1
- 2
- 3
- 4 or more

## APPENDIX D

## SAMPLE EXAM TESTING INSTRUMENT

1. The holder of a life estate designated as the named life cannot
  - a. lease the property.
  - b. sell their interest in the property.
  - c. will have their rights to an heir.
  - d. borrow against their ownership interest.
2. A fee simple absolute estate is defined as:
  - a. an estate based on a condition precedent.
  - b. an estate for years.
  - c. the highest interest one can have in real property.
  - d. a life estate.
3. Land created by a river or lake that recedes permanently belongs to the owner of the bank or shore through the process of
  - a. alluvium
  - b. reliction
  - c. appropriation.
  - d. escheat.
4. Property improvements that do not become part of the underlying real estate at the end of a lease term include
  - a. a stairwell.
  - b. a wall.
  - c. attached carpeting.
  - d. large pieces of furniture.
5. In the order in which they are to occur, the three steps of agency disclosure are:

- a. elect, confirm, disclose.
  - b. disclose, confirm, disclose.
  - c. disclose, elect, confirm.
  - d. confirm, elect, disclose.
6. When a broker represents the best interests of opposing parties in a transaction with full disclosure to both parties, the broker is known as a(n):
- a. unethical agent.
  - b. subagent.
  - c. dual agent.
  - d. finder.
7. Agency Law prohibits which of the following brokerage activities?
- a. Accepting commissions from both the buyer and the seller.
  - b. Acting as an escrow.
  - c. Selling property they own.
  - d. Accepting kickbacks from the lender.
8. \_\_\_\_\_ must remain the undisclosed knowledge of the dual agent, unless authorized to release the information in a writing signed by the principal in question.
- a. Confidential pricing information
  - b. Material facts regarding the property's condition
  - c. The square foot measurements of the property
  - d. The proximity of military ordinance
9. An individual who has been delegated agency duties by an agent of the client, but is not employed by the client, is referred to as a(n):
- a. multiple listing partners.
  - b. subagent.

- c. subcontractor.
  - d. tandem agent.
10. A(n) \_\_\_\_\_ may be made to an offer received consisting of terms different from those of the offer rejected.
- a. waiver.
  - b. counteroffer.
  - c. ratification.
  - d. novation.
11. When a purchase agreement requires the seller to pay for a structural pest control inspection and perform any necessary corrective work, the buyer needs to receive a copy of the structural pest control report:
- a. within five days of opening escrow.
  - b. within five working days of the date of the pest report.
  - c. as soon as practicable before the close of escrow.
  - d. no more than three business days after the close of escrow.
12. Which of the following is the most correct statement about an option to purchase contained in a lease agreement?
- a. The option to purchase will generally pass with an assignment of the lease.
  - b. The lease creates restrictions upon the optionee.
  - c. An option needs to provide mutual benefits and obligations.
  - d. An option creates a fiduciary relationship between the optionor and the optionee.
13. A broker enters into an oral listing agreement with a seller and locates a suitable buyer who purchases the property. Payment of a commission to the broker is:
- a. a violation of the Real Estate Commissioner's regulations.
  - b. regarded as a violation of the Statute of Frauds.
  - c. a civil violation of the law.



- d. unenforceable and at the option of the seller.
14. When one party is substituted for another party in a contract, it is called
- a. novation.
  - b. assignment.
  - c. subordination.
  - d. redaction
15. All records of an agent's activities during the listing period need to be retained for:
- a. four years.
  - b. three years.
  - c. two years.
  - d. one year.
16. If a principal no longer wants to employ a broker to act on their behalf after entering into an exclusive right to sell listing, they may:
- a. switch the listing to a different broker without the consent of the original broker.
  - b. revoke the listing contract and not be liable for damages.
  - c. choose not to cooperate in the marketing effort and risk liability for damages.
  - d. sue the broker for damages if the home didn't sell.
17. As the first step in developing a risk reduction program for their office, a broker:
- a. identifies all the activities agents perform which could result in a claim of liability against the broker.
  - b. monitors ongoing agent compliance with established risk management protocol.
  - c. requires all their agents to take a driving test through an obstacle course.
  - d. requires licensees to provide proof of health insurance.

18. If a water heater meets safety requirements, the seller notes the compliance by marking the box next to “anchored, braced or strapped” on the:
- purchase agreement (TDS).
  - Environmental Impact Report (EIR).
  - Transfer Disclosure Statement
  - Paolo Safety Disclosure.
19. A broker has a listing on a property and locates a buyer who is willing to purchase the property for greater than the listing price. The broker does not disclose the existence of the offer to the seller and purchases the property themselves, later selling it to the original buyer. Here, the broker is guilty of:
- breaching their fiduciary duty to the seller.
  - extracting an improper secret profit.
  - improperly converting the profits from the sale.
  - Both a. and b.
20. \_\_\_\_\_ are allowed between two brokers if the broker receiving it is not providing another service in the transaction, such as financing, insurance or escrow.
- Referral fees
  - Hidden fees
  - Secret Profits
  - Duplicate fees
21. Broker fees deposited with a broker by a client prior to being earned by the broker are known as:
- duplicate charges
  - advance costs
  - advance fees
  - kickbacks

22. The Natural Hazard Disclosure Statement (NHD) requires the seller's agent to disclose to a prospective buyer whether they have knowledge the property:
- has a roof more than three years old.
  - is located in a fault zone.
  - is located in an area with a high crime rate.
  - has an outdoor pool.
23. The federal Lead-Based Paint Disclosure (LBP) is required on all residential construction.
- pre-1978
  - post-1978
  - pre-1995
  - post-1995
24. Commingling is the opposite of:
- subrogation
  - mixing
  - subordination
  - separation
25. A broker maintains a \_\_\_\_\_ for each owner of trust funds held in a trust account.
- subaccount ledger
  - carbon record
  - marketing package
  - deposit receipt
26. An unlicensed assistant can properly:
- show property to prospective buyers.
  - enter into a listing agreement on behalf of their employing broker.

- c. discuss the terms and conditions of a possible sale.
  - d. prepare a Competitive Market Analysis (CMA) for a prospect.
27. A broker may use funds in a company trust account to:
- a. make mortgage payments on behalf of the owners of properties managed by the broker.
  - b. to pay office salaries.
  - c. provide advances to salespeople.
  - d. pay for personal items, so long as the trust account is reimbursed
28. A brother and sister held title to a duplex as joint tenants. All their other business and personal properties were held separately. The sister, who was insolvent, died with outstanding debts owed to creditors. After her death, title to the duplex is held by the brother:
- a. free and clear.
  - b. as a tenant in common with the sister's creditors.
  - c. as a tenant in common with the tenants of the duplex.
  - d. subject to probate procedures.
29. Although title to an income-producing property held by co-owners for profit is vested in the names of all the co-owners, it is collectively called a(n):
- a. trust
  - b. sole ownership
  - c. partnership
  - d. fiduciary
30. An abstract of title issued by a title insurance company is:
- a. a boilerplate industry form.
  - b. functions as a preliminary title report.
  - c. defines the physical borders of the property.
  - d. a written summary of documents shown in the title history of the property.

31. Which type of title insurance policy insures against all title risks?
- a. American Land Title Association (ALTA).
  - b. Extended coverage policy.
  - c. California Land Title Association (CLTA).
  - d. No title policy covers all risks.
32. When a loan is secured collaterally, the loan is a(n):
- a. Chattel mortgage
  - b. loan secured by a bank
  - c. all-inclusive loan
  - d. piggybank loan
33. The promissory note and mortgage are signed by
- a. the mortgagee
  - b. the lender
  - c. the trustee
  - d. the mortgager
34. The Real Estate Settlement Procedure Act (RESPA) prohibited \_\_\_\_\_ in 1974
- a. Kickbacks
  - b. subprime loans
  - c. adjustable rate mortgages
  - d. piggyback loans
35. Which of the following is most important to a lender when determining whether to fund a loan?
- a. The amount of liquid funds it has on reserve to originate other loans.
  - b. Its relative risk of funding the loan.

- c. Its profit margin on the loan.
  - d. The appraised value of the property securing the loan.
36. Changes in mortgage financing terms will affect the:
- a. price and value of the property.
  - b. price only.
  - c. value only.
  - d. use of the property.
37. When deciding whether to fund a real estate loan, institutional lenders generally avoid:
- a. a high risk yield.
  - b. high income borrowers.
  - c. borrowers with multiple jobs.
  - d. subprime loans within their portfolio.
38. The ethics and standards of practice for appraisers are described in:
- a. State Real Estate Law.
  - b. Member of the Appraisal Institute (MAI) Reference Manual.
  - c. Uniform Standards of Professional Appraisal Practice (USPAP).
  - d. Fannie Mae (FNMA) Guidelines.
39. In real property, the major loss of value comes from:
- a. deterioration.
  - b. obsolescence.
  - c. old age.
  - d. lack of maintenance.
40. While building a new home, a developer received several offers to purchase the property. Prior to completion, the city announced it was taking 15 feet from the front of the property

for a new bicycle lane. Afterwards, all additional offers to purchase the property were for 20% less. Which of the following types of depreciation apply?

- a. Physical wear and tear.
- b. Functional obsolescence.
- c. Social dissatisfaction
- d. Economic obsolescence

41. The basis of the market data approach to appraisal is found in the:

- a. principle of balance
- b. principle of substitution
- c. principle of conformity
- d. principle of contribution

42. When two properties are perceived as comparable, buyers tend to concentrate on price. This principle is called:

- a. contribution.
- b. anticipation.
- c. balance.
- d. d. substitution.

43. Under the market comparison approach, if a comparable property lacks a feature that is present in the subject property, the value that feature will contribute is:

- a. ignored since it has no effect on the sales price.
- b. identified in the appraisal report for comparison purposes.
- c. added to the sales price of the comparable property.
- d. subtracted from the sales price of the subject property.

44. The appraisal method most commonly used to value land or sites is the:

- a. cost approach.

- b. income approach.
  - c. the land development approach.
  - d. sales comparison approach.
45. All of the following describe excess land, except:
- a. Land which does not add to the total value of the property.
  - b. Land in excess of that used by comparable properties.
  - c. Land that is not sufficiently utilized by the improvements on it.
  - d. Land that is used to store unused property fixtures.
46. For a retailer, the most important factor when choosing the site for a commercial property is:
- a. visibility
  - b. easy access
  - c. traffic flow
  - d. the purchasing power of the area
47. A broker acting as an agent on behalf of both the landlord and tenant is a(n):
- a. single agent
  - b. dual agent
  - c. double agent
  - d. subagent
48. A broker on any type of real estate transaction who fails to promptly disclose their dual agency is subject to:
- a. liability for their clients' money losses.
  - b. a \$25,000 penalty.
  - c. disciplinary action by the Internal Revenue Service (IRS).
  - d. deportation.



49. After a broker enters into a listing agreement for an apartment building with a corporation, the officers of the corporation die in an accident. What happens to the listing?
- The listing is withdrawn from the market until new corporate officers ratify the agreement.
  - The listing is automatically voided as the employing party has died.
  - The listing is unaffected and enforceable.
  - The listing converts to a debt obligation against the corporation in the amount of the broker's commission.
50. The Real Estate Commissioner, under the Subdivided Lands Law, deals primarily with the court.
- Municipal.
  - Superior.
  - Federal Supreme.
  - State Appeals.
51. In a general plan, what is the method of enforcement used by the planning commission?
- Escheat.
  - Prescriptive easement.
  - Eminent domain.
  - Zoning.
52. Riparian rights:
- grant ownership of adjacent water ways to a neighboring real estate owner.
  - include the right to reasonably appropriate water from a river, stream or brook as needed.
  - need to be expressed in the mortgage or note and trust deed.
  - may be discovered through a thorough examination of public records.

53. When population growth causes real estate values to increase, this is classified as:
- substitution.
  - economic advantage.
  - excess profit.
  - d. an unearned incremental increase.
54. Which of the following is an example of a subdivision?
- Six row houses.
  - A triplex converted to condos.
  - A condo converted to six timeshare properties.
  - Eight timeshare properties.
55. A soil pipe is a(n):
- drainage pipe.
  - sewer pipe.
  - electrical conduit.
  - any clay or adobe pipe.
56. When one broker authorizes another broker to act as a subagent on the seller's approval, the subagent is primarily responsible to:
- the Department of Real Estate (DRE).
  - the seller.
  - the original broker.
  - both the buyer and the seller.
57. All of the following require an agency relationship, except:
- consideration.
  - mutual consent.

- c. a competent principal.
  - d. Both b. and c.
58. Broker Stan acts as a dual agent for both Buyer Esmerelda and Seller Geoffrey. At no point does Broker Stan reveal their dual agency status. Which is the least likely outcome?
- a. The broker is forced to forfeit their broker fee.
  - b. The broker is disciplined by the Department of Real Estate (DRE).
  - c. The broker is liable for their principals' money losses.
  - d. The broker faces a criminal conviction.
59. A(n) occurs when a broker provides services to both a buyer and a seller in a transaction without disclosure, and is unaware the buyer and seller both consider them their agent.
- a. deniable agency
  - b. intuitive agency
  - c. ostensible agency
  - d. agency confirmation
60. When listing agents improperly delete or strike through terms or provisions in a signed purchase agreement, this act is known as:
- a. interlineation.
  - b. rearrangement.
  - c. forgery.
  - d. defacing.
61. Without a liquidated damages provision in the purchase agreement, the seller is entitled to recover:
- a. only 3% of their money losses were caused by the buyer's breach.
  - b. only 10% of their money losses are caused by the buyer's breach.
  - c. the entire amount of their money losses caused by the buyer's breach.

- d. none of their money losses were caused by the buyer's breach.
62. A broker under an exclusive listing also holds an option to purchase the property. If the broker intends to exercise the option, the broker:
- a. has a conflict of interest which needs to be disclosed.
  - b. needs to obtain the seller's approval of the broker's exercise of the purchase option in writing.
  - c. needs to obtain the approval of the Department of Real Estate (DRE).
  - d. needs to avoid receiving other offers before exercising the option.
63. All of the following statements regarding an option are true, except:
- a. An option may not be exercised after the expiration of the option term.
  - b. Consideration needs to be provided in exchange for granting the option.
  - c. The option binds the optionee to performance.
  - d. An option does not provide the optionee the right to use the land during the option period.
64. A seller signs three open listing agreements. Which of the following is correct?
- a. The listing contract is voidable by any of the brokers.
  - b. The listings are illegal.
  - c. The payment of a commission is unenforceable.
  - d. The broker who delivers an acceptable offer receives the full commission.
65. A listing broker needs to present all offers received on a listing property until:
- a. an offer is accepted.
  - b. escrow is opened.
  - c. all contingencies are removed.
  - d. escrow is closed.
66. All of the following a seller of a property is not bound by the acts and representations of, except:

- a. the escrow officer performing escrow for the transaction.
  - b. the listing broker employed by the seller.
  - c. the mortgage broker who funds the buyer's loan.
  - d. the buyer's broker.
67. When asked by the prospective buyer about any aspect of a property, the seller's agent:
- a. is duty-bound to respond fully and fairly to the inquiry.
  - b. only needs to respond if the question addresses a material fact about the property.
  - c. is to refer the buyer to address the question to the buyer's agent.
  - d. is duty-bound to answer only as authorized by the seller.
68. A preprinted disclaimer contained in the statutory Transfer Disclosure Statement (TDS) states the disclosures made by the seller on the form:
- a. may be relied on by a buyer as a warranty of the actual condition of the property.
  - b. are not part of the terms of the purchase agreement.
  - c. Both a. and b.
  - d. Neither a. nor b.
69. A property manager must deposit all funds collected on behalf of a landlord into a \_\_\_\_\_ within three business days of receipt.
- a. trust account
  - b. personal account
  - c. general brokerage account
  - d. savings account
70. Which of the following appraisal reports provide the greatest degree of detail about a property?
- a. Uniform Residential Appraisal Report.
  - b. Appraisal letter.

- c. Fannie Mae Form 1004.
  - d. Narrative appraisal report.
71. The value of unimproved property is best estimated by which of the following appraisal approaches?
- a. the income approach
  - b. The sales comparison approach
  - c. The cost approach
  - d. Capitalization rate (cap rate)
72. The unit of comparison when appraising land is:
- a. cost per square foot
  - b. cost per front foot
  - c. cost per acre
  - d. any of the above
73. When a dual agency relationship is established in a targeted sales transaction, the broker and their agents may not pass on any information from one party to the other relating to:
- a. the price the buyer may be willing to pay.
  - b. the terms of payment the seller may be willing to accept.
  - c. confidential financial information of the parties.
  - d. All of the above.
74. The price a reasonable, unpressured buyer would pay for a property on the open market as set by an appraisal is known as the:
- a. mark-to-management value.
  - b. fair market value (FMV).
  - c. value in use.
  - d. assessed value.

75. The referral of a client to a financially controlled business owned by the broker is required to be disclosed by use of a(n):
- Agency Law Disclosure.
  - Affiliated Business Arrangement Disclosure Statement.
  - home inspection report.
  - Conflict of Interest Disclosure.
76. The \_\_\_\_\_, contained in all purchase agreements, states the existence or nonexistence of each broker's fiduciary agency with the various parties to the transaction.
- agency confirmation provision
  - broker liability agreement
  - hold harmless agreement
  - attorney fee provision
77. A listing broker enters into negotiations to sell an office building to a limited partnership in which the broker is a limited partner. The broker does not disclose their interest in the limited partnership to the seller. Before closing, the seller discovers the broker's interest and refuses to sell. What is the likely outcome of a civil suit to collect a commission?
- The case is transferred to the Real Estate Commissioner.
  - The case is sent to criminal court.
  - No commission would be due to the broker.
  - The broker would likely be awarded their full commission.
78. Accretion results in the acquisition of title to real estate by which of the following methods?
- Eminent domain.
  - Acquisition through natural causes.
  - Transfer through a valid will or intestate succession.
  - Acquisition of title by adverse possession.
79. An unearned incremental increase in the value of real property does not result from:

- a. added amenities to the property.
  - b. change of zoning.
  - c. increased density of population.
  - d. advantageous methods for measuring depreciation.
80. A person who owns an undivided interest in a parcel of real property together with a separate interest in communal space has an interest in a(n):
- a. subdivision.
  - b. condominium project.
  - c. commune.
  - d. corporation.
81. A property owner dies testament, leaving a spouse and three children. The owner's estate is distributed:
- a. to their heirs by right of reversion.
  - b. one-half to their spouse and one-half divided among the three children.
  - c. equally among the heirs.
  - d. in accordance with their will.
82. The right to use, enjoy, and alienate real estate to the exclusion of all others most accurately describes:
- a. a possessory right.
  - b. a tenancy
  - c. ownership
  - d. an estate for years
83. Which of the following may also be called an estate of inheritance?
- a. Fee simple
  - b. Remainder interest



- c. Condition subsequent
  - d. Future life estate
84. A residential neighborhood suffers economic obsolescence from which of the following?
- a. Functional inadequacies.
  - b. Airplanes landing at a nearby local airport.
  - c. Physical wear and tear.
  - d. Obsolete heating and cooling systems.
85. All of the following are NOT examples of economic obsolescence, except:
- a. A leaking roof.
  - b. No off-street parking.
  - c. An oversupply of like-kind properties.
  - d. A deteriorated bearing wall.
86. If multiple lenders participate in the same loan but in different portions, the loan is a(n):
- a. 80/20 mortgage.
  - b. piggyback loan.
  - c. participation loan.
  - d. apportioned loan.
87. When a broker's unlicensed assistant prepares marketing material, the Business and Professions Code requires:
- a. the broker to be the original source of all content for the advertisements.
  - b. the broker to read and approve all material before it is used.
  - c. the broker's approval to be in writing before the material is used.
  - d. the broker to ensure the assistant is provided with accurate information.
88. All of the following transactions are necessary for a broker to maintain trust records, except:

- a. A check immediately handed to the escrow.
  - b. A deposit check delivered to the seller.
  - c. A rent check was quickly delivered to the landlord.
  - d. None of the above.
89. Which of the following is the most important reason for a broker to maintain a trust fund account separate from the business account?
- a. To impress clients.
  - b. To satisfy Department of Real Estate (DRE) auditors.
  - c. To avoid the commingling and converting the funds.
  - d. For ease of accounting.
90. A buyer wishing to recover losses caused by a listing agent's negligent failure to disclose known material defects has \_\_\_\_\_ to pursue their losses.
- a. One month
  - b. six months
  - c. one year
  - d. two years
91. Apartment buildings with \_\_\_\_\_ or more units are required to have a landlord, resident manager or responsible caretaker living on the premises to manage the property.
- a. 8
  - b. 12
  - c. 16
  - d. 24
92. A broker is assured a fee under a safety clause in a listing agreement if:
- a. information about the property is provided to prospective buyers during the listing period by the listing agent.

- b. The seller is notified of the identification of the prospective buyers who later purchases the property as soon as possible after termination of the listing.
  - c. a prospective buyer located during the term of the listing acquires the property as a result of negotiations commenced during the safety period.
  - d. All of the above.
93. Which of the following is the maximum term of an exclusive right to sell listing on real property?
- a. One year.
  - b. Six months.
  - c. 90 days.
  - d. The time period is agreed to by the seller and broker.
94. Any exclusive right to sell listing needs to contain a(n):
- a. definite termination date.
  - b. commission rate below the state maximum.
  - c. definite listing price.
  - d. authorization to accept a deposit from a buyer.
95. An irrevocable right to purchase property within a specific time period is called a(n):
- a. option to buy.
  - b. novation.
  - c. subrogation.
  - d. right of first refusal.
96. All of the following terminate an offer to purchase real property, except:
- a. A counteroffer.
  - b. When the offeror revokes the offer after the offeree notified them of their acceptance.

- c. Death of the offeree prior to acceptance.
  - d. When the stated period given by the offeror is exceeded prior to acceptance by the offeree.
97. Brokers and agents are required to complete \_\_\_\_\_ hours of continuing education (CE) every four years to renew a license issued by the Department of Real Estate (DRE).
- a. 50
  - b. 45
  - c. 30
  - d. 15
98. Commission splits between a broker and a salesperson are determined by:
- a. an implied contract.
  - b. an express contract.
  - c. local custom.
  - d. a written contract.
99. The Transfer Disclosure Statement (TDS) requires a broker to:
- a. visually inspect the property and inform the buyer of any material facts.
  - b. inspect the common areas in a condominium community.
  - c. inspect the inaccessible areas of the property.
  - d. pay for a mold and radon gas inspection.
100. A Transfer Disclosure Statement (TDS) needs to be delivered to buyers on targeted transaction by the:
- a. court assignee.
  - b. trustee.
  - c. beneficiary.

d. seller.

101. The holding of the Easton v. Strassburger court case requires brokers to:

- a. explain economic conditions to the buyer.
- b. notify the buyer of their right to property inspections.
- c. explain the meaning of “as is” in regards to a property.
- d. reveal all known material facts about a property.

102. Use of the Natural Hazard Disclosure (NHD) statement is required by sellers on:

- a. court-ordered transfers or sales and transfers to or by governmental entities.
- b. transfers between co-owners and transfers to relatives or spouses.
- c. Both a. and b.
- d. Neither a. nor b.

103. Senior citizen housing is restricted to housing for persons \_\_\_\_\_ or older.

- a. 52 or 55
- b. 55 or 60
- c. 55 or 62
- d. 65 or 72

104. Broker Stella, who is not a Realtor, uses a sign which says “Realtor” at her home office. She pays a 17 year-old high school student \$10 for each listing they bring into her office. She keeps her client’s money in her safe at home. All of the following are violations of the real estate law, except:

- a. Paying an unlicensed person to solicit listings.
- b. Improper office location.
- c. Using the term “Realtor” when she is not a member of the National Association of Realtors (NAR).
- d. Commingling the client’s money with her own money in the home safe.

105. When a broker deposits a client check into the company general account, the broker has committed:
- conversation
  - reconciliation
  - commingling
  - puffing
106. When a property is vested with “alienable title,” this means it:
- cannot be conveyed
  - is encumbered
  - can be conveyed
  - is restricted as to who the property can be transferred to
107. Title insurance is the means by which the title insurance company \_\_\_\_\_ a person who acquires an interest in real estate against a monetary loss caused by an encumbrance on title.
- holds harmless
  - reimburses
  - indemnifies
  - all of the above
108. All of the following is included in any policy of title insurance, except:
- Defects in the chain of title.
  - Lack of capacity of a previous title holder.
  - Legal fees and expenses incurred to defend title.
  - A zoning or regulation dispute.
109. When the market turns from a seller’s market to a buyer’s market, which of the following is true?
- Interest rates go down.

- b. Prices rise.
  - c. Prices fall.
  - d. There is no change in price.
110. The value of the nicest home on the block will be reduced by the existence of inferior properties on the same block. This is known as the principle of:
- a. regression
  - b. progression
  - c. highest and best use
  - d. substitution
111. All of the following are examples of functional obsolescence except:
- a. an over improvement
  - b. a swimming pool in a cold climate
  - c. a one care garage
  - d. deferred maintenance
112. The Agency Law Disclosure is not required to be attached to a(n):
- a. exchange arrangement.
  - b. purchase agreement for single family residential property.
  - c. purchase agreement for commercial property.
  - d. month-to-month rental agreement.
113. When showing a listed property to potential buyers, what is the listing broker required to disclose?
- a. Only what they have been authorized by the seller to disclose.
  - b. All facts about the seller's motivation that might cause the buyer to make an offer.
  - c. Anything that encourages the buyer to buy quickly.
  - d. All known material facts about the property.

114. All of the following statements are true concerning an in-house sale, except:
- a. The listing broker can buy the property themselves.
  - b. The listing broker can act as an agent for the seller only.
  - c. The listing broker can act as a dual agent.
  - d. The listing broker can act as an agent for the buyer only.
115. Which of the following zoning designations is suitable for land used as the site of multi-family residential developments?
- a. I-3
  - b. R-1
  - c. R-4
  - d. MU-4
116. Which of the following creates an agency relationship?
- a. Subornation
  - b. Voluntary action of the broker
  - c. Ratification
  - d. Interlineation
117. A valid agency relationship does not require a(n):
- a. written agreement
  - b. express agreement
  - c. attorney-in-fact
  - d. any of the above
118. "Agency" includes relationships between licensed sales agents and their brokers as well as:
- a. escrow officers and real estate licensees.
  - b. lenders and the agents who recommend them.



- c. finders and the brokers who employ them.
  - d. real estate licensees and the Department of Real Estate (DRE).
119. All of the following terminate an easement, except:
- a. merger of the tenements.
  - b. release by the owner of the servient tenement.
  - c. abandonment.
  - d. destruction of the servient tenement.
120. The \_\_\_\_\_ is responsible for installation of off-site improvement in a new subdivision.
- a. developer
  - b. homeowners' association (HOA)
  - c. city or country
  - d. individual property owner
121. Martin needs \$25,000 to buy a new car. He owns a note secured by a \$50,000 trust deed. A friend will lend Martin the money if Martin gives him his note and trust deed as security. Martin would use which document to complete this transaction?
- a. A chattel mortgage.
  - b. A security agreement.
  - c. A hypothecation agreement.
  - d. A pledge agreement.
122. A lender is required to provide a buyer with a copy of the \_\_\_\_\_ within three business days of the lender's receipt of the loan application which provides the mortgage terms and details quoted by the lender.
- a. Truth-in-Lending Waiver
  - b. Closing Disclosure
  - c. Loan Estimate
  - d. d. Settlement Statement

123. When a married person dies intestate leaving a spouse and two children, their separate property is delivered:
- equally among the children.
  - only to the current spouse.
  - one-third to the spouse and two-thirds to the children.
  - by escheat to the state.
124. Real Estate Settlement Procedures Act (RESPA) underwriting requirements apply to:
- one unit property only.
  - one-to-four unit residences.
  - an apartment complex with less than twenty residential units.
  - the purchase of 40 or more acres of raw land.
125. Why do brokers establish client trust fund accounts?
- To convert client funds for company use.
  - In order to impress clients.
  - To earn interest on client money.
  - To separate the client's money from the broker's money.
126. Balancing a bank statement with a client's account is known as:
- auditing.
  - reconciliation.
  - statement adjustment.
  - commingling.
127. The buyer of a duplex does not receive a Transfer Disclosure Statement (TDS) prior to closing. The buyer can:
- do nothing, since they are still obligated to proceed with the transaction.

- b. cancel the transaction.
  - c. cancel the transaction only if the title has not been formally transferred.
  - d. file a criminal suit against both the seller and listing broker.
128. All of the following characteristic(s) are included in a tenancy-at-will, except:
- a. no provision for the payment of rent.
  - b. possession of a property for an indefinite and unspecified period.
  - c. possession of a property delivered to the tenant with the landlord's knowledge and consent.
  - d. The tenancy is limited to a specific duration of time no greater than one year.
129. The seller of a one-to-four unit residential property is required to complete and deliver a generically called a Condition of Property Disclosure Statement, to all buyers in targeted transactions.
- a. mechanic's lien
  - b. Notice of Delinquency (NODq)
  - c. Transfer Disclosure Statement (TDS)
  - d. Seller's Financial Disclosure
130. A broker has a listing on a property which grants them an option to purchase the property. If the broker arranges a later sale of the property with a buyer, then exercises the option and resells the property at a profit without disclosing to the seller the second transaction with the buyer, the broker has:
- a. received an improper secret profit.
  - b. committed a federal crime.
  - c. acted as a dual agent without proper disclosure.
  - d. performed a smart business practice.
131. An option granted to a buyer:
- a. functions as an offer to enter into a contract with the seller.

- b. prevents the seller from selling the property to another buyer for the term of the option period.
  - c. creates a voluntary lien on the seller's real estate.
  - d. creates a relationship identical to that of a vendee/vendor under a land contract.
132. An option becomes a binding contract on both parties when:
- a. financing is available.
  - b. it is exercised.
  - c. it expires under its terms.
  - d. consideration is given.
133. No matter how vested, all property acquired jointly by a married couple is presumed to be:
- a. public property.
  - b. separate property.
  - c. community property.
  - d. trade fixtures.
134. The prosecution of a non-licensee who performed activities that required a license is handled by:
- a. the Real Estate Commissioner.
  - b. a local district attorney
  - c. the U.S. marshal
  - d. a county sheriff
135. A lender may charge a borrower \_\_\_\_\_ for preparing federal lending disclosures.
- a. a reasonable fee
  - b. \$25
  - c. \$0

- d. 1% of loan amount
136. Just as disclosure laws are written to protect the consumer, who benefits the most when a lender requires an impound account of property taxes and insurance for a real estate loan?
- a. The lender and the trustee.
  - b. The beneficiary and the trustee.
  - c. The seller and the lender.
  - d. The lender and the trustor.
137. With only a few days left before the close of escrow, the buyer asks the broker for permission to move into the vacant house. The broker is to:
- a. ask the buyer to deposit the balance of the down payment into escrow first.
  - b. give the buyer access and approval.
  - c. refuse to give the buyer access and approval.
  - d. seek approval from the seller.
138. The authority a broker has when acting as an agent for a principal is:
- a. that which is granted by the Commissioner of the Department of Real Estate (DRE).
  - b. whatever the broker chooses to take.
  - c. that which is conferred by the principal.
  - d. whatever the broker accepts as limited by the statute of frauds.
139. An agency relationship in real estate between a licensee and a principal is terminated in several ways. All of the following terminates an agency relationship, except:
- a. The death or incapacity of either the seller or broker.
  - b. Revocation at any time by the principal.
  - c. Destruction of the property.
  - d. None of the above.
140. A lot 300 feet deep lost 10 percent of its depth. What is the effect of the loss in depth on the value of the lot?

- a. A 10% decline in value.
  - b. A decrease of value in excess of 10% due to the change in utility.
  - c. The price per front foot will increase.
  - d. The price per square foot will increase.
141. When using the market comparison approach to appraise a single family residence (SFR), property comparisons are based on:
- a. the gross rent multiplier (GRM).
  - b. price per cubic foot.
  - c. the rental income the property generates.
  - d. the entire property.
142. When changes are made in a residence to correct functional obsolescence, this activity is termed:
- a. reproduction
  - b. replacement
  - c. remodeling
  - d. repair
143. What is the name of sheet metal that protects a building from water seepage?
- a. Still
  - b. Weep hole
  - c. Flashing
  - d. Shingle
144. Open roof sheathing is a component of a(n):
- a. wood shake roof
  - b. gravel and tar paper roof
  - c. composite shingle roof

- d. fiberglass tile roof
145. Property is defined as:
- a. rights or interests which a person has in a thing owned.
  - b. real if it is a trade fixture.
  - c. personal if it is a fixture.
  - d. a license to use something owned by another for a temporary period of time.
146. Under which type of title insurance policy is a title insurance company least likely to physically inspect the property?
- a. Standard policy.
  - b. Abstract of title.
  - c. Extended coverage policy.
  - d. Preliminary title report.
147. A residential duplex was purchased for \$400,000. The buyer assumed an existing note and trust deed against the property for \$300,000. The documentary transfer tax for this county is \$.55 per \$500 of consideration. The transfer tax is:
- a. \$110
  - b. \$440
  - c. \$55
  - d. \$220
148. Two salespersons submit offers on the same property listed by a third salesperson within the same office. Before any offer is presented, the salesperson who submitted the first offer argues the seller should be given time to make a decision about their offer before being presented the second offer. The listing agent is to:
- a. agree to do so.
  - b. refuse to present the second offer at all if the seller likes the first.
  - c. present both offers in the order received, allowing the seller to make counter offers on each.

- d. present both offers at the same time.
149. Which of the following is least likely to be searched by a title company when performing a title search?
- a. The county clerk's office.
  - b. The county recorder.
  - c. The secretary of state.
  - d. The federal registry.
150. The Real Estate Settlement Procedures Act (RESPA) applies to:
- a. agricultural loans written by a bank
  - b. a U.S. Department of Veterans Affairs (VA)-guaranteed loan.
  - c. a commercial loan for a twenty-unit apartment complex.
  - d. automobile loans written by a federally chartered bank.



## APPENDIX E

## SAMPLE EXAM ANSWERS

1. **c** – The named life and holder of a **life estate** cannot share their interest to another since the ownership of the property reverts to the previous fee owner or will be granted to others as a remainder interest when the life estate ends.
2. **c** – Fee title to real estate which occurs in a **fee simple absolute estate** is held in perpetuity and affords the owner full, absolute ownership of property free from any limitations or conditions. Thus, it is the highest interest in real property.
3. **b** – **Reliction** is the exposure of land that has been covered by water which occurs when the water recedes. Answer selections **A. alluvium** and **C. appropriation** also relate to water and water rights, but are different from the process described in the question. Answer selection **D. escheat** is an unrelated topic.
4. **d** – When **personal property** is attached to land, it becomes real estate. This includes carpeting, stairwells and walls.
5. **c** – The **agency disclosure law** requires the agent to first **disclose** the existence of the law at the earliest possible moment to the prospective client. Then, the agent needs to **elect** who they will represent and **confirm** that election.
6. **c** – **Dual agency** occurs when one broker represents both principals in the same transaction.
7. **d** – A **kickback** is a fee improperly paid to a transaction agent who renders no service beyond the act of referring in exchange for a referral fee when the agent is already providing another service in the transaction for a fee. Accepting kickbacks from a lender is illegal. Both agency law and the Real Estate Settlement Procedures Act (RESPA) prohibit kickbacks.
8. **a** – **Confidential pricing information** is a matter of fiduciary responsibility. Thus, a dual agent cannot release confidential pricing information to the other party in a dual agency situation without the consent from the principal in question. The alternative answer choices are disclosures that are either required (material facts and proximity of a military ordinance) or anticipated (the square footage of the property).
9. **b** – **Subagency** is a delegated position in which the broker has been given agent responsibilities by the agent of the seller, but is not employed by the seller.
10. **b** – A **counteroffer** is an offer which differs from the original offer. Any change from the original offer causes the original offer to be void.

11. **c** – As with most disclosures, when a purchase agreement requires the seller to pay for a structural pest control inspection and perform corrective work, the buyer is to receive a copy of the report **as soon as practicable**. At the very latest, it needs to be delivered prior to the close of escrow.
12. **a** – When a lease containing an **option to purchase** is assigned, the option will typically pass with the assignment.
13. **d** – If an **employment agreement** is not in writing, the broker cannot enforce the payment of their fee. The **Statute of Frauds** applies to real estate listings, as well as any contract that will require more than one year to fulfill or which involves the transfer of real estate.
14. **a** – A **novation** is an exchange or substitution of one contract, person or obligation for another. The alternative answer selections are inapplicable to the question. Answer selection **B. assignment** comes closest, but is not the best selection as it relates more closely to leases rather than contracts. Answer selection **C. subordination** is the rearrangement of mortgage lien priorities on title in which a mortgage lien takes a lesser or junior position to another mortgage lien on a property, and is not a substitution. Answer selection **D. redaction** is an editing or removal of text from a document.
15. **b** – All records of an agent's activity need to be kept for a minimum of **three years**. This includes listing contracts, disclosures, employment contracts, periodic reports of solicitation efforts, and paper trails for properties sold.
16. **c** – When a property owner no longer wants to work with a broker after signing an exclusive right to sell listing, they can either unilaterally revoke the listing or refuse to cooperate in the marketing effort. However, in either case, they will risk being **liable for money losses** to the broker.
17. **a** – The first step in a **risk reduction program** is to identify the activities that create potential liability. Answer selection B is the only other answer that is close to correct, though it is not the best answer available as it involves monitoring agent activities after the activities that create potential liability have been identified. Thus, it is not the first step in developing a risk reduction program.
18. **c** – The **Transfer Disclosure Statement (TDS)** is the appropriate disclosure form to reference the compliant installation of a water heater.
19. **d** – By not disclosing the existence of an offer to their client seller, the broker has violated their **fiduciary responsibility**. Further, when the broker subsequently purchased the property themselves and resold the property to the original buyer, they were guilty of receiving a **secret profit**.

20. **a** – **Referral fees** between brokers are legitimate and acceptable provided the broker receiving the fee is not also collecting other monies for services rendered in the same transaction. Hidden fees, secret profits and duplicate fees are never proper.
21. **c** – **Advance fees** are monies received by a broker for services not yet rendered, and are regulated by the Department of Real Estate (DRE). Alternatively, **advance costs** are deposits handed to a broker to cover out-of-pocket costs incurred on behalf of the depositor while performing brokerage services.
22. **b** – The **Natural Hazard Disclosure Statement (NHD)** is a disclosure of natural hazards, such as a fault zone — not man made, environmental hazards. All three alternative answer selections are man made.
23. **a** – **Lead-based paint** was outlawed in 1978. Thus, the need to disclose the existence of lead-based paint is applicable to residences that were built before lead-based paint was outlawed.
24. **d** – **Commingling** is the mixing of client funds with those of other clients, the brokerage firm or the individual agent. Therefore, **separation** is the opposite.
25. **a** – A broker maintains a **sub account ledger** for each client whose monies are held in a trust account. None of the other answer selections apply to a trust account.
26. **d** – An **unlicensed assistant** may create a **Competitive Market Analysis (CMA)** for a prospective client. An unlicensed assistant cannot do anything that requires a license, such as show property to prospective buyers, enter into a listing agreement on behalf of their employing broker or discuss the terms and conditions of a possible sale. An unlicensed assistant's work is clerical in nature.
27. **a** – **Trust fund monies** are held for the benefit of the client and may only be used exclusively for the client. Therefore, making mortgage payments on behalf of the owners of properties managed by the broker is acceptable.
28. **a** – **Joint tenancy** properties are transferred to the surviving tenant free and clear of any debt owed by the deceased joint tenant.
29. **c** – An **investment property** owned by several people is described as a **partnership**.
30. **d** – An **abstract of title** is a summary or digest of all transfers, conveyances, legal proceedings, and any other facts relied on as evidence of title, showing continuity of ownership and any elements of record which may impair title. It does not define the borders of a property or replicate the function of a preliminary title report. Further, as the abstract provides a written summary of documents related to the history of a specific property, it is not a generic, boilerplate form.

31. **d** – No **title insurance policy** can insure against all risk. Exceptions are included in all policies of title insurance.
32. **b** – A **collateralized loan** is one secured by another loan, rather than a property.
33. **d** – **Real estate mortgages** are secured by property. Thus, the property owner (mortgagor) signs the promissory note and mortgage.
34. **a** – The **Real Estate Settlement Procedures Act (RESPA)** outlawed **kickbacks** in 1974.
35. **b** – The most important consideration of a lender when determining whether to originate a loan is the level of **risk** it is exposed to. While the other answer selections are valid concerns, lenders are primarily motivated by the avoidance of risk. For instance, a high profit margin would be of lesser importance if the risky loan promptly goes into default.
36. **b** – Changes in mortgage financing terms affect **real estate prices**. Value is a matter of worth and perception, and is therefore not affected by financing costs. The use of a property is also unaffected.
37. **d** – Lenders generally avoid holding a large volume of **subprime loans** in their portfolio as these types of loans are more likely to result in borrower default. High risk yield is the lender's method of balancing risk by demanding a greater return when a higher risk is identified.
38. **c** – The **Uniform Standards of Professional Appraisal Practice** is the code of ethics for appraisers.
39. **b** – **Obsolescence** is the greatest loss in value for real estate as it affects the utility of the structure, and thus its value and marketability. Deterioration and lack of maintenance are less damaging and may be remedied. The age of a property has little to do with its value, provided it is properly maintained.
40. **d** – Governmental actions, such as a partial taking, are an example of **economic obsolescence**.
41. **b** – The **principle of substitution** is the basis of all appraisal including the market data approach. The principle of substitution holds that a buyer will pay no more for a property than the cost of a similar property. Similarly, a seller will accept no less than a similar property sold for.
42. **d** – The **principle of substitution** states that the value of a property is equal in amount to the amount that would be paid to buy an equivalent property available in the open market. Alternatively, the principle of contribution holds that an improvement to a property is only worth what it adds to the value, not what it costs. The principle of anticipation holds that a

perceived change in the future will have an effect on the present worth of the property. The principle of balance refers to the ratio of land and improvement value that will maximize the overall value of the property.

43. **c** – An appraiser adjusts the value of the **comparable property**, not the subject property. The value is adjusted in the direction of the subject. Since the subject property has an added feature, the value of the feature in the marketplace will be **added to the comparable property** to make the two more similar.
44. **d** – The **sales comparison** approach is the most commonly used appraisal method to value raw land since it has neither an improvement cost nor an income generated.
45. **d** – All of the answer selections correctly describe the condition of **excess land** except answer selection D, as the land is being used for a practical purpose, i.e., storage.
44. **d** – **Purchasing power** is the most critical issue when choosing a site for a commercial retailer. When the neighborhood the business is located in has discretionary income, there is a greater possibility of profit for the business. Hence, purchasing power is inextricably linked to an advantageous location.
45. **b** – Whenever an agent concurrently acts on behalf of both participants, they are acting as a **dual agent**.
46. **a** – The broker will be liable for any client financial losses when they fail to disclose their **dual agency status**.
47. **c** – When a broker enters into a listing agreement for a property owned by a corporation, the listing contract is unaffected by the death of the corporate officers. Here, the broker is employed by the corporation, not the individual corporate officers.
48. **b** – Any legal action initiated by the Real Estate Commissioner in relation to their duties under the **Subdivided Lands Law** is handled through the superior court system.
49. **d** – Enforcement of the general plan by the planning commission is accomplished through **zoning laws**.
50. **b** – **Riparian rights** have to do with water and include an owner's reasonable **appropriation** of water from a stream or river contiguous to their land.
51. **d** – **Appreciation** through population increase is considered an **unearned incremental increase** as it is obtained without any expenditure on the part of the owner. While answer selection **B. economic advantage** is potentially correct, it is not the answer selection which best addresses the question.

52. **a** – A **subdivision** consists of five or more units, with the exception of timeshares which are twelve or more.
53. **b** – A **soil pipe** is a sewer pipe. Of the alternative answer choices, only **C. electrical conduit** is easy to eliminate since the question refers to a pipe, while electrical wires use a conduit. Answer selection **A. drainage pipe** may be eliminated on the basis that drainage isn't usually dispersed in the soil, but rather sent to a waterway. Answer choice D may be the most difficult to eliminate if the answer is unknown since clay or adobe may sound similar to soil; however, this is not material used in modern piping.
54. **b** – When a **subagency** is created with the seller's approval, the subagent is primarily responsible to the seller, not the original broker.
55. **a** – This is an **EXCEPT** question. And be valid. However, it needs to have **agency relationship** does not require **consideration** to mutual consent and a legally competent principal.
56. **d** – When a broker fails to disclose their dual agency status, the seller does not have to pay the broker's fee on a closed transaction. Further, the broker may be liable for the financial losses suffered by the client (though not more than triple the client's losses). However, there is no criminal liability for the **failure to disclose a dual agency relationship**.
57. **c** – An **ostensible agency** occurs when both principals believe the agent represents them, but the relationship has not been formally disclosed. Answer choices A and B may be eliminated as nonexistent terminology.
58. **d** – **Defacing** occurs when a provision in a signed document is struck out or deleted. Answer selection **C. forgery** only applies if the entire document was falsely created. Answer selection.
59. **B. rearrangement** can be similarly dismissed as this would involve the relocation of a provision, not the deletion.
60. Choice **A. interlineation** means to add alternative or additional statements to a contract.
61. **c** – A **liquidated damages clause** in a purchase agreement sets the maximum dollar amount a seller may recover from the buyer on the buyer's breach. It is limited by statute to 3% of the purchase price. Without the clause, the buyer may be liable for the entire amount of financial loss suffered by the seller due to the buyer's breach.
62. **b** – An **exclusive listing with an option to purchase** may cause potential conflict of interest issues. Answer choices C and D can be easily eliminated as the DRE is not directly involved and the broker would breach their fiduciary duty if they avoid receiving offers. The difference between choices A and B is a matter of recognizing that choice A is possible, but not necessarily true. Alternatively, choice B is always the best course of action.

63. **c** – This is a **FALSE** question. Here, it is important to identify who the **optionee** is. The optionee is the one who receives the option, which they may exercise at their discretion. Therefore, it is false to state the optionee is bound to perform (although the optionor is bound to perform if the optionee chooses to exercise the option).
64. **d** – An **open listing** is a **unilateral contract**. There may be any number of open listings concurrently in effect. Whichever broker produces the buyer will receive the full commission.
65. **d** – A sale is not complete until **escrow closes**. Thus, any offer received by the seller's broker prior to the close of escrow needs to be presented to the seller for consideration.
66. **b** – This is an **EXCEPT** question. The only person for whom the seller is responsible is the listing broker employed by the seller. The other participants identified in the answer selections do not impose a liability on the seller. Similarly, a buyer is bound by the acts of their agent, but not the acts of the seller's agent.
67. **a** – A seller's agent owes a **general non-fiduciary duty** of honesty and fair dealing to the buyer and all other third parties in a transaction. As such, they are to answer all questions fully and fairly, unless the question concerns confidential information about the seller.
68. **b** – The **Transfer Disclosure Statement (TDS)** and other disclosures are not part of the terms of the purchase agreement. The statutory language written into the boilerplate of the disclosure states that the disclosure is not a warranty of the property's actual condition, as it represents only what the seller knows and observes about the property's condition.
69. **a** – Monies held for a client need to be deposited into a **trust fund account** within three business days of receipt.
70. **d** – A **narrative report**, also known as a **self-contained appraisal report**, is the most detailed type of property appraisal report. Unlike the other answer selections, a narrative report contains detailed descriptions. The reports listed in answer selections A and C are different names for the same generic report that only summarizes facts, and an appraisal letter reduces the report to a statement.
71. **b** – The **sales comparison** is always the preferred appraisal approach when comparable sales are available. For unimproved property, the cost approach is not possible as the property does not contain existing improvements. Answer choices A and D both require a rental income stream which is not stated in the question and unlikely for an unimproved property.
72. **d** – The **unit of comparison** when appraising land depends on the size and use of the subject parcel. Other than rural properties, land is generally priced by the square foot. Parcels with a specific frontage, such as a beach, golf course or property for commercial usage, may have the highest and best value based on the front foot comparison.

73. **d** – Under a **dual agency**, the agent may not express any information from one party to the other regarding the price the buyer may be willing to pay, the terms of payment the seller may be willing to accept, or confidential financial information of either party.
74. **b** – The **fair market value (FMV)** of a property is the price a reasonable, unpressured buyer would pay for the property on the open market. It represents the amount paid and received with no duress between principals that are an arm’s length apart (i.e., they are not related by blood or marriage, or have another affiliation that would influence their behavior).
75. **b** – Referral of a client to a financially controlled business whose earnings are shared with the broker requires the broker to provide the client a written **affiliated business arrangement** disclosure. While answer choice D is similar, the conflict of interest disclosure is used when the broker has a personal or professional bias that may interfere with their fiduciary duty, as exists when the broker is related to the other party in the transaction or has an ownership interest in a property.
76. **a** – The **agency confirmation provision** contained in all purchase agreements states the existence and nonexistence of each broker’s fiduciary duty owed to the parties of the transaction. The word “**agency**,” as appears in the question, is only present in answer choice A. Confirmation is the third step in the agency disclosure process: **disclose, elect and confirm**.
77. **c** – The **failure to disclose** the fact that the broker is also a partner in the partnership buying the property allows the seller to withdraw from the sale with no obligation to pay the brokerage commission. This scenario presents a **conflict of interest** that needs to be disclosed by the broker at the moment the conflict arises.
78. **b** – **Accretion** is the acquisition of property through natural causes such as a change in a watercourse. This terminology is related to **riparian rights**.
79. **a** – This is a **NOT** question. An **unearned incremental increase** does not come from any direct action by the owner, such as adding an amenity to the property. An unearned incremental increase is an increase in value that results from factors off the property and out of the owner’s control.
80. **b** – **Condominium ownership** combines an undivided interest in the actual condo unit, plus a proportionate interest in the common areas.
81. **d** – To **die testate** is to die with a will. The terms of the will dictate how the inheritance is divided.
82. **c** – To **alienate** is to transfer an interest in real estate from one person to another. Thus, while a tenancy, possessory right and an estate for years may grant the right to use and enjoy property, they do not grant the right to alienate real estate.



83. **a** – An **estate of inheritance** is ownership. **Fee simple** refers to current ownership. A free estate grants an indefinite, exclusive and absolute ownership interest in a parcel of real estate and is the largest bundle of rights to be held in real estate.
84. **b** – **Economic obsolescence** occurs off the property. In this question, the existence of airplanes landing at a local airport refers to a neighborhood effect. All the other answer selections refer to conditions which exist on the property.
85. **c** – **Economic obsolescence** is a loss in value of a property due to external factors and not the condition of the property itself. Thus, an oversupply of like-kind properties in the immediate vicinity of the subject property is a type of economic obsolescence.
86. **c** – When multiple lenders participate in the same loan it is called a **participation loan**. Note that a form of the word appears in the question and the correct answer choice.
87. **b** – The real estate law requires the broker to **read and approve** all marketing material prepared by an unlicensed assistant before it is used.
88. **d** – This is an **UNNECESSARY** question. **Trust records** need to be kept regardless of how the monies are handled.
89. **c** – A broker is to maintain a trust fund account separate from their business account to avoid **commingling** and **converting** funds. Here, both answer selections B and D are reasonable alternatives, although they are not the most precise and best option available.
90. **d** – A buyer has a statutory **two-year** period to pursue a seller's agent for money losses for their failure to disclose material facts.
91. **c** – A resident manager or caretaker is required for apartment complexes of **16 units or more**.
92. **d** – The **safety clause** in an exclusive listing affirms the agent's right to a fee when any of the conditions provided as answer selections occur.
93. **d** – An **exclusive right to sell listings** may last for whatever period of time is agreed to by the seller and broker. There is no specified length of time that sets a threshold for an exclusive listing. Different property types, locations or market conditions may affect the mutually agreed-to length of time.
94. **a** – An **exclusive right to sell listings** is required to have a **specified termination date** that is agreed to by the participants.
95. **a** – An irrevocable right to purchase a property for a specific price during a specified period of time is an **option to buy**. Answer selection **D. right of first refusal**, though similar, refers

to an opportunity held by someone (often a tenant or neighbor) to purchase the property under the same price and terms offered by a third party.

96. **b** – This is a **NOT** question. Once the offeree (seller) has notified the offeror (buyer) that the offer has been accepted, it **cannot be revoked**.
97. **b** – Brokers and agents are required to complete **45 hours** of CE every four years in order to maintain their DRE license.
98. **d** – A salesperson has a **written contract** with their broker that specifies what the commission split will be. The commission split is not set by law but through negotiations between the agent and employing broker. Answer selection **B. an express agreement** is applicable in some cases, but may be either written or verbal and is thus not the best answer.
99. **a** – Brokers are obligated to perform a competent visual inspection when completing the mandated **Transfer Disclosure Statement (TDS)** form and disclose any known material facts that may affect the buyer's decision to buy the property. A broker is not required to perform any of the activities described in the other answer selections.
100. **d** – It is ultimately the **seller's responsibility** to deliver the **Transfer Disclosure Statement (TDS)** to the buyer.
101. **d** – The holding of the **Easton v. Strassburger** court case requires sellers and their agents to disclose all material facts about a property to a buyer as soon as practicable. This is the case which prompted the creation and implementation of the **Transfer Disclosure Statement (TDS)** form.
102. **d** – Sellers in certain transactions do not need to use the statutory **Natural Hazard Disclosure (NHD)** statement to make their property disclosures.
103. **c** – There are two protected types of **senior housing**. The minimum age limit is either **55 or 62**. The occupancy requirements are also different between the two types.
104. **b** – This is a **NOT** question. The only answer choice that is not a violation of real estate law is the **location of her office in her home**. All other identified activities are impermissible.
105. **c** – **Commingling** is the mixing of personal funds with client or third-party funds, which includes holding a deposit check uncashed at the broker's discretion. Answer selection **A. Conversion** requires the broker's personal use of client monies. The other answer selections have nothing to do with the question.
106. **c** – **Alienation** refers to the ability to transfer property. Therefore, **an alienable title** is one that can be conveyed.

107. **d** – **Title insurance** is a form of **indemnity insurance** by which a title insurance company **holds harmless** a person who acquires an interest in real estate against a monetary loss caused by an encumbrance on title that is not listed in the policy and the insured was unaware of when the policy was issued. The title insurance company then **reimburses** the insured for a later claim.
108. **d** – This is an **EXCLUDED** question. There are no title insurance policies that will insure against **zoning or regulation disputes**.
109. **c** – The **changing of the market** from being advantageous to a seller or buyer will only affect price. In a buyer's market, buyers maintain the competitive advantage as prices historically will go down.
110. **a** – The **principle of conformity** states that highest values are achieved by a degree of similarity in the style, size and quality of a property. Those properties that are more improved than the conforming level suffer a loss of value. This is called **regression**.
111. **d** – This is an **EXCEPT** question. **Functional obsolescence** is either out-of-date, inadequate amenities that do not meet market standards, or over improvements for which the market refuses to pay the full cost as an amenity. Functional obsolescence is not a matter of maintenance.
112. **d** – The **Agency Law Disclosure** is to be attached to a purchase agreement, or exchange agreement and a lease for greater than one year. It is not required on a month-to-month rental agreement.
113. **d** – A listing broker is to disclose all known **material facts** regarding the property to potential buyers when showing a listed property. The only exception is confidential personal or financial information about the seller, or other legal limits placed by the seller.
114. **d** – This is an **EXCEPT** question. For an **in-house sale**, the listing broker cannot represent only the buyer. An in-house sale refers to one in which the broker or their salespersons are working with the seller and the buyer.
115. **c** – Residential use zoning is labeled with an **R**. Multiple units will have a number following the **R** other than 1, the precise number determined by each city or county.
116. **c** - **Ratification** is the adoption or approval of an act performed on behalf of a person without previous authorization after the acts have been performed, such as the approval by a principal of previously unauthorized acts of an agent.
117. **d** - any of the above. it may be created by verbal, written, or express but none of it is **REQUIRED**. there's plenty of reasons it can be created.

118. **c** – Finders and brokers, as well as brokers and the public, are capable of being in **agency relationships**.
119. **b** – This is an **EXCEPT** question. The termination of an easement may occur for any of the reasons cited in the answer selections, except the release by the **servient tenement**. The servient tenement is the party burdened by the easement and they cannot unilaterally terminate the easement.
120. **a** – The **developer** is responsible for the installation of off-site improvements, such as roads, curbs, gutters and sidewalks, as well as utility hook-ups, fire hydrants and parks in a subdivision.
121. **d** – A **pledge agreement** is the document used to secure a loan using another loan as security where possession is relinquished. This is similar to **hypothecation**, which also pledges a loan or property as security, yet possession is retained.
122. **c** – A lender is required to provide buyers a **Loan Estimate** within three business days of the lender's receipt of the application. The Loan Estimate, which became effective October 3, 2015 under the TILA-RESPA Integrated Disclosure (TRID) rules, states the mortgage terms and details quoted by the lender.
123. **c** – To die **intestate** means to pass away without a will. If a property owner dies intestate, the probate court will award the estate to the spouse and any children once all creditors have been paid.
124. **b** – The **Real Estate Settlement Procedures Act (RESPA)** regulations apply to **one-to-four unit residential properties**. Most disclosure and consumer protection laws are written for this specific type of targeted property.
125. **d** – **Trust accounts** are designed to separate client monies from brokerage business funds. **Commingling**, the mixing of client monies with other funds, is the act most frequently disciplined by the Department of Real Estate (DRE).
126. **b** – As with a personal checking account, **reconciliation** refers to a broker balancing a bank statement with the account ledger. Accounts are generally reconciled on a monthly basis.
127. **b** – The failure to deliver the statutory **Transfer Disclosure Statement (TDS)** form to a buyer prior to the close of escrow gives the buyer the right to cancel the transaction.
128. **d** – Answer choices A through C describe a tenancy-at-will. A **tenancy-at-will**, unlike **tenancy-at-sufferance**, is done with the owner's permission. Typically, this follows the termination of a lease and will evolve into a periodic tenancy if continued beyond a short

duration. However, the tenancy is not limited to a specific duration of time no greater than one year.

129. **c** – The **Transfer Disclosure Statement (TDS)** is required on the sale of all one-to-four residential unit properties. The TDS is a mandatory disclosure prepared by a seller and given to prospective buyers setting forth any property defects known or suspected to exist by the seller. It is generically called a condition of property disclosure.
130. **a** – When a broker exercises an option to buy they hold during the listing period in order to resell the property to an existing buyer, the broker violates their **fiduciary responsibility** to their client. In this circumstance, the broker has received an **improper secret profit**.
131. **b** – An **option** is a right given for a consideration to another by a property owner to purchase or lease a property as agreed within a specified time without obligating the person who receives the right to exercise it. Thus, an option prevents the seller from selling the property to another during the term of the option. Further, it **obligates the seller** to perform if the option is exercised.
132. **b** – Only when the **option is exercised** does it bind both parties to the transaction.
133. **c** – In California, when a married couple buys property jointly, it is presumed to be **community property**. This is known as the community property presumption.
134. **b** – When a non-licensee unlawfully performs real estate services for which a license is required, the **local district attorney** is responsible for adjudicating the violation. As the individual is not a licensee, prosecution is beyond the scope of the Department of Real Estate (DRE). Further, a federal authority has no jurisdiction when an unlicensed person performs a task requiring a state license. A county sheriff is similarly not tasked with enforcing crimes of this nature.
135. **c** – The required lending disclosures under the **Real Estate Settlement Procedures Act (RESPA)** and the **Truth-in-Lending Act (TILA)**, such as the TILA-RESPA Integrated Disclosure (TRID), must be provided to borrowers at no cost.
136. **d** – Both the lender and the trustor (borrower) benefit from the existence of an **impound account** since it guarantees the necessary funds will be available for property taxes and insurance when they are due.
137. **d** – If a buyer asks the broker for permission to move into a vacant house prior to the close of escrow, the broker needs to **ask the seller for permission** before granting access to the buyer. Until escrow closes, the property belongs to the seller. Thus, the seller is liable and responsible for whatever occurs on the property, including any injuries and property damage. Further, if escrow fails to close, a dispute may arise regarding any alterations the buyer made to the property.

138. **c** – The **authority of the broker**, or the limits to that authority, are determined by what the **client grants**. For example, if the client insists on being present during showings of the property, this condition limits the authority of the broker.
139. **d** – This is a **NOT** question. All of the answer selections will terminate the agency relationship, though some have negative consequences. For instance, if a principal revokes the agency before the listing has expired, the principal will be liable to the broker for money losses.
140. **d** – The loss of depth for any reason will most likely increase the **price per square foot** of the property since, though the value of the lot may decrease, it will not diminish proportionately with the reduction in size. For example, a rectangular residential lot that is 60 feet across the front and 200 feet deep (12,000 square feet total) has a value of \$360,000, or \$30 per square foot. If the depth loses 50 feet, either through natural causes or eminent domain, the lot would not lose a proportional  $\frac{1}{4}$  of its value. The now smaller lot (9,000 square feet) may still be worth \$360,000, with an increase in the price per square foot to \$40.
141. **d** – When making property comparisons for the **market approach**, the appraiser considers the **entire property** and the immediate area, including its location, schools and other off-site elements that affect value. Answer selections A and C are related to the income approach, not the market comparison approach. Answer selection B is used for the cost approach and is employed only for specific types of properties, such as warehouses.
142. **c** – **Remodeling** is done to a property to correct **functional obsolescence** which limits the practical use of a property. The functionally obsolete element needs to be updated through remodeling, not simply resolved with repairs or the replacement of an item with the same thing.
143. **c** – The **sheet metal** on the edge of the roof and surrounding various exhaust pipes extending above the roof is called **flashing**.
144. **a** – Wood shake roofs feature **open roof sheathing** to allow air to circulate. None of the other answer selections share this design.
145. **a** – **Property** is broadly defined as rights or interest which a person has in a thing owned. Property may be classified as **real** or **personal**. Answer selections B and C are both false as trade fixtures are personal property and all other fixtures are real property.
146. **a** – This is a **LEAST LIKELY** question. A **standard policy** of title insurance is least likely to require the title insurance company to physically inspect the property. Note that answer selection **B. Abstract of title** and **D. Preliminary title report** are not insurance policies. Answer selection **C. Extended coverage policy** suggests something greater than the standard policy, and thus would be more likely to entail a physical inspection.

147. **a** – The **transfer tax** is based on the cash and new debt created in the transfer. In this question, the amount is **\$100,000** (\$400,000 purchase price – \$300,000 assumed note and trust deed). Determine how many times \$500 factors into \$100,000:  $\$100,000/\$500 = \$200$ . Multiply this amount by the tax rate:  $\$200 \times .55 = \$110$ .
148. **d** – When multiple offers are submitted on a listed property around the same time, the **fiduciary duty** of the listing agent requires them to present both offers to the seller at the same time so the seller may make a decision while being aware of the existence of both offers.
149. **d** – A title company performs a **title search** by viewing the records of the county clerk's office, county recorder and the secretary of state. A search of the public records of all entities is required to determine a property's **chain of title** and any relevant records for the buyer or seller (e.g. an income tax lien). A federal registry of any sort is least likely to contain information relevant to a property's title.
150. **b** – The **Real Estate Settlement Procedures Act (RESPA)** applies to residential one-to-four unit properties only. RESPA is federal legislation prohibiting brokers from giving or accepting referral fees if the broker or their agent is already acting as a transaction agent in the sale of a one-to-four unit residential property which is being funded by a purchase-assist, federally-related consumer mortgage. Thus, only answer selection B falls under RESPA.

## APPENDIX F

## EXPERIMENTAL GROUP POST-TRAINING SURVEY

|   | <b>1<br/>Very<br/>Slightly</b> | <b>2<br/>A little</b> | <b>3<br/>Mode-<br/>rately</b> | <b>4<br/>Quite a<br/>bit</b> | <b>5<br/>Extremely</b> |
|---|--------------------------------|-----------------------|-------------------------------|------------------------------|------------------------|
| <b>1.</b> Was the training material and content helpful to you?                       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>2.</b> Was the training program interactive and engaging?                          | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>3.</b> How would you rate the quality of this training session?                    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>4.</b> How would you rate the teaching quality of the instructor?                  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>5.</b> Was the training at a comfortable pace?                                     | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>6.</b> Was the trainer engaging and supportive?                                    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>7.</b> Were you satisfied with the learning content and material?                  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>8.</b> Did you think the content in the training material was sufficient?          | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>9.</b> Did the training meet your expectations?                                    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |
| <b>10.</b> Do you have any suggestions that can help us improve the training program? | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/>         | <input type="radio"/>        | <input type="radio"/>  |