

Winter 12-14-2019

## A Phenomenological Study into How Early Childhood Educators Experience Gamification as an Employee Motivational Tool

Marlene C. Cooper

Concordia University - Portland, marlenecooper.ed@gmail.com

Follow this and additional works at: [https://digitalcommons.csp.edu/cup\\_commons\\_grad\\_edd](https://digitalcommons.csp.edu/cup_commons_grad_edd)



Part of the [Early Childhood Education Commons](#), [Educational Technology Commons](#), [Other Social and Behavioral Sciences Commons](#), and the [Pre-Elementary, Early Childhood, Kindergarten Teacher Education Commons](#)

---

### Recommended Citation

Cooper, M. C. (2019). *A Phenomenological Study into How Early Childhood Educators Experience Gamification as an Employee Motivational Tool* (Thesis, Concordia University, St. Paul). Retrieved from [https://digitalcommons.csp.edu/cup\\_commons\\_grad\\_edd/362](https://digitalcommons.csp.edu/cup_commons_grad_edd/362)

This Dissertation is brought to you for free and open access by the Concordia University Portland Graduate Research at DigitalCommons@CSP. It has been accepted for inclusion in CUP Ed.D. Dissertations by an authorized administrator of DigitalCommons@CSP. For more information, please contact [digitalcommons@csp.edu](mailto:digitalcommons@csp.edu).

Concordia University - Portland

**CU Commons**

---

Ed.D. Dissertations

Graduate Theses & Dissertations

---

Winter 12-14-2019

## A Phenomenological Study into How Early Childhood Educators Experience Gamification as an Employee Motivational Tool

Marlene C. Cooper

*Concordia University - Portland*

Follow this and additional works at: <https://commons.cu-portland.edu/edudissertations>



Part of the [Early Childhood Education Commons](#), [Educational Technology Commons](#), [Other Social and Behavioral Sciences Commons](#), and the [Pre-Elementary, Early Childhood, Kindergarten Teacher Education Commons](#)

---

### CU Commons Citation

Cooper, Marlene C., "A Phenomenological Study into How Early Childhood Educators Experience Gamification as an Employee Motivational Tool" (2019). *Ed.D. Dissertations*. 330.

<https://commons.cu-portland.edu/edudissertations/330>

This Open Access Dissertation is brought to you for free and open access by the Graduate Theses & Dissertations at CU Commons. It has been accepted for inclusion in Ed.D. Dissertations by an authorized administrator of CU Commons. For more information, please contact [libraryadmin@cu-portland.edu](mailto:libraryadmin@cu-portland.edu).

Concordia University–Portland  
College of Education  
Doctorate of Education Program

WE, THE UNDERSIGNED MEMBERS OF THE DISSERTATION COMMITTEE  
CERTIFY THAT WE HAVE READ AND APPROVE THE DISSERTATION OF

Marlene C. Cooper

CANDIDATE FOR THE DEGREE OF DOCTOR OF EDUCATION

Brianna Parsons, Ed.D., Faculty Chair Dissertation Committee

Leslie Loughmiller, Ed.D., Committee Member

Chad Becker, Ph.D., Committee Member

A Phenomenological Study into How Early Childhood Educators  
Experience Gamification as an Employee Motivational Tool

Marlene C. Cooper

Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

Transformational Leadership

Brianna Parsons, Ed.D., Faculty Chair Dissertation Committee

Leslie Loughmiller, Ed.D., Committee Member

Chad Becker, Ph.D., Committee Member

Concordia University–Portland

2019

## **Abstract**

The purpose of this study was to explore how early childhood educators (ECE) experience gamification as a motivational tool. The study was grounded in self-efficacy theory and used the transcendental phenomenological methodology to uncover the lived experiences of the participants. The researcher used questionnaires, journals, and interviews to gather data from respondents. The interview utilized open-ended questions to provide respondents the opportunity to give a detailed account of their shared experiences while operating the gamified technology used in their program. Data was collected from 8 ECE teachers working at a private preschool in a mid-Atlantic state. Participant accounts described a lack of consistency during the onboarding phase when each application was introduced to the teaching staff. The most successful gamified application allowed for regular communication between teaching staff and parents. Participants noted the training application was an asset, as it aligned with participants' educational and professional goals. The curriculum development application was found to be an unreliable lesson planning tool due to inaccuracies in data tracking. Participants felt the monthly rewards systems did not accurately reflect the work completed by teachers. The ECE teachers preferred a clear indicator of how the technology can be used to improve the lives of their students and positively impact the trajectory of their career. Greater consideration should be taken to ensure the applications provide incentives that are appropriate for the users. More research should be conducted to uncover the methods school leaders employ to determine applications used with in schools.

*Keywords:* emotional engagement, extrinsic motivation, gamification, intrinsic motivation, self-efficacy

## **Dedication**

This dissertation is dedicated to my dog, Ceres Victoria, the best person I know.

## **Acknowledgments**

The support of so many professors and friends has been a true blessing over the course of this work, and I would like to thank the following people for everything they've done: Dr. Brianna Parsons, for all her patience and support during every stage of this dissertation; Dr. Leslie Loughmiller, for her enthusiasm and words of encouragement as I worked to compile my research; Dr. Chad Becker, for stepping in during the final stages of my research to guide me to the finish line; my best friend Gary, for his support and assistance during the editing process; and a very special thank you to my late husband Sean, who believed with all his heart that I could accomplish this goal. Your support meant the world to me and I hope I've made you proud.

## Table of Contents

Abstract .....	ii
Dedication .....	iii
Acknowledgments.....	iv
List of Tables .....	xi
List of Figures .....	xii
Chapter 1: Introduction .....	1
Introduction to the Problem .....	1
Background, Context, History, and Conceptual Framework for the Problem.....	1
Statement of the Problem.....	2
Purpose of the Study .....	3
Research Questions .....	6
Rationale, Relevance, and Significance of the Study .....	6
Definition of Terms.....	7
Assumptions, Delimitations, and Limitations.....	8
Summary .....	9
Chapter 2: Literature Review .....	11
Introduction to the Literature Review.....	11
Article inclusion criteria.....	11
Conceptual Framework.....	12
Theoretical framework: Self-efficacy theory.....	12
Personal interest.....	13
Review of Research Literature and Methodological Literature.....	20



The influence of workplace culture on ECE teacher motivation. ....	20
Positive motivation factors.....	23
Change leaders and collective learning.....	24
Factors for motivation and early childhood educators.....	25
Gamification as a motivational tool for employees. ....	26
Review of Methodological Issues .....	31
Quantitative methodologies. ....	31
Qualitative methodologies. ....	32
Phenomenological studies.....	32
Synthesis of Research Findings .....	33
Critique of Previous Research .....	34
Summary .....	35
Chapter 3: Methodology .....	37
Introduction to Methodology .....	37
Research Questions.....	37
Research Design: Transcendental Phenomenology .....	38
Purpose and Design of the Study .....	38
Research Population and Sampling Method.....	39
Instrumentation .....	39
Data Collection .....	41
Pilot study. ....	41
Interviews.....	41
Journals. ....	43

Artifacts.....	44
Member checking.....	44
Identification of Attributes.....	45
Data Analysis Procedures .....	45
Coding.....	46
Textural–structural synthesis. ....	47
Triangulation of data.....	48
Limitations of the Research Design.....	48
Validation.....	49
Credibility. ....	49
Dependability.....	50
Expected Findings.....	50
Ethical Issues .....	51
Conflict of interest assessment.....	51
Researcher’s position.....	51
Ethical issues in the study.....	52
Transferability of data.....	53
Summary.....	53
Chapter 4: Data Analysis and Results.....	55
Introduction to Data Analysis and Results.....	55
Gamified applications used within the program. ....	56
Themes and subthemes identified by researcher.....	58
Description of the Sample.....	59

Age of participants.....	60
Level of education.....	62
Motivations for entering early childhood education. ....	62
Participant professional goals. ....	64
Participant perceived level of emotional engagement. ....	65
Research Methodology and Analysis.....	68
Questionnaires.....	68
Journals. ....	69
Artifacts.....	71
Interviews.....	72
Coding.....	73
Summary of the Findings.....	74
Presentation of the Data and Results .....	75
Theme 1: Meaningful content focused on ECE educators’ goals.....	75
drives emotional engagement. ....	75
Theme 2: Inconsistent onboarding and inaccurate data reporting causes	
frustration of ECE educators.....	81
Summary.....	86
Chapter 5: Discussion and Conclusion .....	87
Introduction to Discussion and Conclusion .....	87
Summary of the Results .....	87
Discussion of the Results .....	89
Data Relating to Research Question #1 .....	89

Data Relating to Research Question #2 .....	93
Discussion of the Results in Relation to the Literature.....	97
Finding 1: Teachers who experienced the onboarding phase of gamification maintain motivation and emotional engagement. ....	97
Finding 2: Applications that aligned with the professional goals of the early childhood educators maintain teacher emotional engagement. ....	99
Finding 3: Rewards systems that do not directly improve instructional practices do not increase teacher motivation and emotional engagement. ....	100
Finding 4: Gamified applications that focused on information sharing between teachers and parents outperformed all other applications.....	102
Finding 5: Consistency was a primary element to maintain teacher motivation and emotional engagement. ....	104
Results in Relation to Theory: Self-Efficacy .....	105
Self-efficacy in relation to research question 1.....	105
Self-efficacy in relation to research question 2.....	106
Limitations .....	108
Implication of the Results for Practice, Policy, and Theory .....	109
Recommendations for Further Research.....	112
Conclusion .....	113
References.....	115
Appendix A: Recruitment Flyer.....	122
Appendix B: Participant Instructions.....	123
Appendix C: Demographic Questionnaire.....	125

Appendix D: Interview Questions .....	129
Appendix E: Consent Form .....	131
Appendix F: IRB Approval Letter .....	133
Appendix G: Statement of Original Work .....	134

## List of Tables

Table 1. <i>Gamified Applications Discussed</i> .....	4
Table 2. <i>Overview of Gamified Applications Discussed</i> .....	57
Table 3. <i>Emerged Themes and Subthemes</i> .....	58
Table 4. <i>Participant Demographics Information (Age)</i> .....	60
Table 5. <i>Participant Demographic Information (Years of Experience)</i> .....	61
Table 6. <i>Participant Demographic Information (Level of Education)</i> .....	62
Table 7. <i>Participant Perceived Level of Emotional Engagement</i> .....	64
Table 8. <i>Reported Most Satisfying Experience While Teaching</i> .....	69
Table 9. <i>Reported Least Satisfying Experience While Teaching</i> .....	69
Table 10. <i>Interview Themes, Subthemes and Codes</i> .....	74
Table 11. <i>Emerged Themes and Subthemes</i> .....	89
Table 12. <i>Phases of Gamification</i> .....	90
Table 13. <i>Employee Experience of Applications Related to Research Question 1</i> .....	91
Table 14. <i>Perceptions of Gamified applications: Research Question 2</i> .....	95

## **List of Figures**

Figure 1. <i>Overall understanding and usage of gamified applications</i> .....	93
Figure 2. <i>Scale to which gamified applications influence teacher motivation</i> .....	97

## **Chapter 1: Introduction**

### **Introduction to the Problem**

Gamification is the use of gaming elements in a non-gaming environment for the purpose of increasing motivation and emotional engagement (Burke, 2014). Burke (2014) asserts that “gamification is about motivating people to achieve their own goals, not the organization’s goals” (p. 9). This technology is utilized not only in the field of business and information technology but K–12 schools have begun to incorporate gamification as a means of motivating both teachers and students. While proponents of gamified solutions in the fields of business and information technology believe gamification to be an effective tool for increasing worker emotional engagement (Burke, 2014), it may be beneficial to understand how educators perceive this technology as an employee motivational tool in the educational setting.

### **Background, Context, History, and Conceptual Framework for the Problem**

The term *gamification* was first used by Nick Pelling in 2002 while designing a series of user interfaces for commercial electronics (Burk, 2016). In 2005 Rajah Paharia founded the platform Bunchball. Bunchball was designed to add gaming mechanics to various websites (Detering, 2011). Gamification seeks to empower individuals to reach their own personal growth plan (Burke, 2014). When applied with people in mind, gamification “creates entirely new engagement models, targeting new communities of people and motivating them to achieve goals they may not even know they have” (p. 4). When the goals of the individual align with the goals of the organization, gamification can be an effective motivational instrument (Burke, 2014). Although organizations desire to be profitable, the intention of gamified solutions is not to transform an uncomfortable activity into a game. Rather, it functions to engage individuals emotionally, fostering a community of intrinsically motivated individuals striving for excellence



within their organization. This study was grounded in self-efficacy theory. Self-efficacy theory describes an individual's ability to achieve their targeted goals (Garrin, 2014). The researcher sought to explore the factors which attributed to ECE teachers sense of motivation and emotional engagement while working in an educational setting. The school where the study was conducted utilized gamified applications as a motivational tool.

Wrobel (2013) identified teachers as emotional laborers. Emotional laborers are individuals whose occupation requires employees to behave according to established norms. However, the consequence of emotional labor is emotional exhaustion (Wrobel, 2013). The 2015 America Next educational reform plan suggested that “despite the critical role teachers play in driving student achievement and lifelong success, current teacher policies prioritize everything except effectiveness and greatly restrict personal and professional autonomy” (p. 30). In contrast to most service professions, teachers are required to work as emotional laborers (Wrobel, 2013). Further, as emotional display rules are social norms that dictate how individuals express their feelings during social exchanges (Grandey et al., 2010), “The deficiency of external rewards and weak control over teachers' emotions may increase their internal motivation to regulate their affective states at work” (Wrobel, 2013, p. 582). The emotional display rules enforced by schools are often not as defined as those seen in commercial organizations (Grandey et al., 2010).

### **Statement of the Problem**

With the rise in research examining teacher motivation and turnover, some early childcare centers have adopted gamification as an employee motivational tool to increase emotional engagement. However, it is unclear as to how early childhood educators perceive these gamified solutions. Therefore, this study sought to uncover the teachers' perspectives on

the use of gamification technology. It may be possible to determine whether gamification is a reliable tool for increasing and sustaining early childhood teacher motivation and emotional engagement.

### **Purpose of the Study**

The purpose of this transcendental phenomenological study was to understand how early childhood educators experience gamification as an employee motivational tool. This study focused on early childhood teachers located in a mid-Atlantic state. The school where the study was conducted served children ranging from infancy to six years old. It also educated school-aged children from kindergarten to fourth grade in an after-school program. The school utilized technology and applications with the purpose of ensuring safety, training, parent-teacher communication, curriculum development, and workforce growth. Four of the applications used by teachers were gamified with the goal of fostering consistent usage and employee motivation. Each application was used to address various needs the preschool leadership team believed to be vital to the success of the program.

Table 1

*Gamified Applications Discussed*

Gamified Application	Intended Purpose	Rewards for Use
Brightwheel	Student attendance tracking and information sharing	<ul style="list-style-type: none"> <li>· Employee recognition</li> <li>· Letter from leadership team</li> </ul>
Galileo	Provides curriculum and instructional tools for teachers	<ul style="list-style-type: none"> <li>· Monthly gifts</li> <li>· Annual gifts</li> <li>· Sapphire Club (Teacher receives certificate and T-shirt)</li> </ul>
Employee Training Application (Learning Management System)	Provides teachers with monthly training on various work-related topics and certifications	<ul style="list-style-type: none"> <li>· Certificates of completion</li> <li>· College credits</li> <li>· CDA certificate</li> </ul>
Employee Referral Program	Grows workforce	<ul style="list-style-type: none"> <li>· Teachers receive \$500 90 days after referred party is hired</li> </ul>

The study site utilized four gamified applications. Table 1 shows the applications discussed in this study. The first application was Brightwheel. This technology served as a communication tool which enabled daily communication between teachers and parents. Teachers used Brightwheel to send parents regular updates on the daily activities of their children along with milestone achievements, pictures, and videos. This application was monitored by the school’s leadership team and teachers were ranked based on their usage of the technology. As a reward for consistent use of this application, teachers received a letter of recognition from a member of the school’s leadership team or corporate office.

The second gamified solution was the web-based program Galileo. This program functioned to aid teachers in assessing student development and academic progress. It also provided teachers with lesson planning tools created by other educators and curriculum experts.

ECE (early childhood education) teachers were given the option to contribute to the curriculum database by creating and submitting their own lesson plans. The organizations' leadership team rewarded teachers who utilize Galileo consistently. These teachers became members of the Sapphire Club. Club members were given monthly and annual gifts from the school's leadership team to motivate them to continue using the application.

The third application was used for employee training and professional development. Employees who completed training modules were given certificates of completion and recognition. These certificates were displayed by teachers and school leaders as a sign of their accomplishment and dedication. Teachers who were employed with the school for five or more years were granted the opportunity to participate in the master teacher program. Upon successfully completing this program through the application, teachers received a pay increase. The training application also provided teachers with an opportunity to earn college credits and their Child Development Associate Credential (CDA).

The final gamified application was an employee referral program for potential early childhood teachers. This application sought to increase the school's workforce by recruiting employees by way of accessing current teachers' social media accounts. The application used teachers' LinkedIn.com, Facebook, and Instagram accounts as feeds where new positions were posted and shared with the friends and family of current employees. ECE teachers whose feed resulted in a new hire were given a monetary award 90 days from the new hire's initial date of employment. While these applications display elements of gamification, it was unclear prior to the study if the technology fostered a sense of motivation or emotional engagement in ECE teachers.

This study required early childhood teacher participants to discuss their perspectives on gamified solutions as a teacher motivational tool. They also discussed how these applications impacted their sense of motivation. The researcher used each participant's account to craft a narrative describing the phenomenon that emerged through themes found within the interview transcripts. Participants were also given the option of maintaining a journal detailing their experiences using the gamified applications. Furthermore, participants had the option to include artifacts they felt were pertinent to their account of the gamified solutions.

### **Research Questions**

This study sought to answer the following two research questions:

1. How do early childhood educators understand and experience gamified solutions utilized in their school?
2. What situations or contexts influence how educators perceive gamification?

### **Rationale, Relevance, and Significance of the Study**

Pink (2005) introduced the term "Conceptual Age" and suggested that as a result of the influx in technological advancement and information sharing, the workplace that once called for individuals to follow direct instruction now advocates individual creativity to provide innovative solutions. Gamification is an example of one such solution, as it uses concepts that one may associate with gaming to foster an environment of emotional engagement (Burke, 2014). In the instances where gamification is ineffective, the objective of the gamified technology is aligned with the goals of the organization rather than the goals of the workers (Burke, 2014). However, the more an employer considers the needs of the employees and helps them to work toward their personal and professional ambitions, the more likely the organization is to see an increase in productivity and employee motivation (Burke, 2014). To promote creativity and innovative

solutions, workers must not only be motivated and believe in the mission of their organization (Mezirow, 1991), but be an asset to their workplace, rather than a cost (Drucker, 1999).

Barmby's (2006) study on teacher motivation concluded that a reduction in work-related stress, less administrative work for teachers, and improving school facilities increase teacher motivation. Early childhood educators are not exempt from this discussion. They play a pivotal role in preparing children academically and socially for their educational careers and are charged with educating future thinkers. Furthermore, early childhood educators are exposed to similar challenges to those of elementary and secondary teachers, such as student misbehavior, lack of administrative support, and workload. To combat these issues, some schools have begun implementing gamified systems to improve worker motivation and emotional engagement. This study explored how early childhood educators perceived gamification utilized in their workplace.

### **Definition of Terms**

The following terms and definitions are used by the researcher and are defined as follows for the purposes of this study:

*Emotional engagement:* Emotional engagement is defined as an individual's willingness to exude greater effort than expected to fulfill the goals of the organization (Burke, 2014).

*Emotional laborers:* Emotional laborers are defined as workers who abide by occupational or organizational norms (Wrobel, 1013, p. 581).

*Extrinsic motivation:* Extrinsic motivation is defined as a type of motivation that stems from external stimuli such as prizes, monetary rewards, badges, and fame (Burke, 2014).

*Gamification:* Gamification is defined as the use of gaming elements in a non-gaming context. Concepts such as purpose, mastery, autonomy, player progression, and social

interaction are utilized to improve individual motivation (Deterding, Dixon, Khaled, & Nacke, 2011).

*Intrinsic motivation:* Intrinsic motivation is defined as the desire to achieve success grounded in one's personal drive to do so (Burke, 2014).

*Self-Efficacy:* Self-efficacy is defined as one's ability to take steps toward achieving targeted goals (Garrin, 2014).

### **Assumptions, Delimitations, and Limitations**

All qualitative studies have assumptions in an effort to note not only researcher bias, but the constraints within which the study operates (Simon, 2011). There were several assumptions within this study. The first was that participants selected for this study shared their true experiences of the gamified applications that are used at their school. Next, it was assumed that participants would answer each interview questions honestly and without bias. Further, although participants were not given incentives to participate in the study, it was assumed that participants would accept the invitation for the purpose of sharing their experiences and contributing to the research.

Delimitations are used to define the boundaries of the study (Simon, 2011). The study took place at a single location in a mid-Atlantic state. This early childhood center was also the researcher's place of employment. The site used gamified applications as a means of aiding teachers to complete daily tasks. The research questions for the study focused on how the teachers perceived the gamified systems within their school. Although there are more than four applications used at the school, the study will focus on the applications that used gamification.

Three limitations were identified in this study. The first was a lack of male representation in the pool of possible participants. The preschool where the study was held did

not have male teachers on staff at the time of the study. Therefore, the perspectives and experiences explored were gathered from an all-female staff. Second, the principal researcher for this study was an experienced secondary school and early childhood educator. The researcher's personal experiences with the effects of low employee motivation on educational quality in conjunction with a partiality toward educational technology may have created a personal bias. As a result, the researcher practiced *epoché*, or the bracketing out of one's own lived experiences prior to beginning the study (Creswell, 2013). Finally, as a private school, the program was not constrained by the regulations found within a public preschool or Headstart program. This may have impacted the choices in technology used at the school.

## **Summary**

This study sought to understand how early childhood educators experience and perceive gamification as a motivational tool. Chapter 1 introduced the conceptual framework, purpose, rationale, definitions, limitations, and delimitations. Chapter 2 will review the literature and address four themes: the influence of workplace culture on teacher motivation, factors that have a positive impact on teacher motivation, motivation in early childhood education, and gamification as a motivational tool for employees. The literature will critique the methodologies found within the literature review and synthesize prominent themes. The literature review will conclude with a summary. Chapter 3 will contain the methodology and a detailed description of the research population, sampling method, data collection procedures, instrumentation, data analysis procedures, limitations of the research design, researchers' statement, dependability, ethical issues, transferability of data, and expected findings. Chapter 4 will consist of data analysis and the research results. This section will also include a description of the sample, bracketing, a description of the interviews, and questions asked. This section will conclude with



a presentation of the research findings. Chapter 5 will summarize the study and discuss the research findings. Chapter 5 will conclude with the researcher's description of the phenomenon.

## Chapter 2: Literature Review

### Introduction to the Literature Review

This study sought to understand how early childhood educators perceived and experienced the gamified solutions used within their school. This literature review defined the conceptual framework for this study and explored research on teacher motivation and gamification. It examined factors that both motivates and decreases the sense of motivation in teachers. The literature review also explored how gamification works to increase motivation and emotional engagement, when applied to non-gaming environments. While gamification is a relatively new concept, research suggests that by applying elements of gamification an organization may benefit from the sense of autonomy, competence, and relatedness in the work experience (Mekler, Bruhlmann, Tuch, & Opwis, 2015). The key motivating factors for early childhood educators will also be assessed. Research findings are then synthesized, forming a connection among key concepts found within the literature. Finally, the methodology for the study will be discussed and previous research is critiqued.

**Article inclusion criteria.** The articles used for this research topic were required to meet several key criteria and standards. The first criterion was relevance to the research topic. Articles chosen addressed the research questions and other terms such as efficacy, motivation, and early childhood education. These articles were primarily qualitative in research methodology as they studied “social phenomena, situations, and processes that involve people, illuminating them from a variety of perspectives” (Hazzan & Nutov, 2014, p. 2). Articles were required to be no more than ten years old.

## **Conceptual Framework**

Miles and Huberman (1994) defined a conceptual framework as a pictorial or written creation that “explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them” (p. 18). The conceptual framework is a “tentative theory of the phenomena that you are investigating” (Maxwell, 2004, p. 33). It functions to inform the design of the study and enables the writer to assess the outcome of the research (Maxwell, 2004). The conceptual framework also aids in the development of the research questions and works as a tool to identify threats to the conclusion of the research. Concerning the literature review, the conceptual framework “can lead to a narrow focus on the literature” (Maxwell, 2004, p. 34). While the conceptual framework pulls information from sources that are grounded in research, the structure of a conceptual framework is one that evolves alongside the study; it does not come as a “ready-made” (Maxwell, 2004, p. 34) unit. Some researchers use the terms conceptual framework and theoretical framework interchangeably; however, the terms are not interchangeable nor synonymous with one another (Grant & Osanloo, 2014). Grant and Osanloo (2014) also suggested that “the conceptual framework offers a logical structure of connected concepts that help provide a picture or visual display of how ideas in a study relate to one another within the theoretical framework” (p. 17). Finally, a conceptual framework provides the researcher with an opportunity to clarify concepts within the study (Grant & Osanloo, 2014).

**Theoretical framework: Self-efficacy theory.** Belief systems play an instrumental role in how one perceives his or her own level of competence to participate in behaviors (Garrin, 2014). An individual with low personal efficacy may avoid specific learning opportunities, whereas an individual exhibiting a higher sense of efficacy will enter new learning opportunities

with confidence and expectations of success (Schunk, 1990). The self-efficacy theory describes the ability of an individual to work toward achieving their desired goals (Garrin, 2014, p. 44).

This theory proposes that mastery, competence, and confidence all impact how individuals view their own capability and their feelings of competency when applying these skills (Garrin, 2014).

The work of Bandura (1993) and others (Schunk, 1990; Zimmerman & Martinez-Pons, 1990), which focused on personal self-efficacy, can be expanded to include the perceived collective efficacy of a group or organization (Bandura, 2006). Collective efficacy can be defined by the group's shared values and beliefs and are the product of "not only shared knowledge and skills of the different members, but also of the interactive, coordinative, and synergistic dynamics of their transactions" (Bandura, 2006, p. 316). Research conducted on the psychological process that defines one's self-belief identified four paradigms: cognitive processes, motivational processes, affective processes, and selection processes (Bandura, 1994). Cognitive processes refer to one's sense of value and competency. Bandura (1994) defines motivational processes as "self-satisfying and self-dissatisfying reactions to one's performance, perceived self-efficacy for goal attainment, and readjustment of personal goals based on one's progress" (p. 5). Affective process is the progression by which individuals regulate their emotional state and emotional responses (Bandura, 1994). Selection process is the influence one has over one's own sense of motivation, thought, emotional state, and behavior patterns (Bandura, 1994). With these constructs in mind, one can understand how motivation may be affected by one's work environment.

**Personal interest.** My first full-time teaching position was working in a mid-Atlantic secondary alternative school program. After teaching in an alternative school for three years, it became apparent to me why workplace emotional engagement and motivation was a challenge to

achieve for some educators. While standardized assessments were employed to measure student achievement and competency, assessment data was also used to determine the effectiveness of the classroom teachers. Teachers voiced their concerns regarding the use of pacing charts to drive student learning. Many teachers in the school believed that the pacing chart did not take into consideration the individual needs of the students. Low teacher morale, organizational chaos, low funding and student behavioral issues resulted in the loss of the school's accreditation. Additionally, teachers were required to be prepared for two observational assessments per week. This was a great source of stress for me as a new educator. Over time, my sense of emotional engagement began to weaken. Where I was once eager to exude a greater amount of effort than was necessary to achieve workplace goals, I struggled to find justification for continuing my employment with a program that did not have systems that fostered productivity or engagement.

Teachers' employment status was also put in jeopardy if students' grades did not improve. As a result of this workplace culture, a substantial amount of time and effort were allocated between exam preparation and student behavior management. Due to this process, students became increasingly prone to violently lashing out against teachers. Teachers expressed that the results of this tumultuous work environment resulted in burnout due to stress from overwork, both during school hours and while at home. Teachers resorted to taking extensive mental days off, cutting back on preparation time, and some became withdrawn. New teachers began to question their career choices and started looking for other career options. Although the obstacles found in this school district seemed to only pertain to education, "Disconnection and overload pose[d] particularly modern obstacles to peak performance" (Hallowell, 2011, p. 26). Within an emotionally strenuous environment, the worker must wear multiple hats, while

simultaneously feeling as though it is expected to supersede all expectations. When the worker feels that his/her hard work has gone unnoticed, it gets increasingly difficult to remain happy while in the workplace. It is also vital that workers feel comfortable in voicing their concerns without being viewed as an upstart. When employees have an emotional connection with their job, they are more likely to sustain performance (Hallowell, 2011).

Hallowell (2011) suggests that connection is the bond an individual feels with another person, group, task, place, idea, mission, piece of art, pet, or anything else that stirs feelings of attachment, loyalty, excitement, inspiration, comfort, or a willingness to make sacrifices for the sake of making connection. (p. 75)

The deeper the connection, the more productive the employee will be in his work. A powerful social connection will bring about positive energy. With positive energy, one will bring value and achievement to his or her work. When an employee is disconnected from his or her work, there will be a sense of disengagement. Hallowell (2011) refers to disengagement as “distance from a person, group, task, idea, or mission” (p. 75). Nass and Yen (2012) noted the following:

Perhaps the most important lesson about team building is that you cannot implant the engines of team formation for a day or a week and then discard them: continual reinforcement of identification and interdependence are integral to the health of teams.

(p. 101)

The productive work environment thrives on the consistent engagement of all personnel involved in the daily functions of the workplace. Like a well-oiled machine, the success of an organization hinges on the work of each individual component of the structure. If one employee is disconnected, there may be a rippling effect that can be felt far and wide throughout the workplace. As a result, miscommunication may occur, as well as feelings of apprehension,

disconnection, or lack in one's sense of competency. But how does one go about making connections in the workplace? Are there technologies that can be utilized to form these connections?

***Personal interest in gaming.*** After leaving the alternative school, I became an early childhood educator and grew increasingly interested in how gaming technology could be used to increase teacher motivation. This early childhood school utilized gamified applications to aid teachers in fulfilling daily tasks, while providing them with rewards. I noticed a stark contrast in how the emotional engagement of teachers in this gamified workplace differed from the teachers in the non-gamified school. Teachers working in the early childhood school were required to take on greater responsibility due to strict licensing guidelines, while earning far less than K–12 educators. I was also intrigued by how the early learning centers used technology to organize, track, and communicate information. I was curious to uncover how the early childhood educators perceived these gamified applications. I wanted to understand how the gaming mechanics used by these programs worked to foster teacher motivation and emotional engagement.

As a life-long gaming enthusiast, I have always been intrigued by game design, storytelling, and player progression. The video game industry mastered the art of emotional engagement and motivation. Using streamlined gaming mechanics and reward systems, players are motivated to invest both time and money into games. It is not unrealistic for a gamer to spend 60 hours or more playing online or on a console and spending money on expansions.

As a young adult my idea of emotional decompression was spending my off-hours indulging in both console and PC gaming. It has been a hobby of mine since I was a child and I have never grown completely out of playing video games as a means of entertainment and stress

management. When choosing a game, I base my choice on what would be suited to how I feel. If I am feeling incredibly stressed and I need an experience that will transport me to a different time or place, then I will usually opt for an RPG or role-playing game such as the Mass Effect series, *Final Fantasy* or *The Elder Scrolls V: Skyrim*). Such games would provide me with boundless environments to explore and stories to experience. I have found it quite profound how beautiful and detailed these environments can be and how expansive the storylines are. These games offer the player hours of gameplay, filled with constantly changing environments and evolving storylines. The primary motivation for engaging with an open world game is to both build a character and explore a new world. As players begin their journey into the world, they are given very few resources and skills.

Through onboarding, typically in the form of an in-game tutorial, users learn the basic skills they will need to begin building their character. In my personal experiences, the onboarding phase was the most valuable element in ensuring my continually engagement with the program. During this phase I learned what skills I would need to master (Chou, 2015). Usually, players are asked to determine their class or specialization in the early phases of playing open world games. As I play and explore, I earn skill points or perks that I can then use to boost the stats of my character. This phase of game play fosters scaffolding, or a positive feedback loop of work, rewards, growth, and then harder work. The cycle of work, rewards and growth eventually results in my character progressing from novice up to master. Once I master the basic story arch or mechanics of the game, I can experience endgame (Chou, 2015). During endgame, I reach a new level of game play where I must learn new set of rules. At this phase I will compete for even greater rewards.



Role playing games are not the only form of video games that I indulged in during leisure time. If I am requiring an experience that would not be as extensive but just as robust, I will opt for a sandbox game much like *Assassin's Creed* or *Grand Theft Auto 5*. Sandbox games are like RPGs where they will provide hours of gameplay. However, they are not as expansive as an RPG where the location of the game is typically limited to a single city or town. While I would still experience onboarding, scaffolding, and endgame, these experiences are more controlled and linear. Whereas for an RPG I am typically building my character and her experiences myself, sandbox games begin with ready-made characters whom I chauffeur through the world and story. These games are more story-driven, with a strong cast of characters. Finally, if I am looking for a quick gaming experience that will be fun and will not require complete emotional immersion, I will choose a game such a puzzle, fighting, or racing. These games typically enable two or more players and are highly competitive. These games are also challenging to master, with players competing for the top ranking on global leaderboards.

Emotionally, playing games will make me feel a sense of flow. Typically, when I am playing an RPG or sandbox game, I am given the option of character customization. This will allow me to create a character to play that reflects my personal values and even my physical appearance. Instantly, I build a connection to the character, and as I play with this character and explore new worlds and environments, I begin to feel as though I am experiencing the environment firsthand. I begin to lose all sense of time and will oftentimes play for hours without knowing. Physiologically, I am completely relaxed. Even the roughest days will be forgotten once I begin playing.

***Personal interest: Creativity and play.*** There are three factors that are meaningful to me in regard to gaming technology. The first is discussed by Pink (2005) and that is the value of

creativity in today's job market. He suggests that individuals must tap into their creative minds in order to bring about creativity and innovation (Pink, 2009). Such a skill will translate well in a job market that hinges on a revolving door of new ideas. The second meaningful factor is discussed by Brown (2008). He described how an individual must hold on to the childhood love of play (Brown, 2008). As a child, play was a dynamic source of happiness and exploration. If fostered in adulthood, the sense of play will translate into innovative and creative adults. The final meaningful factor is the power of the enriched environment (Bronson & Merryman, 2014). If the learning environment is aesthetically designed to encourage exploration and creativity, it will increase the likelihood for children to develop into intellectual and creative adults. To continue play into adulthood will bring about creative and innovative adults, as well as decrease the amount of stress that adult workers may experience in their work environments. It is always important to find time to indulge in creative play.

Gamification uses gaming mechanics like those found in video games, in a non-gaming environment to foster motivation (Burke, 2014). As I reviewed studies on gamification, I found a limited number of peer-reviewed studies on how gamification influenced teacher motivation. Most of these studies dealt with workers in the fields of information technology and business. Based on my findings, I believe there is a need for further research on how gamification influences early childhood education teachers' motivation and emotional engagement. By creating an environment that emphasizes career growth and communication, teachers will feel connected to their work and strive to give their best. Emotional engagement and a sense of autonomy can be fostered only if individuals feel valued and listened to. It is the charge of the management team to provide staff with a means to communicate effectively, which can be in the form of gamified technologies.

Another way that a positive work environment can be created is to encourage others to reach out (Hallowell, 2011). Csikszentmihalyi (2004) suggests that one must use their state of flow to serve a cause greater than their own. It is through creativity and innovation that an individual will lose himself in his own happiness. When workers are encouraged to reach out, a cycle of communication will begin. Gamified technologies that encourage communication, whether among staff or stakeholders, may be utilized to foster this communication.

### **Review of Research Literature and Methodological Literature**

The researcher reviewed literature which focused on teacher motivation in early childhood education, general teacher motivation, emotional labor, and gamification. The researcher also reviewed the methodologies used in conducting research in these areas of focus. The purpose of this literature review was to inform the researcher of previous data collected on the topics of ECE teacher motivation and gamification. Additionally, through the review of methodologies used in previous studies, the researcher was able to choose a methodology that worked to answer the research questions.

**The influence of workplace culture on ECE teacher motivation.** Sozer (2013) suggests “searching for meaning in the essence is the fundamental motivation source of the human being” (p. 85). Richardson and Watt (2006) surveyed teachers in an effort to understand which elements of their job provided them with job satisfaction. Teachers voiced that helping others, their perceived teaching abilities, and their ability to shape the future gave them a sense of purpose and empowerment (Richardson & Watt, 2006). In a separate study, intrinsic career value or their interest in teaching and long-term desire to become a teacher was found to be a motivating factor for educators (Carrinusa, Helms-Lorenz, & Beijaard, 2011). Sinclair, Dowson, and McInerney (2006) explained that teachers find intellectual stimulation a way of

remaining motivated. Teachers were also motivated when they felt as though their input was valued (Stirling, 2016). Richardson and Watt (2006) identified social contribution, the intrinsic value of teaching, and the ability to shape the future as motivational rewards for teachers. Morgan, Ludlow, Kitching, O’Leary, and Clarke (2010) proposed that “frequent, positively framed events that supported the intrinsic rewards” (p. 11) worked as an external motivator for educators to remain within the field of education.

***Emotional laborer.*** Teachers are considered emotional laborers (Wrobel, 2013). That is, they are workers who must abide by the norms of an organization (Wrobel, 2013). There exist two paradigms by which an individual may experience emotional labor. The first is by surface acting. In this scenario one exhibits emotional displays of emotions that do not align with his or her true feelings (Lazányi, 2011). Lazányi (2011) suggests that “the surface actor suppresses or conceals his sincere emotions and acts in a way in compliance with the norms the organization” (p. 126). The second paradigm is deep acting. Within this paradigm, individuals modify their emotional responses to conform with organizational norms (Lazányi, 2011). The majority of workers in emotional labor professions are women (Wrobel, 2013). The notable difference between teachers and other emotional labor occupations, such as nursing, retail sales, banking, and hospitality, is that teachers interact with students as opposed to customers. These student-teacher interactions are repetitive and long-term (Lazányi, 2011). Pyżalski (2008) determined that the repeated exposure to student misbehaviors have a negative effect on teacher functionality. Although serious behavioral problems such as violence and verbal abuse happen less frequently than mild disruptions such as not paying attention, cheating on exams, and speaking out of turn, they occur often enough to cause emotional exhaustion (Wrobel, 2013). Teachers are also responsible for the facilitation of learning for students with learning disabilities

and emotional and behavioral difficulties (Wrobel, 2013). This will require teachers to devote extra time, provide support, and rearrange or modify lessons to accommodate these students (Wrobel, 2013).

***Burnout and stress.*** Maslach and Goldberg (1998) identified burnout syndrome as a response to ongoing stress for those in professions that are people centered. Burnout refers to a state of extreme exhaustion and frustration. The cause of burnout is often linked to individuals' perceived failure in their way of life, a cause, or relationship (Totawar & Nambudiri, 2012). Further, Stirling (2016) discussed the negative motivational influences that affect teachers and advised that "it seems worthwhile to consider how changes in leadership approaches, school climate and culture, and overall workload issues might affect the incidence of teacher burnout and its consequences" (p. 9). Burnout syndrome is composed of three dimensions: depersonalization, emotional exhaustion, and a feeling of a lack of personal accomplishment. As emotional laborers, teachers are at risk of experiencing elements of burnout syndrome (Stirling, 2016).

Depersonalization is the failure of one to maintain self-awareness. This phenomenon is described by Totawar and Nambudiri (2012) as "a feeling of watching oneself act, while having no control over a situation" (p. 65). This phenomenon may occur when an individual's actions are underappreciated or seen as less significant as the actions of others. As a result, they feel as though they are not existing in the world and lack a sense of control (Totawar & Nambudiri, 2012). Depersonalization is a reaction to chronic stress (Totawar & Nambudiri, 2012). Totawar and Nambudiri (2012) suggest, "Individuals with low personal status displayed more depersonalization than individuals with high personal status" (p. 67). In the field of education, it is not uncommon to find educators who feel that they have little decision-making power within

their school (Stirling, 2016). Teachers who suffer from burnout may find it challenging to approach their work with the intrinsic motivation and enthusiasm required to be effective in the classroom (Stirling, 2016).

**Positive motivation factors.** Canrinusa et al. (2011) identified three types of teacher profiles: unsatisfied and demotivated, motivated and affectively committed, and competence doubting. Teachers who identified with the unsatisfied and demotivated profile exhibited a low level of motivation and low job satisfaction. These teachers also showed a deficit in feelings of “responsibility to remain in teaching, satisfaction with their salary, and affective occupational commitment” (p. 7). Furthermore, teachers in this group scored average in self-efficacy. Teachers belonging to the motivated and affectively committed group were “found to have a positive position toward the indicators of teachers’ professional identity” (p. 7). These teachers showed an increase in motivation regarding their job. When compared to the unsatisfied and demotivated profile and the unsatisfied and competence doubting profile, “their affective occupational commitment, job satisfaction, and self-efficacy are the highest” (p. 7). Further, those in this profile scored average on salary satisfaction. The competence doubting identity consisted of teacher who scored the lowest in self-efficacy and the highest in salary satisfaction. The competence doubting identity group scored moderate, with little variation in their level of motivation since the beginning of their teaching careers. The study concluded that:

Professional identity is not an identity which is attributable in a similar fashion to all teachers. It is shaped through continuous interaction between person and context. How teachers perceive the result of this interaction is reflected in their change in the level of motivation, their job satisfaction, occupational commitment, and self-efficacy. (Canrinusa et al., 2011, p. 604)

Canrinusa et al. (2011) further identified the factors that contributed to teacher motivation. Working with children and adolescents, having a love for subject matter, transfer of knowledge and skills, and intrinsic career value were identified as the highest reasons for becoming a teacher for all three profiles evaluated in the study. Sinclair et al. (2006) suggested that teaching with children, worth of teaching, intellectual stimulation, and helping others are intrinsic motivators for educators. These elements work to intrinsically motivate ECE teachers by providing them with a sense of purpose. This sense of purpose is necessary to maintain emotional engagement (Burke, 2014).

**Change leaders and collective learning.** People will feel intrinsically motivated when they have accomplished something that they have never accomplished before (Fullan, 2011). The new motivation and excitement will become contagious, leading to the intrinsic desire to take on a new challenge. If a leader is successful in utilizing intrinsic motivation, he or she will be able to create a more progressive team. The change leader acts as the initial ignition, setting in motion the change processes and then learning from the actions and reactions of the group. The change leader must then develop ownership within the group (Fullan, 2011).

There are three sources of motivation: biological drive, extrinsic rewards, and intrinsic rewards. Extrinsic rewards “narrow reasons for doing something and make it unlikely that the reason for the effort is coming from inside people” (Fullan, 2011, p. 54). Intrinsically motivated workers carry with them a strong sense of purpose. They find satisfaction in getting better at something and they desire autonomy. Finally, the intrinsically motivated individual desires connections with others who share the same goals. Motion Leadership is leadership that spurs positive movement. In an environment in which the group is skeptical this type of leadership works well. This type of leader creates conditions for people to experience the pressure and

support of collective learning (Fullan, 2011). Change leaders must also develop relationships first and then seek to make changes. Change leaders must be careful and calculating in their entry into the new environment.

**Factors for motivation and early childhood educators.** Odoom, Opoku, and Ntiakoh-Ayipah (2016) conducted a field study on which factors led to individuals choosing early childhood education as their career. The study found job security to be the primary motivator for teachers, followed by career development opportunities, and a desire to work with children (Odoom et al., 2016). The study also found good working conditions, personal interest in the growth of children, and favorable physical working facilities to be motivators for entering early childhood education (Odoom et al., 2016). Odoom et al. (2016) suggest that

although a number of motivational factors influenced ECCE teachers' performance, wage/salary was observed to have the greatest relative predictive influence on teacher performance, followed by opportunity for career development, with good leadership style as the least determinant of teachers' job performance. (p. 263)

The study found a positive correlation between teacher overall job performance and sense of motivation (Odoom et al., 2016). On average, preschool and pre-K teachers earned 40% less than kindergarten teachers earned in 2013 (Whitebook, Phillips, & Howes, 2014). Low wages often result in higher staff turnover. This will adversely affect the development of the students (Torguati et al., 2007). Between 1997 and 2013, the number of early childcare educators increased by 1% (Whitebook et al., 2014). This increase is less than the increase experienced by individuals working in the fast-food industry (Whitebook et al., 2014). Those pursuing early childhood education reported low wages, hours of work, and the length of the work year as disadvantages for entering the early childhood education profession.



Manlove and Guzell (1997) suggested that “the extremely low wages in childcare impact quality primarily by preventing qualified and committed individuals from considering childcare work in the first place” (p. 148). Ten years later, Torguati et al. (2007) conducted a stratified random sampling study of early childhood educators in the United States. The study sought to understand the factors that led teachers to stay in the profession. The study found that when testing early childhood educators with students from infant to preschool, those with a Child Development Association (CDA) certification are more likely to demonstrate global observed quality. The study also determined that the years of education and course work in child development was a predictor of compensation. The study found that with infant through preschool teachers, compensation was a predictor of observed quality. When the groups of teachers were tested separately, the results were different. Teacher compensation can be predicted based on years of education and child-development coursework. However, neither education nor compensation predicted observed quality. With preschool teachers, holding a CDA and years of education were a predictor of observed quality. However, observed quality could not be predicted based on compensation.

**Gamification as a motivational tool for employees.** Gamification is defined as the use of “game design elements in non-game contexts—not extending and using game-based technologies and just for the sake of play” (Rinc, 2014, p. 999). When gamification was first introduced, companies overanticipated the potential of gamification (Burke, 2014). Therefore, it is vital to first have a clear understanding of what gamification is and is not. Gamification applies gaming concepts such as purpose, mastery, autonomy, player progression, and social interaction to improve individual motivation (Chou, 2015). It is important to note that gamification has three foci: employee focus, customer focus, and community-of-interest focus

(Burke, 2014). As this study discusses the application of gamification to increase teacher motivation, it will deal with the employee focus of gamification. The idea of employee focus emphasizes the gamified solutions “deployed within organizations to engage and motivate either the entire employee base—or a subset of the employee base” (p. 36). Burke (2014) emphasizes that “the majority of American workers are not engaged or, worse, they are actively disengaged—engagement is not one-dimensional, and it is important to distinguish between emotional engagement and transactional engagement” (p. 16). An organization may benefit from developing an infrastructure so that employees are retained, developed, and utilized to their maximum capability. This in turn allows the company to remain competitive (Omotayo, 2015).

Emotional engagement is motivated by the individual’s willingness to exude greater effort than expected to fulfill the goals of the organization (Burke, 2014). This results in a fulfillment of a psychological contract. Transactional engagement is the individual’s lack of desire to work beyond the minimum expectations of the employer or coworkers (Burke, 2014). Burke (2014) suggests:

These engagement dimensions are not mutually exclusive but rather combinatorial. The problem is that organizations often rely primarily on transactional engagement strategies in their interactions. We need to shift our focus to emotional engagement if we want to truly motivate people. (p. 17)

There exist two dominant forms of motivation: intrinsic and extrinsic motivation (Deci, Koestner, & Ryan, 1999). To engage workers on an emotional level, organizations benefit from understanding that extrinsic and intrinsic rewards are necessary to maintain emotional engagement (Burke, 2014).

Pink (2009) concludes that there are three essential elements of intrinsic motivation: autonomy, mastery, and purpose. Autonomy refers to one's desire to control one's own life (Burke, 2014). A gamified solution provides employees with tools for designing their own experiences. Autonomy allows for the development of skill and the mastery of concepts in a manner specific to each individual (Burke, 2014). Mastery is the individual's personal desire to develop and ultimately become the authority on something that matters to them (Burke, 2014). Individuals who exhibit mastery of specific concepts or systems develop a sense of competency (Burke, 2014). Burke (2014) asserts that "gamification provides the positive feedback and easy on-boarding that can motivate people to start performing better in a chosen area—mastery is not an attainable goal; it is a journey" (p. 20). Purpose is the desire to work for the benefit of a greater cause (Burke, 2014). Gamification focuses on three objectives: developing skills, driving innovations, and changing behaviors, all of which seek to enable individuals to change behaviors in an effort to reach meaningful objectives (Burke, 2014). According to Richter, Raban, and Rafaeli (2015), gamification combines extrinsic and intrinsic motivation; using rewards such as points, badges, or levels to leverage and improve engagement all the while striving to increase feelings of mastery, autonomy, and sense of belonging. While gamification embraces both intrinsic and extrinsic motivators, the intrinsic motivators work to create sustainable engagement (Burke, 2014).

***Gamification software.*** Gamification software provides an interface for workers to capture and share knowledge, while rewarding workers for their contribution and helping them to reach their personal goals. While gamification shows potential to increase motivation, it is important to note that it must be implemented correctly for organizations and individuals to gain the benefits of the technology (Burke, 2014). With the increase of communication technology

integration into the operation fabric of schools, teachers must adopt new organizational communication techniques. However, “bad collaboration is worse than no collaboration” (Fullan, 2011, p. 90). An overload of meetings with little to no progress can cripple an organization and weaken worker morale. Therefore, communication must be clear and consistent.

Burke (2014) notes that “many still view gamification as a glorified loyalty program” (p. 23). Burke (2014) described three primary causes of gamification failure. The first is when the desired outcomes for the organization are defined clearly. The second cause for the failure of gamification is when the organization’s goals are not aligned with the goals of the employees. The final cause for failure is that the gamified solutions do not engage the individual on an emotional level, but rather on the transactional level (Burke, 2014). Therefore, an organization must foster a balanced professional environment that caters to both emotional and transactional engagement.

Organizational success is significantly impacted by workplace culture and people. Rinc (2014) asserts:

We can extend one thought that games and gamification in entrepreneurship are doing two important tasks: a) they build a real entrepreneurial culture of the 21st century and b) they develop the creative potential of an individual that will become part of his professional profile. (p. 1000)

Although the primary purpose of games is entertainment, when gaming concepts are applied to various non-gaming fields it may be used to enhance workplace culture and efficiency (Richter et al., 2015, p. 22). Richter et al. (2015) found that gamification tries to harness the motivational power of games so that participation, persistence, and achievements of employees can be

recognized. A gamified work environment provides tools by which workers are given a sense of freedom to be creative and communicate their ideas (Richter et al., 2015). This creates an environment that values autonomy, a key factor in maintaining individual motivation (Burke, 2014).

***Phases of gamification.*** Chou (2015) identified four phases of gamifications. In the first phase of gamification users experience Discovery. Discovery occurs when users first become aware of the technology. Marketing and social influences contributes to the user's initial exposure to the gamified technology. This initial exposure may foster a sense of curiosity in users. At this stage users may not have an adequate level of motivation to use the technology. The second phase of gamifications—onboarding—is when the users learn how to interact with the program. During this phase the users may experience a sense of development and accomplishment as they embark on their journey, interacting with the user interface and experiencing player progression. To avoid confusion in learning the rules of the gamified technology, developers may maintain user engagement by incorporating well-paced tutorials at the early stages of the onboarding phase. By employing an interactive step-by-step tutorial, users may experience how the game is played, as well as how it feels to complete a task using the program (Chou, 2015).

To encourage users to continue engaging with the technology they must experience phase three of gamification: scaffolding. Scaffolding gives purpose for continual use of the program through a rewards system. During this phase, successful gamified technology will provide users with an opportunity to utilize their creativity and strategic thinking skills. In providing users with flexibility, they foster a sense of autonomy (Chou, 2015). Users who master the mechanics and rules of the game may then experience the fourth phase of gamification: endgame. Endgame

is experienced when the users have reached the highest level of engagement. At this stage they will transition to a new level of gameplay. This new level features challenging gaming mechanics to master (Chou, 2015). This process creates a positive feedback loop, where players will continue using the program to reap rewards, learn new skills and achieve their goals.

### **Review of Methodological Issues**

Research is crucial for facilitating change within our culture and driving innovations. Pandey and Pandey (2015) suggest, “new products, new facts, new concepts, and new ways of doing things are being found due to ever-increasing significant research in the physical, the biological, the social, and the psychological fields” (p. 7). Research functions to answer questions via the use of scientific procedure. Depending on the nature of the study, there are various ways in which a researcher may approach conducting the research. The methodology used to conduct research is the process by which data is collected (Pandey & Pandey, 2015). This section will review the methodologies used in the studies conducted on ECE teacher motivation and gamification.

**Quantitative methodologies.** Viseu, de Jesus, and Rus (2016) noted an increase of quantitative studies on teacher motivation as it related to organizational culture between January 1990 and September 2014. Most of these studies used self-report questionnaires to evaluate variables and create a clear picture of an individual’s work environment. Carrinusa et al. (2011) conducted a quantitative study on teacher motivation using a method that provided limited flexibility within their profiles and email system. In addition to surveys, interviewing a larger group of teachers in person may provide a higher rate of participation. Gamification could benefit from case studies using participants from various fields to test its effectiveness.

**Qualitative methodologies.** Many studies conducted on gamification were qualitative. This is due to the nature of gamification as a motivational tool and researchers sought to understand how gamified applications affected individuals. As a result, case studies were used to illustrate the effects of gamified technology and processes on individuals within the group. Studies revealed gamification to be an effective tool to increase motivation; however, further studies in gamification were recommended. Qualitative studies on motivation often seek to expose and provide possible solutions for the problem. Creswell (2013) notes, “the issues facing these marginalized groups are of paramount importance to study, issues such as oppression, domination, suppression, alienation, and hegemony” (p. 26). Collectively, studies on teacher motivation brought to light the physical and psychosocial implications workplace culture and organizational leadership can have on a teacher’s sense of self-worth and their level of stress.

**Phenomenological studies.** Upon reviewing literature on ECE teacher motivation, early childhood educators, and gamification, a transcendental phenomenological research methodology was determined to be ideal for answering the research questions presented for this study. Data for phenomenological research derives from groups or individuals who experienced a singular phenomenon (Sozer, 2013). Ingiaino’s (2012) phenomenological study on teacher motivation as it related to teacher training in Tanzania, stressed the effectiveness of this methodology in exposing the individual experiences of teachers. Sadovnikova, Sergeeva, & Suraeva (2016) conducted a phenomenological study on professional identity crisis that was experienced by teachers. The researcher discussed how the use of phenomenological analysis allowed for the uncovering of professional crisis’s that were experienced by the educators. The methodology allowed for the researcher to develop a textural-structural description of the individuals shared experiences.

For this study the researcher used a transcendental phenomenological methodology. The study used interviews, journals, questionnaires, and artifacts to collect data on the teachers' shared experiences. The transcendental phenomenological research methodology assisted the researcher in understanding how early childhood educators understood and experience the gamified systems used within their school.

### **Synthesis of Research Findings**

The researcher identified four themes that emerged during the literature review: the impact of workplace culture on teacher motivation, the physical and emotional effects of consistent exposure to workplace stress, motivation for early childhood educators, and the solutions gamification provides to increase worker motivation. Teaching is under the category of helping professions (Wrobel, 2013). Therefore, teaching is considered a mission rather than a typical occupation. As a result, teachers are expected by stakeholders to be helpful, understanding, and kind (Wrobel, 2013). Wrobel (2013) asserts, "The necessity of maintaining this image may strongly predispose teachers to emotional labor, and consequently, lead to psychological costs" (p. 582). Wrobel's (2013) study on the links between empathy, emotional exhaustion, and emotional labor concluded "that deep acting and negative mood induction mediate the relationship between empathy and emotional exhaustion in teachers" (p. 581). Teachers may benefit from learning how to manage their emotional impulses and learn how to disallow negative emotions from embedding themselves into the psyche (Wrobel, 2013). This will be especially helpful when confronting students exhibiting problematic behaviors (Wrobel, 2013).



Changing behaviors and breaking the habits that allow one to fall victim to emotional exhaustion and stress may be a reasonable suggestion. Burke (2014) discussed how gamification may be used to change behaviors. According to Burke (2014):

There are many different approaches to making new habits, but at a high level there are some common characteristics: set goals, use triggers, take baby steps, find kindred spirits, enlist support from friends, build complexity over time, repeat until new habits are formed, [and] keep it fresh. (p. 53)

Gamification motivates workers by providing tools that manage and build reputation, performance, quality, quantity, time, completion, and meaning. This system of rewards for contribution is believed to provide workers with a sense of purpose (Richardson & Watt, 2006). According to Paharia (2013), the gamification mechanics applied to the organization provided workers with “fast feedback, transparency, goals, badges, onboarding, competition, collaboration, community, points” (pp. 162–163). While the business goal of the organization was to increase worker performance and increase the rate of training, the conceptual approach was to design an organizational culture grounded in communication and emotional engagement (Paharia, 2013). Therefore, by providing employees with a tool that allowed for the setting of individual goals, the organization saw an increase in overall performance.

### **Critique of Previous Research**

The research conducted on motivation and gamification addresses multiple facets of human behavior and cognition. The literature regarding the influence of workplace culture on teacher motivation described a dismal phenomenon that affects educators and other emotional laborers. Research in burnout, depersonalization, and work-related stress highlight the repercussions when an organization fails to reevaluate their internal structures for the betterment

of workplace culture and morale. The research also described the effects of social constructs and norms on the educator (Wrobel, 2013). These constructs created an ethos in which individuals become susceptible to recurring emotional trauma and abuse. This abuse may result in a decline in one's psychological and emotional stability. Stirling (2016) identified three examples of such mental and emotional instability: emotional exhaustion, depersonalization, and a sense of a lack of personal accomplishment. Early childhood educators who remain in the profession are not motivated by compensation; they are motivated by the intrinsic desire to work with children (Torguati et al., 2007). As emotional laborers, early childhood teachers may become victims to stress and burnout if the vision of the organization does not align with their personal values. It is important to note that due to low compensation, early childhood education deters individuals who hold a higher degree of education (Torguati et al., 2007).

Literature discussing gamification identified how it has the potential to reap positive results when applied carefully and purposefully by an organization (Burke, 2014). An entity seeking to use gamified systems as a tool to increase worker motivation and emotional engagement must begin by evaluating their vision and organizational goals. After reviewing the literature and the themes that have emerged, it is reasonable to suggest a need for further research on the phenomenon's teachers' experience at work and their use of gamified solutions.

## **Summary**

This literature review explored research on teacher motivation as well as the social and emotional factors that may cause teachers to lose emotional engagement. Furthermore, the review discussed the methodologies used in the studies for teacher motivation and highlighted their limitations. Research regarding teacher motivation is extensive; however, the tools used to gather data would benefit from providing subjects with flexibility. The review discussed the use

of gamification concepts in a non-gaming environment and how it may be utilized to create a work culture of rewards, autonomy, and sustainable growth. It also described the limitations of gamification and what an organization must do in order to effectively implement gamified solutions. Researchers of gamification may benefit from studies of groups working in various fields including education.

Based on this review of works of literature, which develops a unique conceptual framework using self-efficacy theory to understand motivational concepts, there is sufficient reason for thinking that an investigation examining the impact of gamification on teacher motivation would yield socially significant findings. I can, therefore, claim that the literature shows strong support for pursuing a research project to answer the following multipart research question: How do early childhood educators understand and experience gamified solutions utilized at their school and what situations or contexts influence how educators perceive gamification?

## **Chapter 3: Methodology**

### **Introduction to Methodology**

The use of gamification in education is a recent phenomenon, and little is known about teacher experience in understanding the process. As a result, this phenomenological study endeavored to understand how preschool teachers' use of gamified systems in the field of education affects teacher motivation in the early childhood educational setting. This study focused on a preschool located in a mid-Atlantic state. This private preschool served children from infancy to pre-kindergarten in addition to elementary school students participating in after-school enrichment programs. The school used four applications with the intention to motivate teachers to achieve various organizational goals. As a researcher, I embraced Moustakas's (1994) transcendental phenomenological research approach to understand the lived experiences of the participants and how they perceived gamification within their school. I then crafted a narrative to articulate the phenomenon using data collected through interviews, journals, and artifacts. Through understanding the common experiences of the participants, I gained a deeper understanding of the phenomenon (Creswell, 2013). This chapter gives a detailed description of the research design and methodology used in the study.

### **Research Questions**

A transcendental phenomenological research design was used to answer the following questions:

1. How do early childhood educators understand and experience gamified solutions utilized in their school?
2. What situations or contexts influence how educators perceive gamification?

## **Research Design: Transcendental Phenomenology**

A transcendental phenomenological research methodology is used to “describe the common meaning for several individuals of their lived experiences of a concept or a phenomenon” (Creswell, 2013, p. 76). This study required participants to answer a series of questions on their experiences of gamified applications used within their school and how these applications affect their sense of motivation and emotional engagement. Using an accurate transcription of the interviews, the researcher uncovered and coded recurring themes found within participant accounts. Upon identifying these themes, the researcher then described the phenomenon in accurate detail. This methodology was ideal as it describes how the phenomenon was experienced by the participants (Moustakas, 1994).

A transcendental phenomenology design requires a phenomenon to be studied with an open mind that is unencumbered with preconceived notions, which results in new understandings derived from the experiences (Moustakas, 1994). This phenomenological study endeavored to describe the experiences and emotional impact of gamified solutions from the perspective of the educator. This study used interviews and physical artifacts to understand the individual’s use of and perspective on gamified applications.

## **Purpose and Design of the Study**

The purpose of this phenomenological study was to understand how teachers experience gamification as a motivational tool in their workplace. The preschool used in this study utilized several gamified solutions in order to foster teacher motivation. The study analyzed recurring themes and shared experiences of the participants. It uncovered the essence of the participants’ lived experiences while engaging with the gamified solutions in their workplace. As this study used a transcendental phenomenological research design, it provided the researcher with a rich

and descriptive understanding as it relates to the research topic (Creswell, 2013). This methodology enabled the researcher to identify issues, themes, and specific situations in the study. The themes and issues were organized into a chronology and presented as a theoretical model (Creswell, 2013). The conclusion was in the form of an assertion and discussed patterns found throughout the study.

### **Research Population and Sampling Method**

For this study, a criterion sampling method was used to select participants. A criterion sampling method was ideal for this study as it required all participants to have experienced the phenomenon (Creswell, 2013). Teachers chosen for the study were full-time and part-time employees with least six months of teaching experience. Of the 20 teachers employed with the school, eight were selected to participate, as they fit the criterion. As there were no males employed at the school during the time in which this study took place, all participants were female with ages ranging between 20 and 60 years. The range of work experience for each participant varied between college students in the process of earning their degree to early childhood educators with tenure of five years or more.

### **Instrumentation**

To recruit volunteer participants for the study, a notice was posted on the teacher activity board where interested individuals were advised to speak with the researcher in person or via email to schedule a time for the first meeting. During this first meeting, the researcher discussed the documents the researcher wishes to collect, and distributed a demographic questionnaire, the interview protocol, and procedures. The researcher used four types of data collection: a questionnaire, one-on-one interviews, journals, and artifact collection.

The questionnaire served to provide the researcher with demographic information. This document included the age of the participants, level of educational experience, understanding of the gamification applications, and their perceived level of motivation prior to beginning the study. All interviews were conducted at the research site in an unused classroom. This site was a neutral location which allowed for consistency throughout the course of the interview phase and protection of the participant's identities. To prevent the cross contamination of the research site, a sign was posted on the door where the interviews were held notifying individuals that an interview was in progress. The sign also indicated the time when the interview would be concluded.

The first meeting was approximately 30 minutes in length. During this time the participants were given information on the nature of the study and received a consent form to sign. This information the participants were to receive is shown in Appendix B. The meeting allowed participants to ask questions they may have had regarding their responsibilities. Participants were given the option of maintaining a journal to document their experiences and feelings regarding their usage of gamified technology. Participants were asked to write legibly to allow for accurate analysis of the data. The study spanned seven weeks; therefore, each participant who opted to use the journals had approximately six entries. The researcher asked participants if they would be comfortable maintaining a journal for the duration of the study. All participants who agreed to participate in the study were given a folder where they placed their artifacts and a notebook to use for journaling. Participants were also given the option to include illustrations of how they feel while on the job. Finally, participants then scheduled time for the second interview. On week five, the participants chose the day in which they would like to participate in their second interview. The second interviews were scheduled to take place on

week seven and take approximately 30 to 60 minutes. Each participant was interviewed separately.

### **Data Collection**

This study used journals, interviews and artifacts to gather information from each participant. The researcher chose these data collection tools to compile information from the participants that would provide robust accounts of the ECE teachers lived experiences. The researcher used the data to create a rich description of how the teachers experienced the gamified applications as a motivational tool.

**Pilot study.** Prior to beginning the interview process, the researcher pilot tested the interview questions with a teacher from the school. Pilot testing was used to assess the clarity of the interview questions and refine the data collection process (Creswell, 2013). The teacher interviewed was not a participant in the study. The researcher emailed the teacher requesting to schedule a meeting time. The pilot interview took place in an unused classroom at the school where the interviews later took place. The researcher presented the participant with a copy of the interview questions. After reviewing the interview questions, the researcher asked the teacher for feedback regarding the questions' formatting and language, and the researcher noted any suggested changes to the interview questions. The questions were revised prior to beginning the interviews with the research participants.

**Interviews.** Creswell (2013) identified nine steps in the interviewing process. The first step is to decide on the research questions that the participants will answer during the interviews. Questions were asked in a manner that provided the interviewer with a well-rounded understanding of the information (Schmuck, 2006). In conducting this form of research, the researcher asked open-ended questions which were general and focused on uncovering the



phenomenon in the study. The second step in the interviewing process is to identify the interviewees. Creswell (2013) suggests selecting participants who may best answer the interview questions based on the chosen sampling method. For this study a criterion sampling method was chosen as it identified participants who have shared experiences of the phenomenon. The teachers chosen for this study were full-time and part-time employees who have frequently used the gamified applications provided by the school.

The third step of the semistructured interview protocol was to determine the type of interview to be conducted. For this study a one-on-one interviewing method was utilized. The fourth step was to use adequate recording procedures. The interview was recorded using a Adaptive USB microphone fitted to a laptop. Before each interview, the researcher tested the microphone to ensure it was in working condition. The researcher kept a handheld digital voice recorder available for each interview in the event of technical difficulties during the recording process.

The fifth step identified by Creswell (2013) was to design and utilize the semistructured interview protocol. The interview protocol functioned as a guide for the interviewer and consisted of subquestions to be used to encourage participants to give descriptive accounts of their experiences. The researcher also framed the questions to gain an understanding of how each participant experienced the four phases of gamification: discovery, onboarding, scaffolding, and endgame (Chou, 2015). The sixth step was to refine the interview questions through pilot testing. Pilot testing enabled the researcher to assess the level of observer bias, develop the research instruments, frame the questions, collect background information, and adapt research procedures. For this study, the pilot test was conducted at the research site and involved an employee selected by the researcher. The selected employee fit the criterion of the other

research participants in terms of time spent at the school, full-time or part-time status, and experience with the gamified applications. The pilot testing participant gave the researcher feedback on the research questions.

The seventh step of the interview process was to determine the location where the interviews would take place. The interview was conducted in the school's spare classroom as it was a quiet and familiar location. The room was free from distractions and traffic. The eighth step was to have the respondents complete a consent form. The researcher discussed the purpose of the study with each participant and reviewed the interview protocol. The interviewer gave the participants a copy of the research description and plans for the interview results. The ninth step of the interview process was to use good interview procedures. The interviewer need to remain courteous, focus on the questions, and listen to each participant. Creswell (2013) recommended the interviewer to keep notes in the event the audio recording was unsatisfactory. Therefore, the researcher made notations during each interview.

Interviewing provided the researcher with a first-hand account of experiences told directly from the source. Therefore, the researcher took an unbiased approach to gathering information. During the interviews the researcher observed the respondents for both verbal and nonverbal communication. Phenomenological interview questions were open-ended, and the experiences were an "informal, interactive process . . . aimed at invoking a comprehensive account of the person's experience of the phenomenon" (Moustakas, 1994, p. 114). Interviewing for research data is one of many forms of qualitative research that can provide an in-depth look into the experiences and viewpoints of a subject (Creswell, 2013).

**Journals.** This study gave the participants the option to write in a weekly journal, which gave the researcher an understanding of how the participant managed their instructional duties

and day-to-day tasks as teachers while using the gamified applications. The journals provided data that aided the researcher in understanding the phenomenon. The participants who choose to write in a journal wrote about their state of motivation and the factors that contributed to their current emotional state. Booklets and pens were given to each participant to use.

**Artifacts.** Artifacts are forms of data that help to describe influences that impact the environment and individuals participating in the study (Rosenthal & Rosnow, 2009). Gamification uses reward systems to foster extrinsic motivation (Burke, 2014). Artifacts collected for the study included copies of certificates or awards received, contest memos, photos of prizes, and badges. These physical documents served to assist in the understanding of the gamified systems the teachers experienced and provided the researcher with a clear picture of the teacher's perspective and the factors that impact their level of motivation.

**Member checking.** Creswell (2013) notes the sensitive nature of topics that may be discussed in a phenomenological study. This study required participants to discuss their experiences and perspectives regarding systems that are implemented by their employer. Phenomenological studies provide “descriptions of lived-through moments, experiential anecdotal accounts, remembered stories of particular experiences, narrative fragments, and fictional experiences” (Adams & Van Manen, 2008, p. 618). To ensure participants were represented accurately and ethically, member checking was used to provide a layer of accuracy and credibility to the study. During the interview stage, the researcher restated and summarized information shared by the participant to ensure information was recorded as the participant intended. Upon the completion of the study the researcher shared findings with the participants by giving each a physical copy of the research summary. The participants shared their thoughts and analysis of the research conclusion and affirmed whether the research was a clear reflection

of their feelings and perspectives regarding the research topic. Participants were given the opportunity to check the credibility of the study. Each participant confirmed the accuracy of the study; therefore, the research has been considered credible.

### **Identification of Attributes**

This transcendental phenomenological study explored how early childhood educators understood and experienced gamified technology as utilized within their school. The eight participants in this study were all ECE teachers with experience using the four applications discussed in the study. The staff of this early childhood learning center were all women. Therefore, the experiences shared by participants do not include a male perspective. The participants gave detailed accounts of their shared experiences in using the gamified applications. They shared their honest perspectives of the rewards systems and mechanics of each application.

### **Data Analysis Procedures**

Data analysis refers to how the data gathered during the research phase is organized and prepared (Creswell, 2013). Moustakas's (1994) modification of the Stevick (1971), Colaizzi (1973), and Keen (1975) methods of analysis of phenomenological data were used for this study. Prior to data collection, the phenomenological researcher practiced epoché. Creswell (2013) describes epoché as when "investigators set aside their experiences, as much as possible, to take a fresh perspective toward the phenomenon under examination" (p. 80). For this study, the researcher observed the research from an objective perspective and allowed themes to emerge holistically (Creswell, 2013). The analysis method allowed the researcher to identify themes found within the transcripts. These themes were then used to develop a detailed description of the phenomenon.

First, the researcher obtained a complete description of the phenomenon from the participants during the interview phase. The interview was then transcribed verbatim by the researcher. Each statement given by the participants was analyzed for its significance to the phenomenon. The researcher then used the transcripts to create a list of relevant statements, and gave all data equal weight, a process known as horizontalizing (Moustakas, 1994). A list of nonrepetitive and nonoverlapping statements was also recorded. The researcher then clustered invariant meaning units under thematic headings using a table to organize the data. The invariant meaning units and themes were then synthesized into a detailed, exhaustive description of the phenomenon. The researcher reflected on the data gathered from each participant and built a textural-structural description of the essence of the participant's experiences (Moustakas, 1994). The researcher reviewed the findings with each participant and included her feedback in the final research description. The data collected was stored as digital files on a password protected computer where they may be easily accessible to the researcher.

**Coding.** Each interview was recorded using a MacBook Pro fitted with a microphone. The researcher also used a handheld digital recorder in the event the microphone failed to function during the interviews. Upon completing the interview phase of data collection, the researcher transcribed each interview using Microsoft Office Word processing software. The researcher then created a table to organize repetitive words and phrases that appeared in the transcribed statements. Coding aided in the process of organizing and making sense of the data. A code in qualitative inquiry is a word or short phrase that figuratively allocates a summative attribute for a portion of language-based or visual data (Schmuck, 2006). When paired with the data-collecting process of interviewing, coding can reveal language patterns that can then be analyzed (Schmuck, 2006). In-vivo codes were used to identify recurring themes found within

the transcripts. In-vivo codes are the words used by the participants (Creswell, 2013). The researcher searched for themes that were new and surprising and identified information that was found to be conceptually relevant and unusual (Creswell, 2013). The researcher used thematic coding to find well-developed themes within the transcriptions, and developed suppositions based on the patterns formed by the codes (Creswell, 2013). This process allowed for the clustering of themes to emerge from the data. Theme refers to words and phrases which appeared often throughout the transcripts. These themes formed the basis of the researcher's in-depth description of the phenomenon.

**Textural–structural synthesis.** The textural description focuses on identifying and describing the phenomenon (Moustakas, 1994). This study uses Moustakas's modified Stevick-Colaizzi-Keen method for data analysis. First, the researcher practiced the process epoché (also known as bracketing) to remove personal influences (Creswell, 2013). The researcher described each participant's own personal experiences and perspectives of the phenomenon through reflective journals and field notes. This brought awareness to the researchers' feelings regarding the research topic (Creswell, 2013). The researcher then utilized transcendental phenomenological reduction, considering the phenomenon with an open mind. The researcher identified units of meaning and listed nonrepetitive and nonoverlapping statements that are of significance (Creswell, 2013). During this step each statement was treated with equal importance, then the statements were grouped into larger, overarching themes.

A textural description explains what the participants have experienced as it pertains to the phenomenon. The transcripts were used to ensure accuracy in the researcher's interpretation of the participant's perspectives. The researcher created a structural description or an explanation of how the experience took place, then synthesized the textural and structural descriptions to

describe the essence of the phenomenon (Creswell, 2013). The researcher then repeated this process for each participant, finally creating a complete description of the phenomenon using data from the interview, journals, and the artifacts collected by the participants.

**Triangulation of data.** Schwandt (2007) describes triangulation as “a means of checking the integrity of the inferences one draws. It can involve the use of multiple data sources, multiple investigators, multiple theoretical perspectives, and/or multiple methods” (p. 298). This study protocol first had participants complete a series of journal entries documenting their feelings and experiences with gamified solutions over a six-week period. Participants also gathered artifacts including any rewards they may have received for using the gamified applications. The participants were interviewed by the researcher and asked to give detailed descriptions of their experiences and feelings regarding the effects these applications had on their sense of motivation and emotional engagement. During the interview process the researcher used member checking to ensure that the participants understood each question and that their thoughts were recorded accurately. During the data analysis stage of the research, the researcher collaborated with the dissertation supervisor to be sure the transcribed data was coded accurately and clearly. At the completion of the study, the researcher used member checking by giving each participant a copy of the research and allowing them to review the information and give a critical analysis. The participants affirmed the accuracy of the research; therefore, the research has been considered credible and complete.

### **Limitations of the Research Design**

This research design contains several limitations that must be addressed. First, it may be challenging to ensure pure bracketing in a transcendental phenomenological study, and the researcher must practice epoché (Creswell, 2013). The researcher made all attempts to not

integrate her own experiences with the gamification applications, nor her understanding of the gamified solutions into the data collection phase. This would have interfered with the synthesis and analysis of data. The research data was grounded in the lived experiences of the participants, helping ensure that the researcher's own perspective remained separate from the themes derived from the data collected from the participants. The participants' ability to communicate their experiences may affect the level of data collected during the interview process; therefore, the participants chosen for the study were those who felt comfortable with the interviewing process and were able to share their experiences clearly. If participants were not comfortable with this process, data may not show an accurate description of the individual's perspective.

### **Validation**

To ensure trustworthiness and credibility the researcher transcribed the interviews verbatim. In-vivo codes were used so the participants' exact words were utilized to identify recurring themes present in the transcripts (Creswell, 2013). Member checking was utilized to ensure credibility. Participants were each given the opportunity to review the research to confirm that their ideas were represented accurately and clearly.

**Credibility.** To ensure accuracy and credibility, the interviews were transcribed verbatim and the general structural description was presented to each participant for review. The level of dependability of the study is contingent upon the degree to which the structural description reflects the data collected from the participants (Creswell, 2013). The researcher refrained from influencing the participant's description of their lived experiences. This may have rendered the data inaccurate as it would not be a true reflection of the participant's feelings and thoughts (Creswell, 2013). The transcripts were also written verbatim, allowing for themes



to emerge without discrepancies. This ensured consistency between the interviews, transcripts, and the general structural description (Creswell, 2013).

**Dependability.** This study sought to gain an understanding of the effectiveness of gamification in the educational setting by understanding gamified solutions from the perspective of the early childhood educator. Creswell (2013) identified the criteria by which to judge the quality of a phenomenological study. In a phenomenological study, the structural description will accurately portray the themes found within the data that has been collected. For this study the researcher refrained from influencing and misrepresenting the experiences described by the participants.

### **Expected Findings**

Prior to completing this study, I expected the data to reveal that workers were unaware of the purpose gamification serves in their workplace, and that gamified solutions employed by the school would have been viewed by participants as tedious tasks. Additionally, I expected that the gamification elements may have been perceived by participants as adding to their workload, rather than creating a sense of emotional engagement and motivation. I also expected that while teachers may view most gamified solutions as tedious, the gamified solutions that require the teachers to expend the least amount of effort may be viewed positively. Rewards given for tasks such as completing lesson plans or attending meetings would have been viewed as a motivator. Furthermore, it would become apparent that the participants do not feel that the gamified systems align with their personal or professional goals. These assumptions regarding the findings of the study were influenced by the researcher's position as an educator. Therefore, to maintaining the integrity of the study, the researcher suspended all preconceived notions regarding the participants and perceptions of gamification.

## **Ethical Issues**

Ethical issues may arise during any stage of the research process (Creswell, 2013). To eliminate risk, the researcher received approval from the university review board prior to beginning the data collection process. Participants were reassured before and at the conclusion of the interviews that the data collected would not be used by their employer as an assessment tool and that their identity would remain confidential. The participants were given a consent form during the initial meeting prior to beginning the study. The researcher also used member checking to ensure credibility and accuracy of the reported findings.

**Conflict of interest assessment.** The participants of this study were professional colleagues of the researcher; therefore, it was possible that participants' response to some interview questions may have needed to be adjusted based on preconceived notions regarding the intent of the questioning; however, all interviews and interview questions went smoothly and without accommodation. Further, although participants were reassured that their responses would not be used for any purpose other than to conduct research, they may have felt uncomfortable in giving sensitive information. Therefore, there was a risk that participants would give answers that were more agreeable than honest. Neither participants nor researcher stood to gain any financial benefit from participating in or conducting this study. Participation in the study was voluntary and did not result in monetary gains to the participants or researcher.

**Researcher's position.** This study served to examine the underlying cognitive, emotional, and volitional processes that determine a teacher's ability to adopt new technology. The researcher was an early childhood educator as the time this study took place. She utilized each of the gamified applications explored in the study. While the researcher may have preferred using some applications, she focused on the responses and experiences of the participants. Upon

researching literature on the use of gamified applications, the researcher found that the success of gamification hinged upon the level to which the individuals throughout an organization embraced the technology. The researcher acknowledged that if the gamified solutions used did not align with the personal or professional goals of the users, it may be challenging for gamification to reap the intended results. To understand how teachers experienced the technology, the research needed to gain an understanding of the individual perceptions of each participant. The researcher hoped to uncover the shared experiences of the ECE teachers and how they perceived the technology.

**Ethical issues in the study.** The researcher was required to obtain Concordia University–Portland Institutional Review Board (IRB) approval prior to starting the study. The researcher submitted a detailed proposal outlining the study and ensuring that ethical precautions were taken to uphold IRB standards. The researcher defended her research proposal to her committee and made any necessary corrections to her study before the data collection phase. Permission was also obtained from the participants' school's director prior to data collection. Consent forms were given to the participants along with the research description. The researcher reported research findings honestly and discussed with the participants the purpose of the study. The researcher also practiced epoché, or the bracketing out of one's own lived experiences prior to beginning the study (Creswell, 2013). This allowed for a fresh perspective to emerge, unencumbered by the researcher's own personal narrative and experiences. Finally, the researcher included a description of her own experience of the phenomenon separate from the general structural description.

Data collected during this study was stored on a firewall and password-protected computer. The researcher was the only individual to have access to the data. Each participant's

file was identified using a pseudonym. All journals and artifacts remained confidential and stored in a lockbox. The researcher was the only individual with a key to this lockbox. All data remained on the hard drive and in the lockbox for a total of three years before being destroyed by the researcher, however the audio recordings were deleted immediately after transcription.

**Transferability of data.** This study used the first-hand accounts from eight teachers employed at a preschool in a mid-Atlantic state. The researcher provided a rich and thick description of the themes that emerged from the data collected (Ryle, 2002). The data was gathered from transcripts copied from the audio recordings verbatim. The interviews were semistructured using open-ended questions, allowing for the participants to provide a detailed description of their lived experiences. The researcher reflected on the data throughout the research process and made connections to the social and cultural contexts omnipresent throughout the data collection process.

## **Summary**

This chapter described the research methodology that was used in this study. Using a transcendental phenomenological research design, this study answered the following research questions: How do early childhood educators understand and experience gamified solutions utilized in their school? What situations or contexts influence how educators perceive gamification? This chapter identified the population to be studied and the sampling method. The data collection procedures, instrumentation, and data analysis procedures were also reviewed, providing a rationale for the research design. The chapter also provided the limitations of the research design, including the researcher's statement, dependability, ethical issues, transferability of data, and expected findings. Using a transcendental phenomenological methodology, the researcher allowed for the individual experiences of the participants to emerge.

This may enable other researchers seeking to replicate the study and allow for further research in gamification as a motivational tool for educators. Chapter 4 will consist of data analysis and the research results. This section will also include a description of the sample, a description of the interviews, questions asked, and the emerged themes, and will conclude with a presentation of the research results.

## **Chapter 4: Data Analysis and Results**

### **Introduction to Data Analysis and Results**

This transcendental phenomenological study sought to examine how early childhood educators experienced gamified technology utilized by their program. The study explored the effects of this technology on early childhood educators' motivation and emotional engagement. Using questionnaires, journals, artifacts, and interviews, the researcher endeavored to ascertain a thorough understanding of the perspectives of early childhood teachers as they navigate the challenges of working with young children with the aid of gamified technology. After completing the review of literature concerning gamification (Burke, 2014; Chou, 2015; Omotayo, 2015; Richter et al., 2015; Rinc, 2014), early childhood teacher motivation (Manlove & Guzell, 1997; Odoom et al., 2016; Torguati et al., 2007; Whitebook et al., 2014), and teacher burnout (Lazányi, 2011; Maslach & Goldberg, 1998; Pyżalski, 2008; Stirling, 2016; Totawar & Nambudiri, 2012; Wrobel, 2013), the researcher found a limited body of research on the use of gamified technology in Early Childhood Education (ECE) environments. As a result, this study explored the intersection between the perceived occupational norm of early childhood educators and technology utilized within their program.

Wrobel (2013) described teachers as emotional laborers. Emotional laborers must abide by the norms of the organization. Teachers are often vulnerable to burnout and stress-related physiological challenges which may inhibit their ability to maintain emotional engagement and motivation with their students and profession (Stirling, 2016). Emotional engagement is defined as an individual's willingness to exert greater effort than expected to fulfill the goals of the organization (Burke, 2014). Gamification is often presented as a motivational tool that enables workers to maintain that emotional engagement using gamified elements such as purpose,

mastery, autonomy, player progression and social interaction (Chou, 2015). To study the effects of these gamified solutions in the ECE setting, the researcher posed the following questions:

1. How do early childhood educators understand and experience gamified solutions utilized in their school?
2. What situations or contexts influence how educators perceive gamification?

To answer the research questions, the researcher designed the semistructured interview questions to investigate and understand how participants experienced each of the four phases of gamification: discovery, onboarding, scaffolding, and endgame (Chou, 2015). The discovery phase is how the users are first introduced to the technology. This could be through marketing or through conversation. Onboarding is when users learn the rules of the application. Users may complete a digital training module or experience in-person training. Scaffolding consists of player progression. As the users engage with the technology, they foster a sense of competence. Competence coupled with a rewards system may work to motivate users to continue using the application. Endgame is when veteran users' transition to a new level that requires a mastery of skills (Chou, 2015). A successfully designed and implemented gamified system is one that clearly defines desired outcomes, aligns with the goals of the workers, and is emotionally engaging (Burke, 2014). The researcher also sought to understand the participants' sense of competence in using the technology, its usefulness, and whether the applications were a source of motivation.

**Gamified applications used within the program.** During the data collection phase of this study, teachers were asked to describe their experiences using the gamified applications. The applications are Galileo, Brightwheel, the employee training application (learning management system), and the employee referral application. Table 2 provides an overview of

the gamified applications utilized by the ECE teachers and the organization’s goal each application sought to fulfill.

Table 2

*Overview of Gamified Applications Discussed*

Gamified Application	Components	Intended Purpose	Rewards for Use
Brightwheel	<ul style="list-style-type: none"> <li>· Message sharing between staff and parents</li> <li>· Video sharing</li> <li>· Updates (Food, medication, behavior, events, developmental milestones)</li> <li>· Attendance</li> </ul>	Student attendance tracking and information sharing	<ul style="list-style-type: none"> <li>· Employee recognition</li> <li>· Letter from Director and Regional Director</li> </ul>
Galileo	<ul style="list-style-type: none"> <li>· Lesson Planning and sharing</li> <li>· Assessments</li> <li>· Curriculum Development</li> </ul>	Provides curriculum and instructional tools for teachers	<ul style="list-style-type: none"> <li>· Monthly gifts</li> <li>· Annual gifts</li> <li>· Sapphire Club (Teacher receives certificate and T-shirt)</li> </ul>
Employee Training Application (Learning Management System)	<ul style="list-style-type: none"> <li>· Standard of Practice training</li> <li>· Safety training</li> <li>· Behavioral management training</li> <li>· Child Development Associate training</li> </ul>	Provides teachers with monthly training on various work-related topics and certifications	<ul style="list-style-type: none"> <li>· Certificates of completion</li> <li>· College credits</li> <li>· CDA certificate</li> </ul>
Employee Referral Program	<ul style="list-style-type: none"> <li>· Posts job openings to teacher’s social media pages.</li> </ul>	Grows workforce	<ul style="list-style-type: none"> <li>· Teachers receive \$500 after 90 days after referred party is hired</li> </ul>



**Themes and subthemes identified by researcher.** Following the data collection phase of the study, the researcher identified themes and subthemes that may aid in answering the posed research questions. Table 3 shows themes and subthemes that emerged. The first theme that was identified is: Meaningful content focused on ECE educators’ goals drive emotional engagement. Two subthemes contained within this theme are: Gamified applications must align with teacher pedagogy and career plan, and Daily communication between parents and ECE teachers increases teacher motivation and emotional engagement. The second theme the researcher recognized is Inconsistent onboarding and inaccurate data reporting cause frustration of ECE educators. The two subthemes associated with this theme are: Consistency in applications and training drives teacher emotional engagement, and Gamified applications must be accessible.

Table 3

*Emerged Themes and Subthemes*

Themes	Subthemes
1. Meaningful content focused on ECE educators’ goals drives emotional engagement	<ul style="list-style-type: none"> <li>a. Gamified applications must align with teacher pedagogy and career plan</li> <li>b. Daily communication between parents and ECE teachers increases teacher motivation and emotional engagement</li> </ul>
2. Inconsistent onboarding and inaccurate data reporting cause frustration of ECE educator	<ul style="list-style-type: none"> <li>a. Consistency in applications and training drives teacher emotional engagement</li> <li>b. Gamified applications must be accessible</li> </ul>

This chapter will describe the methodology the researcher used to arrive at these themes and subthemes. The chapter will also analyze and report the data collected from early childhood teachers who regularly use gamification on the job. The analysis is divided into several sections, with the aim of providing succinct answers to the research questions. The first section will

describe the research sample including the location where the study was conducted, the age of respondents, their level of education, gender, and understanding of gamification prior to the start of the study. The second section will discuss the methodology used to conduct the study. Next, the researcher will present the data results and discuss how teachers perceive and experience the gamified technology utilized by their school. Finally, the chapter will conclude with a chapter summary.

### **Description of the Sample**

The study was conducted in an early learning center in a mid-Atlantic state. Prior to beginning the study, the researcher provided the school director with a summary of the study, which included the purpose, research questions, and methodology. The summary detailed the location where the interviews would be held and the safety measures in place to ensure participants' confidentiality. The director forwarded the research summary to the regional director and legal department prior to signing the consent form to conduct the study. The researcher also received IRB approval prior to beginning the study. Upon receiving permission to start, the researcher posted an advertisement on the teacher memo board located in the school's common area. The poster gave a description of the study and contact information for the researcher. Potential candidates were advised to email the researcher or meet with her in her classroom if they wished to participate. Eight educators contacted the researcher to express their interest to participate and were each given a full description of the study and a consent form. After signing the consent form, the candidates received a questionnaire, journal, pen, and folder. Although teachers were given the option to email the researcher, they all opted to meet with her in person and expressed their excitement in participating in the study.

Table 4

*Participant Demographics Information (Age)*

Age Range	Number of Participants
18–30	0
30–35	2
35–40	2
40–45	1
45–50	1
50+	2
Total	8

**Age of participants.** The questionnaire given to each participant served to provide the researcher with information regarding the demographics of the research population. Table 4 highlights the age ranges of the participants. Based on the participant responses, two candidates were between the ages of 30 and 35, two were between the ages of 35 and 40, one candidate was between 40 and 45, one was between 45 and 50 years of age, and one reported to be 50 or older. Of the participants, two were African American and six were White.

Table 5

*Participant Demographic Information (Years of Experience)*

Years in Early Childhood Education	Number of Participants
0–2	3
2–5	0
5–10	3
10+	2
Total	8

Table 5 displays the years of experience of each participant. All participants were female. They each noted on the questionnaire that they all used the applications discussed in the study. All participants expressed that while they each used the gamified applications, they were unaware of gamification concepts. The researcher gave each participant a description of the research and definitions of terminology used during the study.

Table 6

*Participant Demographic Information (Level of Education)*

Highest Level of Education	Number of Participants
High School/GED	2
Post High School Education	6
Total	8

**Level of education.** To protect the confidentiality of the participants each was given a pseudonym. Table 6 presents the highest level of education. Two participants' highest level of education was a high school diploma or GED. Six had obtained a post high school degree.

**Motivations for entering early childhood education.** To understand why participants chose to pursue higher education in the field of early childhood education, they were asked about their initial motivation to work with young children. Five respondents developed a passion for the job at an early age, with this passion stemming from their love for children. They loved to partake in helping children learn new concepts and develop both physically and intellectually. Four respondents expressed their desire to further their career in early childhood education. This section will discuss the motivations participants gave for entering early childhood education. The purposes given by each teacher showed an overlap in values as the participants all desired to work with young children and have a positive effect on their lives.

At the start of each interview, participants were asked to discuss their motivation in choosing to enter the early childhood education field. Nora noted that her desire to enter the field was founded by having a special needs child of her own. She took great interest helping

other younger children learn and felt the skills she learned on the job would help her to teach her son. She stated:

The reason I chose this profession was because of my son . . . he's ADHD, he's bipolar, he's the reason that I got into it. The more I tried to teach him, the more I realized that I didn't know what I needed to know to help him. So, getting into this helped me with my patience.

Emma was asked to reflect on the moment when she decided to enter the field of education and describe some of the reasons for choosing early childhood education as a profession. She replied:

I would say I'm a nurturer. I enjoy working with the younger children; that's my kind of specialty. I love to nurture and care for them. I enjoy seeing them grow. Just the delight of learning new things is very special.

Diana gave her reason for choosing early childhood education by responding:

I remember [when] I did children's church in school and I always wanted to be a schoolteacher when I was a little girl. Everyone kept telling me that I had a knack for children and helping with their development, so I decided to go back to school after that.

When Kelly was asked her motivation for entering the early childhood education field, she responded, "I chose this profession because I feel like I'm fairly gifted with children and I wanted to impact their lives for the positive [*sic*], for being productive citizens as they grow and for finding their own purpose in life." Natasha also became interested in the career as a teenager.

She answered:

I probably first wanted to become a teacher when I was probably in high school. Just because I looked up to the daycare teachers and the teachers at school when I was growing up so I kind of wanted to do something along those lines.

She discussed how the enthusiasm exhibited by the students encouraged her to approach her work with a positive attitude.

**Participant professional goals.** Respondents were asked to describe their professional goals, some of which included earning a degree, becoming a state certified teacher, and becoming a master teacher or director. Emma described her future goals stating, “I’m a lead teacher, at the moment. I would like to become, probably, a master teacher, [or] possibly director one day. I’d like to do this for a little while and see which path I’d like.” Jessica also discussed her future goals, stating, “I want to go into special education and that’s just from working here and seeing some of our kids and figuring out how their little minds work.” Jessica also discussed her desire to share her knowledge with her colleagues to help build a stronger team.

Table 7

*Participant Perceived Level of Emotional Engagement*

Participants	Level of Emotional Engagement <i>1 = No EE 10 = High EE</i>
Emma	8
Kelly	7.5
Jessica	10
Sherry	6
Amy	7.5
Diana	10

Nora	9.5
Natasha	9.5
Total	Count: 8 Sum: 68 Average: $68 / 8 = 8.5$

---

**Participant perceived level of emotional engagement.** The early childhood education program where this study took place has articulated several organizational goals in the applications used by teachers. The school desires to maintain an accurate record of student attendance, actively engage with parents and guardians, provide curriculum tools for teachers and maintain a safe environment for children. The organization also seeks to maintain state regulated student to teacher ratio by growing their workforce. Emotional engagement is an individual’s willingness to exert greater effort than expected to fulfill the goals of the organization (Burke, 2014). The analysis underlying this concept is aimed at describing the level of motivation of the employees, their motivating factors, and factors that inhibited motivation. Table 7 presents the number each participant gave herself when asked to determine her level of emotional engagement. When measured on a scale of 1 to 10 with 10 being extreme motivation to put more effort into the job and 1 being a low level of motivation, all respondents’ level of motivation is above average (5). The lowest level of motivation was 6 while the highest was 10.

When asked to rate her level of emotional engagement and motivation, Emma stated, “I’d say I’m about an eight, I definitely form a bond with my children, and I feel like I have quite a connection with them.” The researcher then asked her to describe the factors that inhibit or lower her level of emotional engagement. Emma asserted, “if I don’t feel appreciated somewhere, [it] is a demotivator.”



The researcher asked Amy to rate her level of emotional engagement and motivation. She attributed her level of motivation to her desire to help students with behavioral difficulties. She noted, “For me it’s probably more seven or an eight. [When] I notice the kids with behavior issues, I tend to get a little more invested in [them], because I think I can fix them.”

During her interview Nora gave herself a nine and a half but indicated that her mental state may inhibit her ability to maintain her focus while at work. Diana was asked the same question and she gave herself a ten. She noted that she is highly intrinsically motivated. She also suggested “positive reinforcement” as a key motivator. The researcher then inquired about the factors that Diana may find to adversely affect her sense of emotional engagement and motivation. She responded, “When I don’t get the support that I need. I feel like the gamified technology themselves provide me with support. The actual technology provides you with the support you need to do better at your job, to work harder.”

Kelly gave herself a 7.5. When asked by the researcher to describe the driving factors for her sense of motivation, she responded, “The children.”

When Natasha was asked to grade her sense of motivation, she gave herself a 9.5. The researcher asked Natasha to describe the factors that she feels have a negative impact on her level of emotional engagement, and she noted complaining from her fellow staff members. Natasha went on to explain, “I try to be positive when I talk to them and try to encourage them to think outside of their box.”

Sherry gave herself the lowest number, a six. She attributed her lower score to organizational inconsistencies and pay. When the researcher asked her to express which factors she felt most impacted her level of emotional engagement she stated, “I would say the children. The children do it for me. When they’re involved, on board, and they are participating, it just

makes me feel good. When they're actually on my team and they're with me and following along."

Jessica was also asked to rate her level of emotional engagement. She gave herself a 10 and recalled moments in which the students impacted how she viewed her job. She experienced a great sense of joy and motivation when she saw the students learning. She noted,

I love to see children learn. I love to see their little faces when they actually get it. I mean it is just like I said: You have to love your job. I just went on a field trip with school-agers. We all went on a field trip that I did not think these kids would not be interested in. It was an hour guided tour through a 100-year-old house. I was like "they're not going to be interested in this at all" but I started having a good time with them and we were talking about things. The tour guide used to be a daycare worker; she knew how long their attention spans were going to last. The kids started asking questions and the tour guides started answering them. We had to walk through this house where they couldn't touch anything and some of the kids are hands-on; however, they didn't touch anything. They just asked questions.

When she was asked to explain the factors that she felt had a negative impact on her emotional engagement, she stated,

My parents. Sometimes we have parents that don't get on board with the way we're teaching. I tell my parents that their kids may come home with paint on them or glitter on them. They may have a cut in their shirt; I mean it's what we do here. It's how we learn. It's we're hands-on and sometimes parents get very upset about what we're doing.

The high level of motivation was mainly due to the teachers' love and passion they had for children. Many attributed seeing the children grow and develop as their goal each day. Their

level of motivation also increased whenever a student was found to be lagging developmentally, usually increasing their efforts to help the child in need. The teachers also discussed how they felt highly motivated and enthusiastic when the children were in sync with the lesson plan and developmental strategies. Three respondents were motivated by incentives that helped them to obtain their degree or certification. In all, participants described having a lack of support, lack of appreciation from parents and management, and the questioning of their competency as negative factors.

### **Research Methodology and Analysis**

The researcher used a transcendental phenomenological methodology to gain an understanding of how early childhood educators perceived and experienced gamified technology. The study used questionnaires, journals, artifacts, and interviews to compile data. The research achieved saturation as there was an overlap in concepts and shared experience from participant accounts. Interviews were transcribed and analyzed for recurring words and phrases, which were input to an Excel spreadsheet. The coded data revealed commonalities between the participants' perceptions of the gamified technology and the factors that impacted their sense of motivation and emotional engagement. The artifacts and journals were also analyzed for recurring themes.

**Questionnaires.** Participants received a questionnaire at the start of the study. The questionnaire functioned to compile demographic information on each participant. It compiled data on the participant's age, gender, ethnicity, highest level of education, previous knowledge of gamification concepts, teaching experience, and employment status. The respondents were also asked if they were comfortable utilizing the technology and their level of competency. Respondents were asked to describe a moment when they felt most satisfied and dissatisfied with their job. Table 8 shows the most satisfying experience reported by the early childhood teachers.

Two respondents noted that acknowledgment from parents provided them with satisfaction. Six respondents wrote student engagement as a factor that contributed to their sense of job satisfaction. Table 9 shows the experiences the participants reported as least satisfying. Two respondents gave multiple answers. Three respondents described losing their sense of autonomy as a factor. One respondent attributed her dissatisfaction with a lack of teamwork on the part of fellow teachers. Four identified poor management and one respondent noted the mistreatment of children and a lack of planning time as key dissatisfiers.

Table 8

*Reported Most Satisfying Experience While Teaching*

Most Satisfying Experience While Teaching	Number of Respondents
Parent Acknowledgment	2
Children Engagement	6

Table 9

*Reported Least Satisfying Experience While Teaching*

Least Satisfying Experience While Teaching	Number of Respondents
Loss of autonomy	3
Lack of teamwork	1
Poor management	4
Observed mistreatment of children	1
Lack of planning time	1

**Journals.** Participants were given the option of completing weekly journal entries during the six-week data collection phase of the study. Of the six participants, only two participants completed journals. These two participants presented their journals to the researcher during their

interviews. Both of these participants provided the researcher with a weekly account regarding their use of the gamified technology.

*Jessica's journal.* The participant described her satisfaction with the employee training application during week one. She was completing her training for the master teacher program and was excited to impart her knowledge to her fellow teachers. During the second week she underwent a training that addressed changes to the school's safety procedures. Furthermore, she completed a quiz on school safety and received a certificate of completion through the application. On week three she was on vacation; however, she was able to utilize the Brightwheel application on her smartphone. Using this application, she was able to remain informed of her student's activity and parent engagement. Week four consisted of continued usage of the training application. She learned how to create intentional lesson plans that engaged multiple learning styles. The participant noted the application provided her with an understanding of lesson planning that she could then share with her colleagues. On week five she described her use of the Brightwheel application. She noted, "this week I used the Brightwheel application to get updates on picture day. I was able to communicate with our parents on some of our lesson plans." The participant did not provide a journal entry for week six.

*Kelly's journal.* Participant two gave her thoughts on the technology used within the school and how she felt the applications impacted her sense of motivation. Her week one entry began with her overall thoughts of the applications as she asserted, "I feel our gamified technology, overall, is very beneficial to staff and families!" She felt the technology provided a better quality of information sharing to parents and teachers daily. On week two she described challenges she experienced updating parents daily. While she saw the value in using the

Brightwheel application to communicate with parents, during eventful days she struggles to consistently provide parents with updates in a timely manner. She concluded her entry by noting the value in using the application, stating, “It would be so much harder to handwrite all of the information.” On week three she discussed the safety training she completed using the employee training application. She believed the application is helpful as it allowed users to complete learning modules at their own pace.

The participant described her experience when the Brightwheel application failed to work for several hours during the week. She believed the staff had become dependent on the application to communicate with parents. The participant described week four as productive, due to low student attendance. During this week she was able to take a more creative approach when using the Brightwheel application. She provided parents with videos of their children engaging during activities along with detailed descriptions of lessons. During week five the participant described using the Brightwheel application on her smartphone. She described how receiving updates on her phone from parents when she is not at work helps her to prepare upcoming lessons and activities for students. On week six she received two new students. She was excited to provide these new families with photos of their children learning and interacting with new friends. The participant emphasized the positive effect in using photo updates when engaging with the parents of new students. New parents have expressed their appreciation for such clear indicators of their children socializing and engaging in activities.

**Artifacts.** The participants were also given the option to collect and provide the researcher with artifacts pertaining to the gamified applications. The artifacts may include certificates of completion, photos of rewards, points, badges, or letters of achievement. Three participants provided the researcher with artifacts. The researcher received four certificates

granted to participants from the employee training application. The certificates each indicated the number of professional development hours accrued by the teacher and the dates of completion. These professional development hours are used by teachers to retain their teaching license. The researcher was provided an artifact from a teacher who consistently utilized the Galileo application. The letter was signed by the Chief Academic Officer of the company managing the school, and it praised the participant for using the application and indicated the teacher was in the top tier of teachers using the application. This letter notified the teacher of her acceptance to the Sapphire Club. As a member of the Sapphire Club, the teacher received monthly gifts from the company. These gifts included office supplies, scented candles, jewelry, and other items used for relaxation. The final artifact provided by participants were photographs and updates they have sent parents through the Brightwheel application.

**Interviews.** The interviews provided the researcher with the primary data for this study. During week five of the data collection phase the researcher met with each teacher and scheduled a time during week six to complete the interviews. Prior to conducting the interviews, the researcher led a pilot interview with a fellow teacher. The pilot interview aided in the restructuring of the interview questions to ensure they were clear and allowed for the participants to give rich responses that would help answer the research questions. The interviews took place individually in an empty classroom. The window of the classroom door was covered by the researcher to provide confidentiality. The interviews were to all be recorded using a laptop; however, due to technical problems, several interviews were recorded using a handheld digital voice recorder. The technical issues were discovered by the researcher prior to the start of the interviews, which allowed the researcher to make adequate hardware changes without interfering with the interviews.

Each interview lasted between 30 minutes to an hour and 30 minutes. Three participants brought their journals and artifacts to the interview. The researcher opened each interview by explaining the structure of the interview and assuring the participant that their identity would remain anonymous. The participants were asked 12 open-ended questions regarding their sense of motivation and emotional engagement, use of gamified technology, and career goals. Participants were also probed on their responses with follow-up questions. The researcher provided clarification to respondents if they required further explanation of concepts or questions. At the close of each interview the researcher allowed each participant to provide any additional information they felt would aid in providing the researcher with additional insight into their experiences using the gamified technology or their sense of motivation.

**Coding.** After completing the interview phase of the study, the researcher transcribed the interviews verbatim. The researcher used in vivo coding to compile words used by the participants to establish themes. Using this data, the researcher was able to describe how the ECE teachers experienced the gamified technology used in their workplace. The researcher identified units of meaning and listed nonrepetitive and nonoverlapping statements that were of importance (Creswell, 2013). The researcher treated each statement with equal importance, then grouped the statements into larger themes. The researcher repeated this process for each participant and, using Excel spreadsheet software, the researcher organized the data. Themes and subthemes emerged from patterns found within the coded data, shown in Table 10, which shows the themes, subthemes and codes that were identified by the researcher.



Table 10

*Interview Themes, Subthemes and Codes*

Themes	Subthemes	Basic coding category definition using brief in vivo data
1. Meaningful content focused on ECE educators' goals, drives, emotional engagement	a. Gamified applications must align with teacher pedagogy and career plan b. Daily communication between parents and ECE teachers increases teacher motivation and emotional engagement	Brightwheel application, Employee training application, self-explanatory, problem, previous knowledge, CDA, important, quality, credits, manageable, adequate, motivational tool, assessments, accessible, Brightwheel, easy, communicating, parents, accessibility, loved, interacting, helps, successfully, improve communication, every day, simple, not difficult, babysitting, care for children, consistency, reach more people
2. Inconsistent onboarding and inaccurate data reporting cause frustration of ECE educators	a. Consistency in applications and training drives teacher emotional engagement b. Gamified applications must be accessible	Galileo application, Employee referral application, consistency, communication, training, parents, student engagement, when the students demonstrate learning, college credits, hinders, distraction, challenging, community, difficult, doesn't work, incentives, difficult, not familiar, hardest one, needs a lot of improvement, help, lesson plans

**Summary of the Findings**

Upon completing the data collection and analysis phase of this study, the researcher identified five key findings. First, based on the participants' experiences with each application, the researcher concluded that teachers who experienced the onboarding phase of gamification maintained both motivation and emotional engagement. Next, the researcher found that applications which aligned with the participants professional goals where effective in maintaining motivation and emotional engagement. The researcher also found that rewards

systems that did not directly improve instructional practices were not effective in fostering motivation or emotional engagement. The study uncovered that applications which encouraged daily communication between teachers and parents were highly motivating. Finally, participants stressed the importance of consistency in the applications. The researcher found that consistency was a primary element to maintain teacher motivation and emotional engagement.

### **Presentation of the Data and Results**

The participants described their experiences working in an early childhood education setting that utilized gamified technology. The teachers discussed their reasons for entering the field and their expectations prior to working at the school. Each gave a detailed account of how her perceptions evolved as she interacted with the technology and the phases of gamification she experienced. Participants also discussed their level of motivation and emotional engagement and the factors that impacted their sense of competency when using the applications. This section will present the teachers' lived experiences using the technology and the themes that emerged after conducting the interviews.

**Theme 1: Meaningful content focused on ECE educators' goals drives emotional engagement.** Respondents gave overlapping descriptions on how they felt the gamified applications influenced their sense of motivation and emotional engagement. Although some applications enabled them to complete their daily tasks effectively, two respondents felt the initial training they received in using the technology was lacking. This forced them to seek aid from other teachers or practice using the applications on their own. Diana embraced the Galileo application, insisting, "it helps me throughout the day with daily tasks and activities with the children." When asked if she felt the monthly rewards were effective in fostering a motivation she responded, "Yes, because if I'm using it, it will give me the encouragement that I need to

make sure I follow the lesson plans and things that I need in that particular program, to get my reward in it.”

The training application was used once a month to learn new skills and gain thorough insight into the various policies of the organization. Three respondents, however, did not believe in the usefulness of the application. They believe participating in a monthly training program was insufficient in providing them with the skills and knowledge needed to optimally function as childhood educators. They believed the organization should have an ever-present expert who will always be available to give professional help and advice whenever the need arises. The training should be a daily activity, not once a month. However, a respondent reiterated the importance of the training, as she believes the training of all members of the organization at the same time fostered unity among employees, especially in promoting the goals and values of the organization.

Amy expressed the inconsistency in how other teachers use the employee training application. While she personally felt it was a good tool, she believed it lacked in overall effectiveness because teachers were not truly engaging with the content. She asserted,

I do like that there's a quiz that they make us do in [the employee training application] to make sure that you know what the training was and what the things are. But I do feel it's just kind of glossed over. It's very easy to be like, “yep I did it” and not remember a thing of what you did.

In addition to Amy's problem with the content, Natasha felt that the content in the employee training application was not useful. She stated, “It's just not informative to me. It just seems [to be] repetitive stuff.” Emma also described a problem she experienced with the training application. She described the training modules as too simplistic. She opined,

I think there's a problem with it because it takes me right to the quiz, has me do the quiz and I never get the content. So, I need to speak with my director about that, but luckily, I've passed the quizzes just from previous knowledge. They seem easy and self-explanatory to me. I haven't received the material; I've just passed the quizzes. I can't say that I think they would be that helpful when I can pass the quizzes even without learning the material.

Sherry agreed with Emma on the simplicity of the training modules, stating,

I've taken college courses in early childhood and just compared to it, it's almost like a watered down, five second, training multiple-choice questions or multiple-choice. I just don't think it really trains you on what you need to know, so I would say no, you could get more information from Google—it just needs to be more detailed and more in-depth.

In contrast to Emma and Sherry's opinions on the training modules, Kelly asserted,

I like it, I like it. I'm currently working on the CDA on there as well and I'm not a great student. . . I'm not a great computer person but I can use it, so that means it's got to be fairly manageable to use. I think we wouldn't get adequate training if we couldn't do that. With this kind of training everyone gets the exact same training so no one can have an excuse to not be on the same page. I think it's really important for the values and requirements to be set down in a manner that everyone gets the same message and I think this system is good in doing that.

The various shared experiences among the interviewees resulted in saturation of overlapping concepts. Subthemes emerged from the data.

***Subtheme a: Gamified applications must align with teacher pedagogy and career plan.***

Participants favored applications they felt aided them in developing relevant skills and enhanced

their credential. The interviewer asked Nora if she felt the rewards system in place was an effective motivator, specifically the Sapphire Club associated with the Galileo application. The Sapphire Club is a rewards program where teachers are given monthly gifts by the school administrators if their assessments are completed each month. Nora responded by stating,

I think the concept of it is good. I don't think we should be rewarded for doing our job but if you are going to, I think the gifts that they give us need to be more for our room. Don't send me a watch, don't give me a face mask . . . that's awesome and that's cool, but give me a game for my class, give me markers, give me something I can utilize with my children in my classroom. That's going give me more motivation in my class. I would rather it be something for the kids because if I want a face mask, I'm going go buy me a face mask and I don't mean it in a negative way, but this is me personally. I'm not a girly-girl, and I've noticed a lot of the stuff that they gave us were girly-girl's stuff. Don't give me that, give me something I can put in my center, give me a thing of magnets, give me something that I can utilize with my kids. I would rather have that then just a personal gift for me.

For this respondent, the reward system in place clearly did not align with her job priorities or serve as a motivational tool in teaching.

Although the merits and benefits of gamification cannot be overemphasized, respondents noted that keeping the system updated on the events of their job is an extra workload, it often leads to a reduction in the time spent with students. When asked by the interviewer if the gamified applications added to her workload, Kelly responded,

Absolutely, that is one thing that is frustrating to me. Since communication is my big thing, when I was writing stuff every day for every kid, it took so much more time. So,

writing was a very difficult thing for me to do. It's a give and take and I think that it comes out on the plus side. I think it's more licensing rules that add to our workload. It's not really the applications themselves—I think they make it quicker. The licensing things are what teachers have complained about for many years now. They barely get to teach the kids because there's so much paperwork to do. I would say this [technology] has helped, but there's still so much to do [that] doesn't make sense.

In contrast with Kelly's perception of the applications' interference with her classroom, Jessica discussed the usefulness of the employee training application in helping her obtain her CDA. She was also offered the opportunity to complete a Master Teacher program through the application. Jessica felt these opportunities aided in enhancing her credentials while rewarding her with college credits. When asked by the interviewer what prerequisites must be attained to be offered this opportunity, she responded, "You have to be here for longer than five years. They want to know that this is a long-term goal that you want and that you're striving for." She felt this was a primary motivator for desiring to give her best daily.

Participants also discussed the potential negative and positive effects of the employee referral program. A respondent noted that referring family members and friends will culminate in workplace disruption. Amy felt strongly about this stating, "No matter what I've done, even from my retail life, when you have employee referrals, do you really want to be hiring friends? Not everybody is mature enough to be able to separate their friend's life from their work life." She went on to express how she felt this practice to be often detrimental to the growth and development of the organization, as it is difficult to manage and control family members. Emma noted that she has not trained to properly use this application; however, she had received frequent social media notifications from other users of the application. Sherry was asked the

same question regarding her perspective on the employee referral program. She gave an in-depth response on her experiences with the application. She stated,

I have used it, but I have not gotten a bonus. Someone else has gotten a bonus and she referred me to this school. It was a former coworker at another center, and she did tell me that it did motivate her. So, it's good for motivation. It does motivate you; it does make you want to do better. I think it's a pretty good program and I think its kind of neat that if you refer somebody.

The responses of interviewees on employee referral is not unanimous when compared in relative to the earlier discussed gamification systems—there were divided opinions on the usefulness of the program (a section of the respondents believe it is useful while the other section believes its use is inconsequential). Some respondents have never made use of the system and those that have used the system are not confident in its usefulness.

***Subtheme b: Daily communication between parents and ECE teachers increases teacher motivation and emotional engagement.*** Brightwheel is an application used for communication and tracking student attendance. Teachers can send video, photos, and messages to parents daily using a tablet. Teachers may also download the application to their smartphones. Respondents described Brightwheel as an indispensable tool that is efficiently bridging the communication gap between teachers, parents, students, and the leadership of the organization. Using this application, teachers at the school can communicate anytime and anywhere with parents and monitor the progress of their students when absent or on holidays. Amy noted, “I think is an excellent thing for the pictures. Parents are able to see what their kids are doing daily, sometimes even hourly, and see that they’re happy. They know that what’s going on. So, Brightwheel is great!” Similarly, when Emma was asked her perspective on Brightwheel, she

stated, “the accessibility is awesome. I love it.” In addition, Sherry also indicated her enthusiasm about Brightwheel. She asserted,

Brightwheel does help because it does give me motivation. Like today! Something simple like sending a picture to like a child’s parent, having them to see what you’re actually doing that day for that lesson and having them send your message back and say “hey!” like so-and-so did this today, I see they had fun doing this assignment like and I see they’re actually learning that makes you feel good that they can you know (and) see what you’re doing.

Sherry’s enthusiasm was mirrored by Jessica, who responded,

I love Brightwheel because I love being accessible to our parents and them being accessible to us. When I went on vacation for one week, I could also still monitor it and see what was going on in my classroom and making sure the lesson plan was being done and our pictures were being sent out and stuff like that, so yes . . . it helps.

These responses around the Brightwheel application clearly point toward the importance of utilizing applications that provide meaningful content and benefits that drive engagement.

**Theme 2: Inconsistent onboarding and inaccurate data reporting causes frustration of ECE educators.** Participants who felt negatively toward applications often described challenges during the onboarding phase. A lack of initial training rendered participants frustrated with the technology. Teachers also described difficulties they experienced using the Galileo application. Participants felt the student assessment data was an inaccurate reflection of the students’ performance. When asked about her experiences using the Brightwheel application, Diana noted that she was not initially trained on the proper use of this technology. She found her lack of training to be frustrating. However, she was intrinsically motivated to seek



help from other teachers. She stated, “It was easy to understand once I was trained properly on how to use it.” Sherry had similar frustrations, noting “there was no one to say, ‘Hey this is how this works, this is how you put this in, or this is how you do an assessment for this kid.’ You just kind of have to figure it out on your own.” These difficulties experienced by respondents reflect a lack of training during the onboarding phase and not problems with the application itself.

Participants noted that Galileo has the potential to be extremely helpful, especially when preparing lesson plans, as it is equipped with the ability to give ideas to teachers on how to present new topics to students. The application provided assessment tools teachers may use to track student progress. However, respondents noted the complicated nature and they often found it difficult to use. During their first few weeks working at the school they often need experienced personnel to assist them in using the program. Furthermore, there is no mechanism to check the authenticity of the data and information presented in the application by the teacher, as there have been reports in which teachers have compromised the assessment results by inputting fabricated data simply to gain rewards. Amy was asked to discuss her experience with the Galileo application. She shared her skepticism in the accuracy of the information other teachers would input into the application. She concluded,

I think it is beneficial mainly from the aspect of keeping track of where a student is academically. If you know you have a student who is still struggling with writing or social-emotional development, you know to work with them more. I think like many programs, it tends to be about making the numbers work, whether you’re actually doing the assessments or not. Genuinely assessing the child is another story, and how do you make sure that a teacher is doing that? I could walk in and ask you, “okay, did you do your 150 assessments this month?” You may have done them and the numbers in the

system say you did them, but how do I know that you truly know that student A is [at one level] and student B is [at another]?

Nora shared Amy's frustration with the Galileo application. She used it often to assess students and plan lessons. She gave a detailed assessment of the application stating:

They try to get it to where it is specific to each child. As you know, it isn't. I have children in my classroom who can do things in pre-k, but I can't get pre-k lessons for them. If my children are reaching a developmental milestone, I should be able to assess them on it. Unfortunately, we can't.

When asked whether she felt the application gave an accurate account of the students' performance, she insisted:

It doesn't. It's only showing what I'm putting on there and we can only do as [the administrators] say. It makes it hard because I have these children that are at this level (gestures to indicate these students are underperforming), but Galileo evens out (the assessment data) for your curriculum, so differentiated activities students are actually doing in class are not going to be tracked in the assessments.

Noting a different problem, Emma was asked to describe her experience with Galileo. She had not received training on using the application, highlighting the issue of consistency during the onboarding phase of gamification. "I've been here a couple months" she confided, "and I've never even heard of that." She noted that better communication on the part of management would be appreciated.

***Subtheme a: Consistency in applications and training drives teacher emotional engagement.*** Respondents were asked about the influences that they felt contributed to their level of emotional engagement and motivation—applications that were reliable and provided

consistency-maintained teacher engagement. Participants described an aversion to applications that were challenging to use, and these received a negative reaction from participants. The Brightwheel application was praised for its accessibility and consistency by all participants. As noted in a participant's journal, teachers have come to depend on this application to complete many tasks throughout their day. The application Galileo was described by all participants as being the least consistent. This was primarily due to a lack of training and discrepancies in the tracking of student assessment data.

When discussing the importance of consistency in fostering motivation and emotional engagement Sherry stated,

I was just talking about consistency yesterday; it's really important because I have a personality where I like routine, routine is good for me. I like to do the same thing every single day. I come to work, and I need to know how my day is going to play out and I like to follow through with that. I wouldn't say that I'm not good with change or I don't like change, I can adapt to anything, but I just prefer things to be the same and be consistent.

Regarding consistency, Emma described the difficulty she faced when attempting to consistently access the employee training application. She stated, "It's kicked me off several times and I've gone through and done those trainings and then I don't get the credit for it. I did it and it wasn't saved properly." The interviewer asked Emma how this influences her perception of the application. She responded, "It's frustrating because when I'm on it and I'm trying to do the assessments that I need an assessment that I want especially when I'm passing assessments, I want to get my proper sort of certification from it." Despite Emma's issues with the employee

training application, all other respondents agreed that the application was consistent and user friendly.

***Subtheme b: Gamified applications must be accessible.*** Participants discussed the accessibility of all four applications. Participants expressed the need for maintaining consistency when working with young children. Applications that were not easily accessible and comprehensive were utilized the least by participants. The Brightwheel, employee training application, and employee referral application were lauded for their accessibility by respondents. Jessica expressed her approval of the employee referral application noting, “I think it’s very accessible. I haven’t received anything off of it but I think it’s great for this company and I think it’s a great way to get the word out.” The employee training application was praised for being accessible from the classroom tablets. Respondents noted that the Brightwheel application is easily accessible and takes little time and effort to understand. In fact, all respondent’s perspective on the accessibility and usefulness were positive. Kelly believed the Brightwheel application motivated her to establish new patterns to improve her workflow. She responded,

I do think it adds a lot more. I’m not the type of person that at lunchtime adds everything into the application all at once. That’s not the way my mind works. When I’m doing an activity I want to put it in and let them know this is the time I’m doing it so to me that’s adding to my workload but I also like it, so it motivates me to do it.

Among all the applications, Brightwheel was considered the most accessible by all respondents. Respondents found Galileo to be the least accessible. Diana was the only respondent who found this application to be accessible. The employee training application was the second most accessible application, with seven participants noting its accessibility as a benefit.

## Summary

Chapter 4 showed that the perspectives of the respondents on the gamified technology included many similarities. After completing the data collection phase of the study, the researcher identified recurring themes present in the participants' description of their experiences using the gamified technology. The information shared by participants also gave an in-depth description of why they chose early childhood education, their expectations, and the factors that influenced their level of motivation and emotional engagement. Tenured respondents using the training application as a means of bolstering their professional credentials noted an increased sense of motivation and emotional enjoyment. Respondents also noted an increase in their level of motivation when they use the Brightwheel application to communicate regularly with parents. As for the Galileo application, the lack of consistency in the rewards system and inaccuracies in the student assessments were a concern for teachers. The Employee Referral application was utilized the least by respondents, many noting the lack in interest from their social media groups. Respondents noted that the adopted reward system, in the form of gifts or cash, is not an efficient system that would foster the motivation of the employees. A respondent asserted that some gifts received by respondents in form of rewards did not foster emotional engagement. Chapter 5 will discuss the results of this study. The researcher will review the data collected and present a clear evaluation of the phenomenon. The research questions will be answered, and the researcher will use previous research literature to inform the conclusion of this study. Lastly, the study will conclude with limitations and recommendations for future research.

## **Chapter 5: Discussion and Conclusion**

### **Introduction to Discussion and Conclusion**

This study sought to understand the effects of gamified technology on early childhood educators' sense of motivation and emotional engagement. To understand the impact of this technology one must have a clear understanding of the intent of gamification. Gamification is the use of gaming technology and concepts in a non-gaming environment for the purpose of fostering motivation and emotional engagement (Burke, 2014). The early childhood school where this study was performed utilized four gamified applications: Brightwheel, Galileo, an employee training application, and an employee referral application. Using questionnaires, journals, artifacts, and interviews, the researcher sought to uncover how eight teacher participants experienced these applications. Each participant answered a series of open-ended questions on their understanding of the four gamified applications used within their program. Respondents also gave detailed accounts of their experiences with the technology and how the technology influenced their emotional engagement and level of motivation. Chapter 5 is a discussion of the research findings. This chapter will present and discuss the results of the study as they relate to the literature review and the conceptual framework. The researcher will also present limitations of the study and the implications of the findings for practice, policy, and theory. The researcher will complete the chapter with recommendations for further research and a conclusion.

### **Summary of the Results**

Using a transcendental phenomenological methodology, the researcher compiled data from eight teachers working in the early childhood education setting and their use of gamified

technology. To study the implications of these gamified solutions in the ECE setting, the researcher posed the following questions:

1. How do early childhood educators understand and experience gamified solutions utilized in their school?
2. What situations or contexts influence how educators perceive gamification?

Each teacher gave a detailed account of her experiences and understanding of the gamified technology. The interview questions were designed so the participants would describe how they experienced each phase of gamification: Discovery, onboarding, scaffolding, and endgame (Chou, 2015). The interviews were transcribed verbatim and coded using the in-vivo coding method. The researcher uncovered the themes and subthemes found within the transcripts that showed how the participants experienced and perceived the gamified technology. The results showed that participants showed favorable perceptions when the onboarding phase of gamification was experienced.

Along with onboarding, applications that were perceived as accessible allowed for streamlined communication between teachers and parents, aided in career growth, could be used as an instructional tool, and were consistent fared better than applications that were lacking in these areas. The research also suggested participants were less motivated by monetary rewards and personal gifts, but preferred rewards that directly aided in their career growth and instruction. Situations that negatively impacted teachers' perceptions of the technology were a lack of training in using the applications and inconsistency in tracking results. In understanding the participants' perspectives and experiences with gamification, ECE administrators may be inadequately equipped when determining appropriate applications for use within their programs.

## Discussion of the Results

This study sought to answer to research questions by allowing early childhood educators to share their experiences working in a school that uses gamified technology. Table 11 shows the themes and subthemes the emerged from the in-vivo coding phase of the study. This section will describe each theme and subtheme as it relates to answering the research questions. The descriptions will also work to uncover the phenomena experienced by the early childhood educators. The interviewer expected participants to give their honest accounts during the data collection phase of the study. The data collected was analyzed for themes using in-vivo coding. This section will discuss the results of the study.

Table 11

### *Emergед Themes and Subthemes*

<b>Themes</b>	<b>Subthemes</b>
1. Meaningful content focused on ECE educators' goals, drives, emotional engagement	a. Gamified applications must align with teacher pedagogy and career plan b. Daily communication between parents and ECE teachers increases teacher motivation and emotional engagement
2. Inconsistent onboarding and inaccurate data reporting causes frustration of ECE educators	a. Consistency in applications and training drives teacher emotional engagement b. Gamified applications must be accessible

### **Data Relating to Research Question #1**

The first research question was: How do early childhood educators understand and experience gamified solutions utilized in their school? Table 13 illustrates participants' perceptions of each application based on their answers to the questions. The researcher organized the data based on how participants experienced each phase of gamification: discovery, onboarding, scaffolding, and endgame. Table 12 provides definitions for each phase. The



researcher also indicated how each participant perceived each application based on competency, usefulness, and sense of motivation. The researcher assigned points (merit points) per participant to the four applications for each category it successfully fulfilled.

Table 12

*Phases of Gamification*

<b>Phase</b>	<b>Definition</b>
1. Discovery	Discovery occurs when users first become aware of the technology (Chou, 2015).
2. Onboarding	Onboarding is the phase in which the users learn how to interact with the program. During this phase the users may experience a sense of development and accomplishment as they embark on their journey (Chou, 2015).
3. Scaffolding	Scaffolding is the phase in which the technology provides the player with a purpose for continual use of the program through a rewards system (Chou, 2015).
4. Endgame	Endgame is experienced when the users have reached the highest level of engagement. At this stage they will transition to a new level of gameplay. This new level features challenging gaming mechanics to master (Chou, 2015).

Table 13

*Employee Experience of Applications Related to Research Question 1* ■ = Merit Point (MP)

Teachers	Amy	Sherry	Diana	Nora	Jessica	Emma	Natasha	Kelly	MP
<i>Theme 1- Galileo Application</i>									
Discovery	■	■	■	■	■		■	■	7
Onboarding		■	■	■	■				4
Scaffolding			■	■	■				3
Endgame			■		■				2
Competence			■	■					2
Usefulness		■	■	■	■				4
Motivation			■	■	■				3
Total Merit Points									25
<i>Theme 2- Brightwheel Application</i>									
Discovery	■	■	■	■	■	■	■	■	8
Onboarding	■	■	■	■		■	■		6
Scaffolding	■	■	■	■	■	■	■	■	8
Endgame	■	■	■	■	■	■	■	■	8
Competence	■	■	■	■	■	■	■	■	8
Usefulness	■	■	■	■	■	■	■	■	8
Motivation	■	■	■	■	■	■	■	■	8
Total Merit Points									54
<i>Theme 3- Employee Training Application</i>									
Discovery	■	■	■	■	■	■	■	■	8
Onboarding	■	■	■	■	■		■	■	7
Scaffolding	■	■	■	■	■		■	■	7
Endgame			■	■	■			■	4
Competence	■		■	■	■	■	■	■	7
Usefulness	■		■	■	■			■	5
Motivation	■		■		■		■	■	5
Total Merit Points									43
<i>Theme 4 – Employee Referral Application</i>									
Discovery	■	■		■	■	■	■	■	7
Onboarding		■		■	■			■	4
Scaffolding		■			■				2
Endgame		■		■	■			■	4
Competence		■		■	■				3
Usefulness		■		■	■			■	4
Motivation		■		■	■			■	4
Total Merit Points									28

Table 13 serves to aid in uncovering how the early childhood educators understood and experienced the gamified applications. Each application had the potential to score 56 out of 56 merit points. Galileo and the employee referral program scored the lowest amount of merit points with 25 (Galileo) and 28 (ERP). Both applications scored lower during the onboarding phase. Using the participants' accounts as a guide, it became clear that teachers were not fully aware of how to use the applications. Those who were trained in the rules of the gamified technology fared better, with three noting an increase in motivation for Galileo and four for the employee referral application.

The employee training application scored the second highest with 43 merit points. This application showed an increase in consistency during the onboarding phase with seven employees noting having received training on the rules and interface of the application. Five participants credited the application for an increase in motivation and emotional engagement. Four of the five participants expressed how the application helped to provide them with college credits and certification. This rewards system was a key motivator for the participants. Seven participants expressed they experienced a high level of consistency when using the application. Seven participants noted experiencing the scaffolding phase of gamification with this application. Completing the training modules every month and gaining rewards seemed to create a positive feedback loop that encouraged further usage of the system. The three participants who did not feel a sense of motivation and emotional engagement contributed their feelings to the lack of difficulty in the training modules. One went as far as to suggest the web search engine Google as a better alternative to gaining knowledge in the lessons covered by the application.

The highest scoring application was Brightwheel with 54 merit points. This application accomplished almost every phase of gamification with only two participants indicating a lack of

training during the onboarding phase; however, both of these participants described how seeking out help from their peers to learn how to use the application helped to fill their gap in knowledge. The application was deemed extremely useful by the teachers and they all indicated feeling highly motivated and emotionally engaged when using the technology. It is also important to understand the employees perceived personal competence when using the technology. All but one participant felt a sense of motivation when they expressed having a feeling of competency. The one participant who felt differently was competent in using the employee training application; however, she felt the application was too simple to maintain her interest. She was also the only employee who indicated a lack of experiencing in the onboarding and scaffolding phases of gamification while using the application. Figure 1 illustrates the overall understanding of usage of the gamified applications used by the participants.

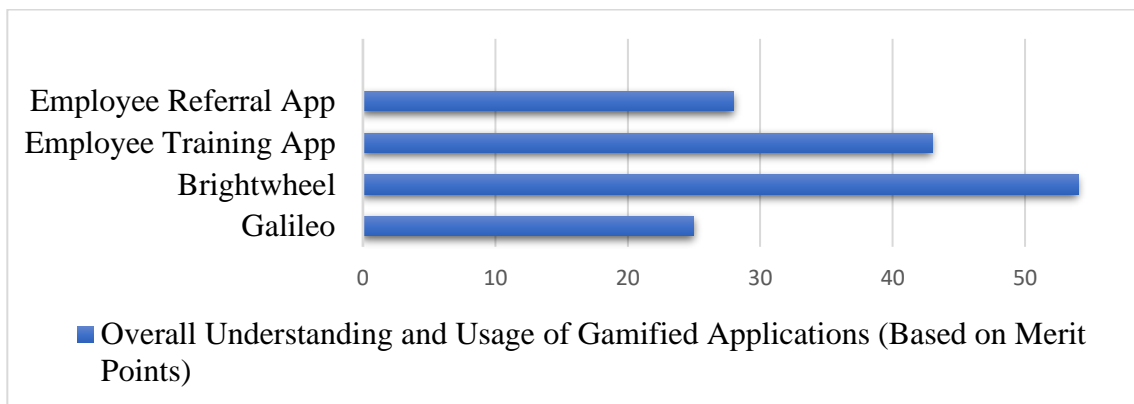


Figure 1. Overall understanding and usage of gamified applications based on merit points.

### Data Relating to Research Question #2

The second research question was, what situations or contexts influence how educators perceive gamification? To answer this question the researcher used recurring codes found under the theme, factors influencing employee motivation, and emotional engagement. The codes discovered under this theme indicated the key elements that influence how the participants perceived the gamified technology. Participants described accessibility, communication, the

ability for the technology to aid in their career growth, instructional tools, and consistency as primary factors. Table 14 shows how each application fared in these areas using the merit point system.

Table 14

*Perceptions of Gamified Applications: Research Question 2*

■ = Merit Point (MP)

Teachers	Amy	Sherry	Diana	Nora	Jessica	Emma	Natasha	Kelly	MP
<i>Theme 1- Galileo Application</i>									
Accessibility			■						1
Communication				■	■				2
Aids in Career			■	■					2
Instruction	■	■	■				■		4
Consistent									0
Total Merit Points									9
<i>Theme 2- Brightwheel Application</i>									
Accessibility	■	■	■	■	■	■	■	■	8
Communication	■	■	■	■	■	■	■	■	8
Aids in Career									0
Instruction	■	■	■	■	■	■	■	■	8
Consistent	■	■	■	■	■	■	■	■	8
Total Merit Points									32
<i>Theme 3- Employee Training Application</i>									
Accessibility	■	■	■	■	■		■	■	7
Communication									0
Aids in Career	■		■	■	■		■	■	6
Instruction	■		■	■	■			■	5
Consistent	■	■	■	■				■	5
Total Merit Points									23
<i>Theme 4 – Employee Referral Application</i>									
Accessibility	■	■	■	■	■		■	■	7
Communication	■	■	■	■	■		■	■	7
Aids in Career									0
Instruction									0
Consistent			■	■	■			■	4
Total Merit Points									18

The researcher also observed a connection between how the applications preformed using these variables and those found in Table 14. Applications had the potential to score 40 out of 40 merit points. Brightwheel was ranked the highest with 32 merit points, followed by the employee training application with 23 merit points. The employee referral application was third with 19 merit points and Galileo was the lowest with a score of nine merit points. This table shows the situation and contexts that influenced how the participants perceived the applications. During the interview phase of the research, participants noted five key elements that positively impacted their sense of motivation and emotional engagement: Accessibility, communication, aids in career growth, instructional tool, and consistency. Brightwheel was accessible and provided teachers with the ability to easily communicate with staff and parents. They felt it aided in their instruction and was consistent. However, no participant indicated it helped with career goals.

The employee training application was accessible to seven participants, five felt it was a good instructional tool and five agreed it was a consistent application. The employee referral program was noted to be accessible and a good communication tool by seven participants, with four describing it as consistent. Galileo was considered an adequate instructional tool by four participants. Figure 2 used the total merit points found in Table 14 to illustrate the applications that participants found the least and most favorable in maintaining motivation and emotional engagement.

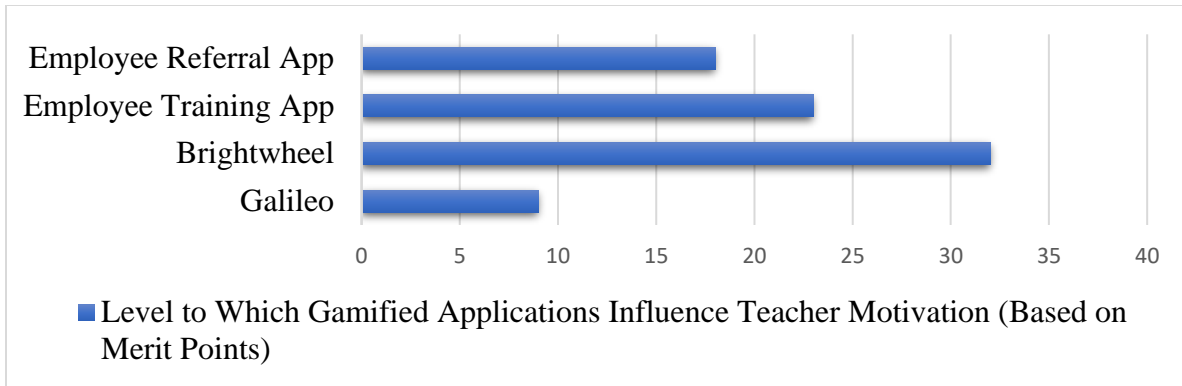


Figure 2. Scale to which gamified applications influence teacher motivation based on merit points.

### Discussion of the Results in Relation to the Literature

This study endeavors to uncover the phenomenon experienced by early childhood educators when they utilize gamified technology at their school. Upon completing the data collection and analysis phase of the study, the researcher found key themes and subthemes that described the teacher’s experiences. It is important to note that gamification has three foci: employee focus, customer focus, and community-of-interest focus (Burke, 2014). As this study discusses the application of gamification to increase teacher motivation, it will deal with the employee focus of gamification. Using the literature review as a reference, this section will discuss the findings of the study.

**Finding 1: Teachers who experienced the onboarding phase of gamification maintain motivation and emotional engagement.** Literature on gamification describes the use of game design elements in a non-gaming environment (Rinc, 2014, p. 999). The core purpose of gamification is to drive emotional engagement and motivation by applying gaming concepts such as purpose, mastery, autonomy, player progression, and social interaction (Chou, 2015). To accomplish this, the gamified application user must experience the four gamification phases: discovery, onboarding, scaffolding, and endgame (Chou, 2015). The discovery phase is the



reason why a user would want to start using the application. The discovery phase of gamification relates to how the application is marketed to potential users (Chou, 2015).

Participants in this study were aware of the purposes given for using each application, save for two participants who indicated otherwise for Galileo and the employee referral program. Diana indicated that she did not initially experience the discovery phase of the employee referral program when she was hired at the school. However, she indicated in her journal that she explored the application during the data collection phase of the study. Therefore, she was able to present her perceptions of the application during the interview.

Emma did not experience the discovery phase of the Galileo application. She was completely unaware of this technology and so could not comment on her experiences or perceptions. However, having experienced discovery did not indicate continual usage of the applications or increased motivations. As indicated in table 8, participants who successfully experienced onboarding were more likely to continue using the application and experiencing motivation and emotional engagement. Burke (2014) states, “gamification provides the positive feedback and easy on-boarding that can motivate people to start performing better in a chosen area—mastery is not an attainable goal; it is a journey” (p. 20). The onboarding phase is when the users learn the rules of the gamified application. During this phase users receive training, instruction, feedback, and empowerment on the use of the technology (Chou, 2015). While experiencing onboarding participants described feeling a sense of competency. The Galileo application and the employee referral program both did not efficiently provide adequate training in their use. The teachers who experienced onboarding for these applications expressed having a positive experience.

**Finding 2: Applications that aligned with the professional goals of the early childhood educators maintain teacher emotional engagement.** Richter et al. (2015) note, “gamification attempts to harness the motivational power of games in order to promote participation, persistence, and achievements” (p. 23). Jessica discussed her use of the employee training application to complete her master teacher certification. She expressed her approval of this application as it provided her with an opportunity to grow in her career. However, she noted that access to the master teacher program was available only to teachers who were employed for five or more years with the school. Teachers who were not participating in the master teacher program held the shared opinion that the content of the general monthly trainings lacked in rigor. This, however, did not deter them from using the program. The monthly trainings provided them with certificates of completion and college credits towards their CDA certification. Emily was the only participant who voiced concerns over technical issues she faced in accessing the application. She also felt the content of the monthly trainings to be “self-explanatory.” Sherry’s perception of the application was in alignment with Emily’s critique of the training application. Sherry did not believe the training was adequate and asserted that one could garner a more robust understanding of the content by researching online.

The idea of employee focus in gamification emphasizes that the technological solutions utilized in organization engages and motivates “either the entire employee base—or a subset of the employee base” (Burke, 2014, p. 36). The training application worked to provide modules the school’s leadership team believed to be necessary to train all staff members monthly. However, the training application also served to provide tenured teachers a more advanced level of training. Jessica discussed the purpose of the five-year grace period before teachers are presented with the option of completing the master teacher program. She described the grace

period as a way for the leadership team to provide opportunities to teachers who they think will continue to work at the school for the long term. The master teacher program provided participants with a monetary increase upon completion of the program.

Burke (2014) emphasizes, “the majority of American workers are not engaged or, worse, they are actively disengaged—engagement is not one-dimensional, and it is important to distinguish between emotional engagement and transactional engagement” (p. 16). When defining the final phase of gamification, endgame, Chou (2015) described this phase as the moment when users who mastered the basic rules of the gamified technology are provided a new level of gameplay. This new level has a new set of rules to learn and offers greater rewards. The master teacher program is an example of the endgame phase of this technology. The teachers who used the application to complete their CDA and master teacher program voiced approval of the application. Two participants did not feel the content of the application was sufficient in providing them with adequate training. It is important to note that these two participants were not completing their CDA or master teacher program through the application. They used the application only to complete their basic monthly trainings. The basic monthly trainings were mandated by the school’s leadership team, and while the teachers received a certificate of completion, teachers who did not complete their trainings were penalized. Therefore, teachers who were not granted access to advanced modules in the master teacher program or completing the CDA were engaging with the technology on a transactional level.

**Finding 3: Rewards systems that do not directly improve instructional practices do not increase teacher motivation and emotional engagement.** Odoom et al. (2016) found that good working conditions, personal interest in the growth of children, and favorable physical working facilities to be motivators for entering early childhood education. Much like the

aforementioned study, the educators at the early childhood school where this study was conducted also expressed similar values. Respondents articulated a need for consistency in their daily schedule and a deep love for teaching children. Furthermore, respondents stressed a need for resources that would aid early childhood educators in their instructional practice.

Burke (2014) suggested that to engage workers on an emotional level, organizations would benefit from understanding that extrinsic and intrinsic rewards are necessary to maintain emotional engagement in workers. When discussing the rewards systems associated with the Galileo application, Nora stressed her aversion to personal gifts given to her by the school for using the program. She noted her desire for rewards that served her students academically, such as books and supplies. Kelly and Jessica each expressed their desire for reward systems that help them to improve professionally. They praised the teacher training application for providing them with an opportunity to obtain credits toward their CDA and master teacher credentials.

Although the employee referral program's monetary reward was appreciated by the participants, there were inconsistencies in how the reward was distributed. The individual who referred Sherry to the program did not receive a reward after the 90-day grace period. Nora noted that while the money is appreciated, she would rather receive materials for her classroom. The Brightwheel application was praised by all participants. However, Brightwheel did not include an integrated rewards system. The only tangible rewards given to teachers for using the application were positive feedback notes from the school's director. Teachers felt the positive interactions they experienced with parents were sufficient in providing them with the emotional engagement to use the application consistently. The researcher concluded, based on the experiences shared by respondents, reward systems that aligned with the professional goals of the teachers provided them with an increased sense of motivation and emotional engagement.

The rewards may not exclusively be in the form of points or certificates, however. The positive feedback they received from parents while using the Brightwheel application provided teachers with a sense of recognition and accomplishment. This recognition was a reward that motivated teachers to find creative methods of sharing with parents daily. A system of rewards for contribution is believed to provide workers with a sense of purpose (Richardson & Watt, 2006).

**Finding 4: Gamified applications that focused on information sharing between teachers and parents outperformed all other applications.** Pink (2009) concluded that there are three essential elements of intrinsic motivation: autonomy, mastery, and purpose. The Brightwheel application received the most praise and usage by all participants. A successful gamified work environment provides tools by which workers are given a sense of freedom to be creative and communicating their ideas (Richter et al., 2015). All participants noted that they felt intrinsically motivated to use the Brightwheel application to communicate with parents. In a journal entry a respondent mentioned using the application while she was on vacation to remain connected to the happenings of her students while she was away. In a separate journal entry, one participant expressed her opinion that staff had become dependent on the application as a tool for communication with parents.

Nora shared how she used the Brightwheel application to update parents on lessons while she was at home. Kelly described looking for creative methods of sharing daily activities with parents. Natasha and Amy shared their appreciation for parents who contact them through the application. The success of this application is grounded in its ability to provide teachers with autonomy and tools they can easily master. The application also provided participants with a sense of purpose through the continual validation they received from parents.

The success of the Brightwheel application may also be attributed to the nature of individuals who choose to work as an emotional laborer (Wrobel, 2013). As emotional laborers early childhood educators must conform to the norms of the organization through either surface acting or deep acting. Lazányi (2011) suggests that “the surface actor suppresses or conceals his sincere emotions and acts in a way in compliance with the norms of the organization” (p. 126).

The second paradigm is deep acting. Here, the individual modifies their emotional responses to conform with organizational norms (Lazányi, 2011). Grandey et al. (2010) suggested that the emotional display rules enforced by schools are not as clearly defined as those seen in commercial organizations. Using an application to communicate with parents may provide a buffer, where teachers may communicate with parents and staff in a manner that conforms to the organization’s norms, regardless of their emotional state. Nora asserted, “I’m so emotional—I have my moments like everybody does, where I’m not emotionally here.” She expressed that her emotional state affected her ability to maintain her motivation.

To promote creativity and innovative solutions, workers must not only be motivated and believe in the mission of their organization (Mezirow, 1991), but be an asset to their workplace, rather than a cost (Drucker, 1999). Three participants discussed the preconceived notion that early childhood educators are often perceived as “babysitters” as opposed to educational professionals. They all expressed the positive impact that recognition from parents had on their sense of motivation and emotional engagement. This recognition validated them as educational professionals. Burke (2014) suggested that successful gamified solutions provide employees with tools for designing their own experiences (Burke, 2014). The Brightwheel application allowed for participants to daily present themselves as competent, engaging, and professional.

The feedback they received provided them with validation, which spurred a sense of intrinsic motivation.

**Finding 5: Consistency was a primary element to maintain teacher motivation and emotional engagement.** Mastery is the individual's personal desire to develop and ultimately become the authority on something that matters to them (Burke, 2014). Successful gamified technology provides individuals with the tools to master new concepts and create their own experiences (Burke, 2014). Therefore, individuals who exhibit mastery of specific concepts or systems develop a sense of competency (Burke, 2014). Respondents noted the impact of consistency on their sense competency. All respondents felt that Brightwheel was the most consistent of the applications. Its consistency allowed them to build relationships with parents and master creative methods of sharing information. Kelly described using slower workdays as an opportunity to share videos of students with parents. She also used this time to write detailed descriptions of lessons and activities to share with students' families.

Sherry, Nora and Amy expressed their frustration with the Galileo application and the difficulty they experienced while tracking student progress. They each felt the data in the system did not accurately reflect the student's ability or performance. While the lesson plans provided by the application decreased the respondent's workload, they each felt the application did not account for the nuances of differentiated instruction. Therefore, students who required a gentler instructional approach appeared to fall behind in the system. Nora noted the challenge this may cause for students as they transition into their next grade level as a new teacher will not have accurate records of the student's ability. This lack of consistency caused frustration for six respondents. While Nora indicated her disapproval with some aspects the application, she also

felt it motivated her to work harder to assess students accurately in compliance with the school's policy.

### **Results in Relation to Theory: Self-Efficacy**

This study described how teachers perceive and experience gamified technology in the early childhood setting. Respondents described the factors they felt impacted their sense of motivation and emotional engagement. The self-efficacy theory describes the ability for an individual to work towards achieving their desired goals (Garrin, 2014, p. 44). This theory suggests that mastery, competence, and confidence impact how individuals view their own capability and their feelings of competency when applying these skills (Garrin, 2014). This section will explore the research finding in relation to self-efficacy theory.

**Self-efficacy in relation to research question 1.** The first question this study sought to answer was: How do early childhood educators understand and experience gamified solutions utilized in their school? Following the data collection and analysis phase the researcher uncovered three findings that provide insight into the phenomenon experienced by respondents. The researcher found that teachers who experienced the onboarding phase of gamification maintained motivation and emotional engagement. Each respondent described her experiences when she was instructed on how to use each application. Applications that provided the highest number of respondents with a positive onboarding experience were shown to have fostered a greater level of motivation and emotional engagement (Brightwheel and the employee training application). Conversely, respondents who described a lack of training in the use of the gamified technology often struggled to maintain their motivation. These lower-performing applications (Galileo and the employee referral application) are shown in tables 11 and 12 as having engaged fewer respondents. The onboarding phase provided the respondents with a sense of competency,



mastery, and confidence when using the applications. While one respondent described having not formally undergone training in the use of the Brightwheel application, she was able to reach out to her colleagues for help as they all were familiar with the mechanics of the application.

Collective efficacy can be defined by the group's shared values and beliefs and are the product of "not only shared knowledge and skills of the different members, but also of the interactive, coordinative, and synergistic dynamics of their transactions" (Bandura, 2006, p. 316). The Brightwheel application was consistently utilized by the collective group and as such, was an integral component of the daily norms of the organization. This collective efficacy allowed for individuals to integrate into the environment and learn the skills to effectively use the gamified technology.

**Self-efficacy in relation to research question 2.** The second research question is: What situations or contexts influence how educators perceive gamification? The second finding was that applications that aligned with the professional goals of the early childhood educators maintain teacher emotional engagement. Respondents described their experiences using the employee training applications. Six respondents noted the training application provided them with resources to improve their career growth (Table 12). An individual with low personal efficacy may avoid specific learning opportunities, whereas an individual exhibiting a higher sense of efficacy will enter new learning opportunities with confidence and expectations of success (Schunk, 1990). Three teachers described using the application to obtain college credits, CDA credentials, and to participate in the master teacher program. The teachers described experiencing a sense of emotional engagement when using this program, as it provided them with mastery of new concepts that they can then use to increase their salary and achieve their career goals. Bandura (1994) defines motivational processes as, "Self-satisfying and self-

dissatisfying reactions to one's performance, perceived self-efficacy for goal attainment, and readjustment of personal goals based on one's progress" (p. 5). Teachers who indicated this program did not provide them with an increase in emotional engagement described the basic training modules as simplistic and "self-explanatory." The basic training modules did not provide the respondents with rewards that could be used to improve their career or salary, but rather a certificate of completion.

The third finding in this study is that rewards systems that do not directly improve instructional practices do not increase teacher motivation and emotional engagement. All participants indicated during the data collection phase (questionnaire or interview) that their greatest motivator as an early childhood educator was to help children learn. The Galileo and teacher referral applications rewards systems were scrutinized by a respondent for being inappropriate. She felt rewards in the forms of books and instructional materials would better server her needs as an educator. In having rewards that pertained to her classroom, she would be better equipped to provide a more robust instructional experience for her students. Three respondents also expressed their preference for rewards that were instructionally focused.

The fourth finding of the study was that gamified applications that focused on information sharing between teachers and parents outperformed all other applications. All respondents described Brightwheel as the most accessible, consistent, and useful application. Respondents noted the information sharing component of the application was integral to the daily processes in the schools.

Cognitive processes refer to one's sense of value and competency (Bandura, 1994). Two participants shared their dislike for the perception of the early childhood educator as "babysitter." One respondent described the complexity of her job and stressed the differences

between the responsibilities of a babysitter and her work as an educator. The respondents desired to be perceived as competent educators by the leadership team and parents.

When asked to describe their experiences with the Brightwheel application and the effects it had on their sense motivation and emotional engagement, respondents lauded the application's communication features. Participants described feeling appreciated by parents when they were complimented for the lessons and activities they facilitated for the students. Teachers used this application to showcase their value as educational professionals.

The final finding identified by the researcher was that consistency was a primary element to maintain teacher motivation and emotional engagement. Bandura (1994) described affective process as the progression by which an individual regulates their emotional state and emotional responses. All participants attributed consistency as an important factor in maintaining their motivation and emotional engagement. Two respondents discussed the importance of consistency in helping them to regulate their emotional states. One participant described her experiences prior to the introduction of the gamified applications in her school. Before the information sharing applications were utilized in the program, teachers were required to communicate with parents in person or through written notes. This process was time consuming for teachers and was described as adding to their workload. This was a source of stress for one teacher, who admitted to taking her work home in order to complete her reports. With the Brightwheel application respondents can complete their reports quickly and may communicate with parents throughout the day.

### **Limitations**

The limitations of the study should be noted. The researcher endeavored to present the study as clearly and infallibly as possible. However, there exist elements that are out of the

researcher's control. The researcher assumed that the participant accounts were honest responses to the questions. The researcher was an employee of the early childhood learning center at the time when this study was conducted. The researcher assured the participants that their identity would remain anonymous. The study was conducted in a school with no male teachers; therefore, the study does not include a male perspective on the gamified technology used within the program.

### **Implication of the Results for Practice, Policy, and Theory**

Participants noted issues with the reward systems associated with two gamified applications. Teachers felt the monthly and annual gifts awarded to teachers for their use of Galileo were inappropriate. Teachers believed that personal gifts should be replaced with supplies and books that could be used for instruction. The monetary reward granted for using the employee referral program application was insufficient in fostering motivation. The study also highlighted a lack of training and assistance for teachers during the onboarding phase of gamification. The applications would see higher utilization if school leaders appointed teachers as application administrators who will aid colleagues who are in need of further assistance. Teachers also expressed their desire for applications that help to further their education. The employee training application, while praised for its ability to help teachers obtain college credits and certifications, was also criticized for lacking in rigor. Teachers found monthly trainings on the application too simplistic. The teachers desired monthly trainings that provided new and innovative content that would enhance their practice.

In 2004, the Virginia General Assembly approved legislation that requires a ratio of one instructional technology resource teacher (ITRT) and one technology support position per one thousand K–12 students. In 2008, the Virginia Department of Education revised their 2005

guidelines for teachers and administrators on the use of technology in schools (Cannaday, Neugent, & McGraw, 2008). The document titled *Instructional Technology Resource Teacher and Technology Support Positions: A Handbook for School Divisions* (ITRT Handbook), asserts,

The main responsibility of an ITRT's work with administrators or content supervisors is to conduct one-on-one and group professional development. In addition, ITRT should work with administrators to research technology related topics, including hardware and software purchasing decisions; coordinate services and resources; develop technology-related policies and procedures; demonstrate how to use data to make instructional decisions relating to technology; and serve on building and/or division leadership technology committees, such as professional development, technology plan, or technology evaluation teams. (p. 15)

The policy continues by highlighting a recurring issue, noting,

As with teachers, a developing pattern indicates administrators often ask ITRT to perform technology functions instead of doing the tasks themselves or learning how to use technology. This temporary problem fix does not address the central issue—lack of technology literacy among administrators. (p. 16)

The document also describes tasks that ITRT determined to be menial and believes administrators should independently work to troubleshoot issues. The document insists that the duty of the instructional resource teacher and technology support personnel is to provide training for administrators and teachers, not to work as technology support staff. This policy suggests a time limit for ITRT personnel to aid teachers and administrators. The policy states that ITRT personnel “should spend no more than five minutes attempting to solve the issue; if progress cannot be made in that time, they should direct the teacher to report the technical issue to the

appropriate personnel” (p. 17). The policy notes that eventually teachers and administrators should learn how to contact technical support on their own. The policy suggests ITRT personnel keep a journal of staff members who have been trained. The goal of this documentation is to allow for ITRT to target individuals they feel may require further training and those who may transition into an educational technology position.

To better serve teachers and students, policy makers may benefit from carefully selecting technology that is accessible, consistent, and aligns with the goals of the teachers. Teachers should be able to beta test the applications and give feedback on its usability. Teachers may request or be selected to be trained by ITRT staff so they may work as a resource for their colleagues.

Upon review of research findings, the researcher concluded that teachers embrace technology that directly improves their instructional practice and career trajectory while providing them with a sense of autonomy and mastery. When determining applications to be used within educational programs, school leadership must place the goals of the teachers first as their motivation to effectively use the technology will directly impact how the technology benefits the students. Teachers may reject technologies that they feel do not work as an adequate tool for daily instruction, accurate data tracking, lesson planning, and communication. When introducing a new technology to teachers, schools may benefit from performing beta testing using a small randomly selected group of teachers. This group of teachers may provide feedback on the usefulness of the technology prior to it being launched within the program. Applications that are accessible and consistent will garner continual engagement from teachers. Therefore, a school or district-wide beta testing phase may provide developers with an opportunity to make improvements to the application prior to its official launch. School administrations may appoint

teachers to work as administrators for the applications, thereby establishing support systems for teachers if they have questions regarding the applications. Finally, teachers' sense of competency should not be called into question if they do not embrace a new application. The policy described teachers who do not embrace the new technology as "technophobic." At the time of this 2019 study, technophobia has not been recognized or mentioned in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). Emma was the least motivated to engage with three out of the four applications discussed in this study. Her reasons for her lack of engagement was not due to an irrational fear of technology, but rather a lack of training and support during the onboarding phase. She described seeking help but having little success. Over time, she grew frustrated with the inconsistencies and lack of support that she felt disengaged with the gamified technology. Brightwheel was the only application she used regularly, due to its comprehensive user interface. The study suggests that teachers who are less motivated to utilize applications may have not experienced the onboarding phase of gamification; therefore, allowing teachers to schedule a time to meet with an application administrator to ask questions and learn the functions of the application may be beneficial in maintaining engagement.

### **Recommendations for Further Research**

Upon the completion of this study, the researcher has identified areas where further research is recommended. It may be beneficial to research the criteria by which educational leaders and administrators determine the applications and educational technology to be utilized within their schools. Further research may also explore how parents perceive the gamified technology used by both teachers and students. The participants of this study were all female, therefore, future research of gamification that includes both male and female teachers would

provide additional insight. Further qualitative research may also be conducted to explore the relationship between the use of gamified applications and ECE teacher retention.

## **Conclusion**

This transcendental phenomenological study examined and explored the lived experiences of early childhood educators working in a school which utilized gamified technology. This study used questionnaires, journals, artifacts, and interviews as data collection methods to allow participant teachers to share their perspectives on the technology as a motivational tool. Participants expressed their desire to provide children with meaningful instruction while growing their own professional skills and credentials.

Participants embraced technology they felt allowed them to grow as educators and they were willing to share their knowledge with colleagues and parents. The elements participants valued in the gamified technology were accessibility, communication features, credential building, instructional tools, and consistency. Furthermore, participants indicated experiencing the onboarding phase of gamification as crucial in maintaining teacher emotional engagement and motivation to use the applications. Participants believed reward systems which offered early childhood teachers' opportunities to earn credentials or provide them with instructional tools were highly motivating. Teachers described the many responsibilities they undertook daily and stressed the importance of consistency in maintaining emotional engagement. Brightwheel was described by all respondents as an effective application in sustaining teacher motivation. Teachers were driven by the validation they received from the parents and guardians when sending daily video, written, and pictorial updates. The recognition they received from families motivated teachers to find creative ways to share student progress via the Brightwheel application. The eight teachers who participated in this study described their shared experiences



using gamified technology. They were not apprehensive in adopting new technology; however, technology that sought to aid them in achieving their individual goals succeeded in fostering motivation.

## References

- Adams, C., & Van Manen, M. (2008). Phenomenology. In L. M. Given (Ed.), *The SAGE encyclopedia of qualitative research methods* 2nd ed. 614–619. Thousand Oaks, CA: Sage.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*, 117–148.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachandran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71–81). New York, NY: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego, CA: Academic Press, 1998).
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.). *Self-efficacy beliefs of adolescents* (Vol. 5, pp. 307–337). Greenwich, CT: Information Age.
- Barmby, P. (2006). Improving teacher recruitment and retention: the importance of workload and pupil behaviour. *Educational research, 48*(3), 247–265.
- Bronson, P., & Merryman, A. (2014). The creativity crisis. Retrieved from <http://www.thedailybeast.com/newsweek/2010/07/10/the-creativity-crisis.html>
- Burke, B. (2014). *Gamify: How gamification motivates people to do extraordinary things*. Brookline, MA: Bibliomotion.
- Cannaday, B. K., Neugent, L., & McGraw, T. (July, 2008). *Instructional technology resource teacher: Guidelines for teacher and administrators*. Retrieved from [http://www.doe.virginia.gov/support/technology/administrators\\_teachers\\_staff/teacher\\_guidelines.pdf](http://www.doe.virginia.gov/support/technology/administrators_teachers_staff/teacher_guidelines.pdf)

- Canrinus, E. T., Helms-Lorenz, M., Beijaard, D., Buitink, J., & Hofman, A. (2011). Profiling teachers' sense of professional identity. *Educational Studies, 37*(5), 593–608.
- Chou, Y. (2015). *Actionable gamification: Beyond points, Badges, and Leaderboards*, Fremont, CA: Octalysis Media.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Csikszentmihalyi, M. (2003). *Good business: Leadership, flow, and the making of meaning*. New York, NY: Viking.
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125*, 627–668.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). *From game design elements to gamefulness: Defining “gamification.”* Tampere, Finland: MindTrek.
- Drucker, P. F. (1999). *Knowledge-worker productivity: The biggest challenge*. Retrieved from [http://www.forschungsnetzwerk.at/downloadpub/knowledge\\_workers\\_the\\_biggest\\_challenge.pdf](http://www.forschungsnetzwerk.at/downloadpub/knowledge_workers_the_biggest_challenge.pdf)
- Fullan, M. (2011). *Change leader: Learning to do what matters most*. San Francisco, CA: John Wiley & Sons.
- Garrin, J. (2014). Self-efficacy, self-determination, and self-regulation: The role of the fitness professional in social change agency. *Journal of Social Change, 6*(1), 41–54.
- Grandey, A. A. (2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology, 5*(1), 95–110.

- Grandey, A. A., & Diamond, J. A. (2010). Interactions with the public: Bridging job design and emotional labor perspectives. *Journal of Organizational Behavior*, *31*(2/3), 338–350.
- Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your “house.” *Administrative Issues Journal: Connecting Education, Practice and Research*, *4*(2), 12–26. doi:10.5929/2014.4.2.9
- Hallowell, E. M. (2011). *Shine: Using brain science to get the best from your people*. Boston, MA: Harvard Business Review Press.
- Hazzan, O., & Nutov, L. (2014). Teaching and learning qualitative research ≈ Conducting qualitative research. *The Qualitative Report*, *19*(24), 1–29. Retrieved from <http://nsuworks.nova.edu/tqr/vol19/iss24/3>
- Ingiaino, M. S. (2012). A Phenomenological Study of Motivations, Experiences and Reflections as Related to Teacher Training and Development in Tanzania. *Ph.D Thesis*, Liberty University, Lynchburg, VA.
- Jacobs, J. R., & Bovasso, G. B. (1992). Toward the clarification of the construct of depersonalization and its association with affective and cognitive dysfunctions. *Journal of Personality Assessment*, *59*, 352–365.
- Keen, A. (2010). Daniel Pink on how the 21st century brain affects creativity [Video]. Retrieved from <http://blogs.hbr.org/2010/06/daniel-pink-on-how-the-the-21s>
- Lazányi, K. (2011). Organizational consequences of emotional labour in management. *ABSTRACT: Applied Studies in Agribusiness and Commerce*, *5*, 125–130.

- Manlove, E. E., & Guzell, J. R. (1997). Intention to leave, anticipated reasons for leaving, and 12-month turnover of childcare center staff. *Early childhood research quarterly, 12*(2), 145–167.
- Maslach, C., & Goldberg, J. (1998). Prevention of burnout: New perspectives. *Applied and Preventive Psychology, 7*(1), 63–74.
- Maxwell, J. (2004). Casual explanation, qualitative research, and scientific inquiry in education. *Educational Researcher 33*(2), 3–11.
- Mekler, E., Bruhlmann, F., Tuch, A., & Opwis, K. (2015). Towards understanding the effects of individual gamification elements on intrinsic motivation and performance. *Computers in Human Behavior, 71*(71), 525–534.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.
- Miles, M., & Huberman, M. (1994). *Qualitative data analysis: A source of new method*. Beverly Hills, CA: Sage.
- Morgan, M., Ludlow, L., Kitching, K., O’Leary, M., & Clarke, A. (2010). What makes teachers tick? Sustaining events in new teachers’ lives. *British Educational Research Journal, 36*, 191–208.
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
- Odoom, D., Opoku, E., & AYIPAH, D. (2016). Teacher Motivation and Performance: The Case of Some Selected Early Childhood Care and Education Centers in the Cape Coast Metropolis of Ghana. *International Journal of Innovative Research and Development, 5*(1), 255–264.

- Omotayo, F. O. (2015). Knowledge management as an important tool in organizational management: A review of literature. *Library Philosophy and Practice*, 1(2015), 1–23.
- Paharia, R. (2013). *Loyalty 3.0: How to revolutionize customer and employee engagement with big data and gamification*. New York, NY: McGraw-Hill.
- Pandey, P., & Pandey, M. M. (2015). *Research methodology: Tools and techniques* (1st ed.). Buzau, Romania: Bridge Center.
- Pink, D. (2005). *A whole new mind: Moving from the information age to the conceptual age*. New York, NY: Riverhead Books.
- Pink, D. (2009). *Drive: The surprising truth about what motivates us*. New York, NY: Riverhead.
- Pyżalski, J. (2008). Teachers' psychosocial burdens at work resulting from student misbehavior. *Medycyna pracy*, 59(4), 307–313.
- Richardson, P. W., & Watt, H. M. G. (2006). Who chooses teaching and why? Profiling characteristics and motivations across three Australian universities. *Asia-Pacific Journal of Teacher Education*, 34(1), 27–56.
- Richter, G., Raban, D. R., & Rafaeli, (2015). Studying gamification: The effect of rewards and incentives on motivation. T. Reiners & L.C. Wood (Eds.), *Gamification in education and business* (pp. 21–46). New York, NY: Springer.
- Rinc, S. (2014). Integrating gamification with knowledge management. *Management, Knowledge and Learning, International Conference* (997–1003). Portoroz, Slovenia.
- Rosenthal, R., & Rosnow, R. L. (2009). *Artifacts in behavioral research: Robert Rosenthal and Ralph L. Rosnow's classic books*. New York, NY: Oxford University Press.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.  
doi:10.1037/0003-066X.55.1.68
- Ryle, G. (2002). *The concept of mind*. Chicago, IL: University of Chicago Press.
- Schmuck, R. A. (2006). *Practical action research for change*. Thousand Oaks, CA: Corwin Press.
- Schunk, D. H. (1990). Introduction to the special section on motivation and efficacy. *Journal of Educational Psychology, 82*, 3–6.
- Schwandt, T. A. (2007). *The SAGE dictionary of qualitative inquiry* (3rd ed.). Thousand Oaks, CA: Sage.
- Simon, M. (2011). Assumptions, limitations and delimitations. Retrieved from <http://dissertationrecipes.com/wp-content/uploads/2011/04/AssumptionslimitationsdelimitationsX.pdf>
- Sinclair, C., Dowson, M., & McInerney, D. M. (2006). Motivations to teach: Psychometric perspectives across the first semester of teacher education. *Teachers College Record, 108*, 1132–1154.
- Sozer, M. A. (2013). A phenomenological study on lack of motivation. *Educational Research and Reviews, 8*(16), 1369–1374.
- Stirling, D. (March,2016). Teacher motivation. *Universities English Education Research Journal, 33*, 11–28. Retrieved from [http://https://www.researchgate.net/profile/Diana\\_Stirling/publication/309481949\\_Teacher\\_Motivation/links/5812a79008aea2cf64e26949/Teacher-Motivation.pdf](http://https://www.researchgate.net/profile/Diana_Stirling/publication/309481949_Teacher_Motivation/links/5812a79008aea2cf64e26949/Teacher-Motivation.pdf)

- TED. (2008). *Stuart Brown: Play is more than fun* [Video]. Retrieved from [http://www.ted.com/talks/stuart\\_brown\\_says\\_play\\_is\\_more\\_than\\_fun\\_it\\_s\\_vital.html](http://www.ted.com/talks/stuart_brown_says_play_is_more_than_fun_it_s_vital.html)
- Torquati, J. C., Raikes, H., & Huddleston-Casas, C. A. (2007). Teacher education, motivation, compensation, workplace support, and links to quality of center-based child care and teachers' intention to stay in the early childhood profession. *Early Childhood Research Quarterly, 22*(2), 261–275.
- Totawar, A. K., & Nambudiri, R. (July, 2012). An overview of depersonalization in the organizational context. *Indore Management Journal, 4*(2), 64–72. Retrieved from [www.iimidr.ac.in/wp-content/uploads/An-Overview-of-Depersonalization-in-the.pdf](http://www.iimidr.ac.in/wp-content/uploads/An-Overview-of-Depersonalization-in-the.pdf)
- Viseu, J., Neves de Jesus, S., Rus, C., & Canavarro, J. M. (2016). Teacher motivation, work satisfaction, and positive psychological capital: A literature review. *Electronic Journal of Research in Educational Psychology, 14*(2), 439–461.
- Whitebook, M., Phillips, D., & Howes, C. (2014). *Worthy work, STILL unlivable wages: The early childhood workforce 25 years after the National Child Care Staffing Study*. Berkeley, CA: Center for the Study of Child Care Employment.
- Wrobel, M. (2013). Can empathy lead to emotional exhaustion in teachers? The mediating role of emotional labor. *International Journal of Occupational Medicine and Environmental Health, 26*(4), 581–592. doi:10.2478/s13382-013-0123-1
- Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology, 82*, 51–59.



## Appendix A: Recruitment Flyer

# Recruiting for Research

## How Early Childhood Educators Experience Gamification as an Employee Motivational Tool

### **Purpose and what you will be doing:**

The purpose of this survey is to understand how early childhood educators experience gamification as an employee motivational tool in their school. This study will seek to answer the following two questions: How do early childhood educators understand and experience gamified solutions utilized in their school? What situations or context influences how educators perceive gamification? By answering these questions, the study will understand the effectiveness of gamified solutions as a tool for motivation in the early childhood setting and the factors which impact how these applications are perceived and utilized by educators

### **Eligibility requirements:**

- Part-time or Full-time teacher
- Experience using at least one of the following applications:
  - Employee Referral System
  - Employee Training
  - Brightwheel
  - Galileo/Sapphire Club

### **What does this study involve?**

- Participants will engage in a 45-60 minute interview on their use of the gamified applications, their perception of this technology, sense of motivation and level of emotional engagement.
- (Optional) Keep a journal on their use of and experiences with the technology and sense of motivation.
- Provide artifacts: illustrations, copies of certificates or rewards, contest memos, photos of prizes or badges.

If you are interested in contributing to this study please contact the principal researcher:

Principal Researcher: Marlene C. Cooper, M.Ed.

Phone:

Email:

## Appendix B: Participant Instructions

Thank you for choosing to participate in this qualitative study. The information you provide will help the researcher gain insight on early childhood educator's perception of gamification as a teacher motivational tool. For this study you will be asked to provide the researcher with your honest opinions on the use of gamified technology at your school. You will be asked to describe your experiences using the applications and how your overall sense of motivation is affected by the technology. For this study you will first be asked to complete a *demographic questionnaire*. This will serve to provide the researcher with background information for each participant. Then you will be given 1 journal, 1 tote bag, 2 pens and a folder. These supplies will function to help you organize the data you will be contributing to this study.

### **Data Collection and Member Checking**

**Journal-** For the next 6 weeks, you will be asked to write at least one journal entry per week detailing your experiences with the technology and your sense of motivation. You may include illustrations, photographs, or quotes that you feel describes your experiences. It would be ideal for you to write at least five to eight sentences per week describing your use of the gamified applications.

**Artifacts-** You will be asked to include copies of certificates of completions, badges, leaderboard status, or other forms of artifacts that you receive due to your use of the applications.

**Interview-** On week 6 of the study you will schedule your interview with the researcher. This maybe done via email or in person. The interview will take place in room DC2 and will take approximately 45–60minutes of your time. The interviewer will ask you a series of open-ended questions regarding the technology and your sense of motivation and emotional engagement. There are no wrong answers and participants are encouraged to speak openly and honestly about their experiences.

**Member Checking-** Upon the completion of the study, you will be given the opportunity to review the research findings to check for discrepancies.

### **What is Gamification?**

Gamification is defined as the use of game design elements in a non-game environment. Gamification applies gaming concepts such as purpose, mastery, autonomy, player progression, and social interaction to improve individual motivation. Gamification software provides an interface for workers to capture and share knowledge, while rewarding workers for their contribution and helping them to reach their personal goals. Although the primary purpose of games is entertainment, when gaming concepts are applied to various non-gaming fields it may be used to enhance workplace efficiency and motivation.

### **What are the gamified solutions you are currently using at your school?**

***Employee Referral System-*** Uses employee social media profiles to recruit new job candidates. Employees are given a monetary reward if new candidates are employed for 90 days.

***Employee Training-*** An application where employees complete monthly training modules. Employees receive a certificate of completion.

***Brightwheel-*** Application used to communicate student daily achievements to parents. This application is monitored by the school leadership team. Employees receive positive feedback from both parents and leadership team when the application is used consistently.

***Galileo-*** Lesson planning and assessment web-based software. Teachers are rewarded with monthly gifts from the leadership team. Teachers who use the software according to the company's standards will become a member of the "Sapphire Club."

**If you have any questions or concerns regarding the study, please contact Marlene Cooper via email at -(contact info removed by researcher).**

**Appendix C: Demographic Questionnaire**

**What is your age?**

**Under 18**

18–24 years old

25–34 years old

35–44 years old

45–54 years old

55+

---

**Gender?** \_\_\_\_\_

**What is your ethnicity?**

Hispanic or Latino

Black or African American.

Native American or American Indian.

Asian

Native Hawaiian or Other Pacific Islander.

White

Other \_\_\_\_\_

---

**What is your highest level of degree or level of school you have completed? (If you're currently enrolled in school, please indicate the highest degree you have *received*.)**

- Less than a high school diploma
- High school degree or equivalent
- Some college, no degree
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate

**Have you previous knowledge of or studied gamification concepts?**

**Yes**

**No**

**What is your current employment status?**

- Employed full time
- Employed part time
- Temporary

**Is this your first teaching job?**

- Yes
- No

---

**Is teaching your choice of career for the foreseeable future?**

Yes

No

Not sure

**What are some systems that are currently in place at your school that are used to increase motivation?**

**Do you feel comfortable using the gamified technology? Have you been trained in their usage?**

Yes

No

Not sure

**At this time do you feel as though you are perceived as competent at your place of work by your school leadership team?**

Yes

No

Not sure

**Describe a time when you felt satisfied with your job. Please do not mention any names or identifying information.**

---

**Describe a time when you felt dissatisfied with your job. Please do not mention any names or other identifying information.**

## Appendix D: Interview Questions

Interview Question
<p>Think back to the moment when you decided you wanted to become a teacher. Can you describe some of your reasons for choosing this profession, and what are some of your professional goals?</p> <p>Do you feel the gamified systems used in the school help you to achieve your professional goals?</p>
<p>What were your expectations regarding the overall work environment prior to being hired at this school?</p> <p>Probe: How have your feelings changed since working here?</p>
<p>Describe for me the cultural climate of your school and how you feel the gamified systems impact its current state.</p>
<p>What do you feel is your current level of emotional engagement?</p> <p>Probe: What do you think drives your emotional engagement?</p>
<p>There are several systems that are in place at this school that are designed to help you to complete daily tasks and reward you for your efforts. I am going to ask you questions regarding them, and I would like you to tell me your opinions on their accessibility and success in helping you to achieve your tasks.</p> <p>Describe how you feel about the employee referral application. How do you feel the monetary incentive impacts new employee retention?</p>
<p>The next system in place is the Sapphire Club. How do you feel about it as a tool to motivate you to complete assessments and lesson plans?</p>
<p>Describe how these systems are helpful in motivating you to achieve your personal and professional goals.</p> <p>Probe: If you do not feel these systems are aligned with your personal and professional goals, how do you think they should be improved to do so?</p>
<p>How were you introduced to these gamification systems?</p> <p>Brightwheel</p> <p>Galileo</p> <p>The employee training application</p> <p>The employee referral program</p>



Probe: Do you feel you had a full understanding of how they worked and their relevance?

Do you think the gamified systems at your school add to your workload or do they motivate you to do more?

Can you tell me about a moment at your job where you felt the most accomplished?

What are some changes your school can make to the teacher rewards systems that you feel would help increase your level of emotional engagement and motivation?

Are there any other experiences or thoughts you would like to share concerning the motivational tools and systems used in your school?

## Appendix E: Consent Form

**Research Study Title:** A Phenomenological Study into How Early Childhood Educators Experience Gamification as an Employee Motivational Tool

**Principal Investigator:** Marlene C. Cooper, M.Ed.

**Research Institution:** Concordia University Portland

**Faculty Advisor:** Brianna Parsons, ED.D.

### **Purpose and what you will be doing:**

The purpose of this survey is to understand how early childhood educators experience gamification as an employee motivational tool in their school. This study will seek to answer the following two questions: How do early childhood educators understand and experience gamified solutions utilized in their school? What situations or context influences how educators perceive gamification? By answering these questions, the study will understand the effectiveness of gamified solutions as a tool for motivation in the early childhood setting and the factors which impact how these applications are perceived and utilized by educators and educational leaders.

We expect approximately 8 to 12 volunteers. No one will be paid to be in the study. However, participants will receive a \$20.00 gift card as a “thank you” gift. Gift cards will be given to participants at the completion of the member checking phase of the study. We will begin enrollment on May 7, 2018 and end enrollment on December 7, 2018. The participants will then be interviewed by the researcher on their experiences using the gamified applications Galileo, Employee Training, Brightwheel and Employee Referrals. Participants will be given the option to document their experiences and their sense of motivation in a journal while using the applications. The expected time commitment for this study is between 1 to 2 hours.

### **Risks:**

There are no risks to participating in this study other than providing your information. However, we will protect your information. I will record interviews. The recording will be transcribed by me, the principal investigator, and the recording will be deleted when the transcription is completed. Any data you provide will be coded so individuals who are not the investigator cannot link your information to you. Any name or identifying information you give will be kept securely via electronic encryption on my password protected computer locked inside the cabinet in my office. The recording will be deleted as soon as possible; all other study documents will remain secure for 3 years and then be destroyed.

### **Benefits:**

Information you provide will help to gain insight on the early childhood educators perception of gamification as a motivational tool. Participants may benefit personally through examining their relationships with the technology in use at their place of employment. Through their evaluation of how the technology impacts their lives, they may find solutions to improve their work performance.

**Confidentiality:**

This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us abuse or neglect that makes us seriously concerned for your immediate health and safety. Audio recordings will be taken and stored on a password protected computer using password protected software. Audio recordings will be destroyed upon the completion of the transcription and member checking phase of the study. No information will be used that may lead to deductive disclosure.

**Right to Withdraw:**

Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You are free at any point to choose not to engage with or stop the study. You may skip any questions you do not wish to answer. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, we will stop asking you questions.

**Contact Information:**

You will receive a copy of this consent form. If you have questions you can talk to or write the principal investigator, Marlene Cooper at email [redacted]. If you want to speak with a participant advocate other than the investigator, you can contact the director of our institutional review board, Dr. OraLee Branch at email obranch@cu-portland.edu.

**Your Statement of Consent:**

I have read the above information. I asked questions if I had them, and my questions were answered. I volunteer my consent for this study.

_____	_____
Participant Name	Date
_____	_____
Participant Signature	Date
_____	_____
Investigator Name	Date
_____	_____
Investigator Signature	Date



Investigator: Marlene Cooper, M.Ed. email: [redacted]  
c/o: Professor Brianna Parsons, Ed.D.;  
Concordia University – Portland  
2811 NE Holman Street  
Portland, Oregon 97221

**Appendix F: IRB Approval Letter**



**CONCORDIA**  
UNIVERSITY

-PORTLAND, OREGON-

DATE: June 5, 2019  
TO: Marlene Cooper, M.Ed  
FROM: Concordia University - Portland IRB (CU IRB)  
PROJECT TITLE: [1196621-3] A Phenomenological Study into How Early  
Childhood Educators Experience Gamification as an Employee  
Motivational Tool  
REFERENCE #: EDD-20180415-Parsons-Cooper  
SUBMISSION TYPE: Closure/Final Report  
  
ACTION: APPROVED  
APPROVAL DATE: June 5, 2019  
EXPIRATION DATE:  
REVIEW TYPE: Administrative Review

Thank you for your submission of Closure/Final Report materials for this project. The Concordia University–Portland IRB (CU IRB) has APPROVED your submission and closed your project.

This submission has received Administrative Review based on the applicable federal regulations. We are glad that you were able to complete the study with all the participants enrolled. It is great that you continue to look for even more ways technology can be used to improve the teaching and learning experience.

Please note that all research records must be retained for three years.

If you have any questions, please contact Dr. OraLee Branch at 503-493-6390 or [irb@cuportland.edu](mailto:irb@cuportland.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Concordia University - Portland IRB (CU IRB)'s records. June 5, 2019

## **Appendix G: Statement of Original Work**

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners who seek to transform society by pursuing ethically-informed, rigorously-researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

### **Statement of academic integrity.**

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

### **Explanations:**

#### ***What does “fraudulent” mean?***

“Fraudulent” work is any material submitted for evaluation that is falsely or improperly presented as one’s own. This includes, but is not limited to, texts, graphics, and other multimedia files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate’s final work without full and complete documentation.

#### ***What is “unauthorized” assistance?***

“Unauthorized assistance” refers to any support candidates solicit in the completion of their work that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another’s work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

**Statement of Original Work (continued)**

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.
2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*.

Digital Signature: Marlene Clementina Cooper

Name (Typed): Marlene Clementina Cooper

Date: July 30, 2019