

Lego Serious Play in a Career Exploration Class: A Case Study of a Failure in Faith Integration

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Abstract

Lego Serious Play is a facilitated approach to solving problems that is popular in the world of business and nonprofits because it is both fun for the participants and has been validated as a means of encouraging communication and group problem-solving. In an attempt to provide a meaningful faith integration activity in an undergraduate career exploration class at a Christian University, a Lego Serious Play intervention was introduced to develop vocational identity. Vocational identity is a set of experience-based personal beliefs regarding one's interests, goals, and abilities related to one's career. From a Christian perspective, vocational identity would be influenced by the integration of Christian values and priorities, as well as one's spiritual gifts. The intervention was designed as a pre-test/post-test control group experiment. The quantitative results of the study showed no differences between the outcomes of the control group and the intervention group, $t(16) = .26$, $d = .12$, $p = .40$, 1-tailed. In a debriefing focus group, it became clear that students had a limited understanding of vocational identity and that the faith integration elements of the intervention were not clear to them. Factors that appear to have contributed to this failure in faith integration include inappropriate assumptions of students' understanding of career and vocation, a lack of trust in the Lego Serious Play facilitators providing the intervention, false assumptions concerning the students' spiritual status and maturity, a small sample size, and an over-reliance on the attractiveness of Lego Serious Play.

Key words: Lego Serious Play; LSP; faith integration; vocational identity; failure analysis; mixed methods research; Christianity

In the context of Christian higher education, vocation and calling have often been included in the curriculum through a process of faith integration (Hasker, 1992). The Christian worldview emphasizes that faith informs vocation (Smith, 2011). Faith-informed vocation has traditionally been

approached through classroom instruction and verbal or written student response (Heusdens et al., 2019, Walker & Cariaga, 2021). Smith (2011) notes that students do not always link vocation (i.e., the interaction of their values, interests, abilities, and goals relative to a career; Luzzo &

McWhirter, 2001) to the pragmatic process of choosing their career. However, there is a lack of research on creative methodologies for bridging the link between faith and vocation in a classroom setting.

Lego Serious Play as a Means of Problem-Solving

The Lego Serious Play method (Kristiansen & Rasmussen, 2014) is designed to help individuals and teams identify and work through complex challenges in a variety of personal, social, and organizational environments. Pragmatically, the Lego Serious Play method involves the creation of customized questions, prompts, or scenarios for participants to address, often in a team or group setting. These items are written by the facilitator after assessing the core challenges that will be addressed by the intervention. When Lego Serious Play is utilized in a professional setting, content is developed in tandem with organizational leaders. In school settings, the facilitators coordinate the content with the instructors in order to achieve the learning objectives.

Participants are then asked to respond to the prompt by building a model with various shapes, sizes, and colors of LEGO® bricks and figurines, followed by a time of verbal sharing by each participant. From the beginning of the process, participants are encouraged to not think of the brick as a branded product from the marketplace, but as a literal and metaphorical building block of abstract ideas. While the Lego Serious Play method exclusively uses LEGO® bricks, the methodology could theoretically be duplicated with other tactile materials.

Lego Serious Play utilizes the 100% participation principle (Rasmussen Consulting, n.d.), which designs interventions that require all individuals to engage on an equal basis in terms of time allotted to build and share their model and thought process. The 100% participation principle, along with ideas from constructionism (Srivastava, 2020) fuels the Lego Serious Play method. In this context, constructionism refers to the idea that people can assign any meaning that they want to what they create with their hands. Individuals are challenged to think through and identify their beliefs, values, and ideas related to the problem addressed and to express them through creating items with Lego Serious Play materials. Then, by explaining the meaning of their creation to others, they collaboratively contribute to building a shared framework for addressing the problem with those participating with them.

For example, Lego Serious Play has been used in a church context to help the family ministries team develop a

common vision which they had not been able to achieve previously (Dykes, 2018). Expressing themselves through guided activities allowed them to express their values and explore possible solutions to the problem they were facing by maintaining a high level of engagement and developing a mutual understanding of the issues involved.

A traditional approach to learning in higher education, which may include listening to lectures, note taking, taking tests, and writing papers, has become less attractive to the emerging generations who desire a more applied and hands-on experience (Gilbert et al., 2017). In response, Lego Serious Play may be an effective teaching tool. Lego Serious Play offers students the opportunity to interact with the course material differently, to play with ideas and concepts, to use and develop a real-time strategy to communicate with others, and to co-create credible solutions with their classmates. Lego Serious Play provides a learning environment and may contribute to what Kahane (2021) calls a breakthrough moment, that is, a change in perspective where significant obstacles are removed, creating room for personal and group transformation. Because Lego Serious Play is designed to address virtually any challenge, it represents a viable methodology for use in this study.

Lego Serious Play began as an internal aspiration of employees of The LEGO® Group (Justia Trademarks, 2012) to develop an inventive strategic activity based on the theories of play (Nachmanovitch, 2009; Bateson, 1972), constructivism (Piaget, 1951), and constructionism (Papert & Harel, 1991). Such methods have evolved into the term *serious play*, which is used in play-related research to describe play that has an explicit purpose and is enacted in a particular way. The purpose of this play is ultimately to engage participants, unlock knowledge, and break habitual thinking (Kristiansen & Rasmussen, 2014).

Lego Serious Play connects people and ideas, allowing the participants to explore plausible solutions, unleash creative capacities, learn through hands-on and mind-on interaction, and generate simple guiding principles that can help solve the unknown dilemmas of the future (McGehee, 2022).

Lego Serious Play can be used as an organization development tool to help businesses, nonprofit organizations, schools, and government agencies address the increasingly complex and challenging demands that they face (Kristiansen & Rasmussen, 2014; Executive Discovery, 2002). Through this facilitated process which brings the participants' diverse backgrounds, knowledge,

and perspectives into the conversation, ordinary LEGO® bricks are transformed from a construction toy to a language used to foster group creativity (Kristiansen & Rasmussen, 2014).

Serious play is play that has an explicit purpose and is enacted in a particular way. Serious play is particularly useful for solving complex issues (McGehee, 2024). The purpose of this type of play is ultimately to engage participants, unlock knowledge, and break habitual thinking (Kristiansen & Rasmussen, 2014) in order to address challenges and problems faced by a group or an organization. Serious play promotes the creation and discussion of hypothetical scenarios, and it explores the advantages and disadvantages of potential solutions to complex problems before their implementation (Nussbaum, 2013). It may also help participants to ask and explore new questions or to see aspects of a problem not previously considered. Serious play permits structured experimentation of possible solutions for challenges experienced by individuals and organizations.

Serious play provides space for risk-taking, and it allows for failure without a devastating blow to self-esteem or professional reputation (Nussbaum, 2013). The serious play methodology transforms problems into a difficult and challenging but fun activity. In the context of vocation, Lego Serious Play represents a potential methodology for exploration, discovery, and introspection. Concerning faith integration, Lego Serious Play provides opportunities for participants to integrate their beliefs and values into the solutions they explore. Learning is typically a cognitive process, but the Lego Serious Play method adds a physical, tactile element that allows the mind and body to potentially work in tandem toward finding solutions to the problems under consideration.

Higher education has often been a fertile testing ground for Lego Serious Play. For example, a study by James (2015) found that using Lego Serious Play in university courses improved students' ability to articulate their understanding and increased their engagement with the material. Similarly, Nolan (2010) described various trials with Lego Serious Play in academic contexts with generally positive reactions from students. See also Peabody and Noyes (2017), Zenk et al. (2018), Wheeler (2023), and Peabody and Turesky (2018) for other positive experiences with Lego Serious Play in universities.

Vocational Identity

Vocational identity can be described as the self-concept individuals develop relating to their career pathways while

also encompassing their values, interests, abilities, and goals within the context of work (Luzzo & McWhirter, 2001). Individuals who possess a strong vocational identity, and have a broad awareness of their career goals, interests, and abilities, may be more successful in identifying suitable occupational options for themselves (Holland, 1996; Gupta et al., 2015). Vocational identity may allow a person to view a job or career as far more than simply a pragmatic means of survival.

From a Christian perspective, understanding vocational identity extends beyond deciding a career focus. Instead, vocational identity aligns with fundamental beliefs about purpose, calling, and spiritual gifting in a holistic integration of faith, values, and pursuing God's will. Vocational identity involves understanding one's talents, passions, and opportunities in light of one's faith. It encompasses the idea that one's work or vocation is not merely a means of earning a living but also a way to serve God and others (Schuurman, 2004). Understanding this premise is essential for students in a Christian college so that they align their careers with their faith and understand the relationship between academic pursuits, abilities, educational interests, personal values, and career goals. A Christian perspective of vocation allows an individual to see a broader picture of career changes, including situations of personal failure or industry realignment. As noted by Cawman and Pheifer, "What may be seen as a setback in a vocational journey may actually be a God-directed event that must be processed through the lens of ever-growing faith or a period of transitional opportunity. Christians must continually look for how God is using a current situation for His glory" (2024, p. 12).

Christianity places a significant emphasis on the idea that God uniquely created each individual with a purpose and responsibilities. The Parable of the Talents (Matthew 25:14-30) teaches that individuals are responsible for cultivating and using the abilities and resources God gives them. This parable implies that an in-depth understanding of one's abilities and resources, and how to apply them, is vital for fulfilling God's expectations. Therefore, when viewed through a Christian lens, vocational identity involves realizing and cultivating the talents bestowed by God and becomes intertwined with an individual's spiritual growth and maturation (Scott, 2019).

This Study's Hypothesis

Lego Serious Play may help undergraduate students identify and understand their career goals and aspirations. By using active, experiential learning that emphasizes the importance of active participation in the learning process (Gauntlett, 2007), Lego Serious Play may facilitate collaboration in this process by encouraging students to

build and share models that represent their thoughts and ideas concerning vocation. This may help them gain insight into who they are, what they believe, and what they value, and hence develop their vocational identity. Early in their college careers, students may find it beneficial to address any fears, doubts, or barriers that may hinder the pursuit of their vocational identity (Galles et al., 2019). The Lego Serious Play methodology includes opportunities for individual introspection and reflection which aligns well with the concepts of developing vocational identity and faith integration. This study seeks to understand if and how a Lego Serious Play intervention increases students' vocational identity and provides a natural opportunity for faith integration. It is hypothesized that the vocational identity of students will be stronger after a Lego Serious Play intervention than before.

Methods

A mixed methods study including a survey-based quasi-experiment and a focus group discussion was conducted in first-year seminar classes at a Christian University in Southern California that does not require a profession of faith for admission. The purpose of this study was to understand whether engagement in a Lego Serious Play intervention can increase the vocational identity of the participants and contribute to the integration of their faith into this identity.

Experimental Design

Two undergraduate first-year seminar classes (a required career exploration course for business majors) provided data for this pretest-posttest control group quasi-experiment. Each class had approximately 15 students enrolled. Students had chosen to enroll in their respective classes based on personal scheduling preferences. None of the students were enrolled in both sections, so the data collected was from independent samples. The pretest was conducted at the beginning of Week 10 of a 16-week semester. The posttest was conducted at the beginning of Week 11. The intervention for the experimental group was administered immediately after the pretest.

Participants

Eighteen students completed both the pretest and the posttest (61% male). All were first-year university students. Half of the participants were White (50%); the others were equally divided among Asian (17%), Black (17%), and Latino (17%) students.

Course instruction before the intervention included scaffolded learning by gradually increasing complexity and depth. Topics covered included what to expect in college, time management, communication, individual strengths,

and working on a team. Classroom material included structured learning activities relevant to studying, being a business major, and developing a career in business, formative assessments, and incremental skill-building exercises. The facilitators assumed that the students had understood the course content and possessed the competencies needed to engage in higher-order activities like Lego Serious Play.

The Intervention

For this classroom faith integration intervention, Lego Serious Play was used to provide a workshop-based learning opportunity to explore vocation from a faith-based perspective. The goals of the workshop were to increase awareness of and confidence in the participants' vocational pathways and to help students articulate clear connections between their identity (which for some would be Christian) and their desired impact on the world.

This custom Lego Serious Play intervention was designed to develop vocational awareness in participants and included a two-week, five-session Lego Serious Play module for the experimental section (16 students), which was not included for the second section, which served as a control group (11 students). The instructor of record was the same for both sections. The Lego Serious Play intervention was developed and facilitated by two of the authors who are certified Lego Serious Play facilitators. These facilitators created a custom workshop, using the Lego Serious Play method, designed to walk participants through understanding their identity and calling in relationship to their future careers. Prompts included:

1. "Build a model that represents your core identity: values, passions, and what you are good at."
2. "Modify the model (or build a new model) to show an area where you would like to grow or develop."
3. "Build a model to describe the impact you would like to leave on the world."

Each workshop session was approximately 50 minutes in length, and students were given approximately five minutes to build each prompt. After building, each participant was given approximately a minute to share their model. The facilitators asked follow-up questions to some, but not all, of the participants due to time constraints. In order to avoid influencing the student responses during the intervention, the facilitators did not provide verbal or written instruction linking Christianity and vocation nor did any prompt in the Lego Serious Play intervention refer to Christian themes. During the class sessions of the control group, participants

participated in verbal and written activities related to a personal strengths assessment, a self-test administered to both groups before the intervention.

During the workshops, the facilitators followed the standard Lego Serious Play protocol. They attempted to build trust with students by creating a safe and inclusive environment, encouraging communication, valuing all contributions, and ensuring every student felt heard and respected. They followed the typical Lego Serious Play structured process that included presenting a clear and relevant challenge to the students, asking students to respond by building models, and having the students share their models and the stories behind them. Throughout the process, they followed the basic principles of directing Lego Serious Play by encouraging the construction of metaphors, personal reflection, and storytelling.

Data Collection

Pretest and Posttest Quantitative Data

Using Gupta et al.'s (2015) Vocational Identity Measure (VIM), an online questionnaire constructed with Google Forms was administered to students in both the experimental and control groups before and after the intervention. The pretest was administered before the Lego Serious Play intervention and the posttest was administered immediately after the module was completed. The VIM is a 23-item Likert-type scale instrument (1 = strongly disagree; 5 = strongly agree). Sample items include, "I know what occupational path I want to pursue when I get out of school" and "My interests match my vocational goals" (Gupta et al., 2015).

Focus Group Interviews

Face-to-face, semi-structured, post-workshop focus group interviews were conducted with the experimental group as part of the data collection. The interviews sought to capture the perceptions of the participants concerning key themes associated with vocation, including the ability to articulate their interests, abilities, and potential career goals. The semi-structured, post-workshop interview consisted of four prompts to guide the conversation. These prompts were "Describe your interests and share how those interests can inform your future career goals," "Describe the process you took to better understand your future career goals," "How much clarity do you have in career direction? Explain," and "Several of you have said that you have a career goal, but not a clear path towards it. What is needed to increase clarity?"

Results

After data collection was completed, both the quantitative and qualitative data were analyzed.

Quantitative Results

The quantitative data consisted of the pretest and posttest scores of the vocational identity measure.

Descriptive Statistics

Eight students in the control group completed both the pretest measuring vocational identity ($M = 3.03$, $SD = .46$) and the posttest ($M = 3.17$, $SD = .41$). Ten students in the control group completed both the pretest measuring vocational identity ($M = 3.33$, $SD = .56$) and the posttest ($M = 3.52$, $SD = .58$).

Hypothesis Testing

To test the hypothesis that the increase of vocational identity of the experimental group would be greater than the increase (or decrease) of vocational identity of the control group, the change of vocational identity for each participant was calculated. The mean increase in vocational identity of the experimental group ($M = .18$, $SD = .32$, $n = 10$) was slightly greater than the mean increase of the control group ($M = .14$, $SD = .35$, $n = 8$). However, this difference was not significant, $t(16) = .26$, $d = .12$, $p = .40$, one-tail¹.

The effect size ($d = .12$) in this experiment was small. Supposing that the intervention had a real impact equal to this effect size, a sample size of 859 participants would have been necessary to have 80% power to detect a significant difference between the groups (Kohn & Senyak, 2024).

Qualitative Results

The qualitative data was provided by informally noting what students said during the Lego Serious Play intervention and by conducting focus group semi-structured interviews with the participants following the Lego Serious Play intervention.

When asked to build a model that represents their core identity (values, passions, what they are good at), participants constructed models and used them to describe their athletic abilities, their family, their Christian faith, and their friends.

Responses noted during the intervention included a variety of themes consistent with the social concerns of first-year college students, especially, concerns about friendships and team sports. When prompted to expand their model to include an area in which they would like to grow or develop,

participants described models of “spending more time on homework,” “learning to be more social and spending more time with family and friends,” “improving at their sport,” or “I don’t know.” A final model was built to describe the impact the student wanted to leave on the world. The majority of participants constructed models with flowers or gardens which they described as “being positive” and one built a funeral setting and described “wanting friends and family to be present.”

During the focus group, participants’ responses to the first prompt, “Describe your interests and share how those interests can inform your future career goals,” centered around sports and friendships, as they did during the Lego Serious Play intervention.

Responses to the second prompt, “Describe the process you took to better understand your future career goals,” included talking to family members and friends, following in a parent’s career path, or being unsure of what to do.

In response to the third prompt, “How much clarity do you have in career direction? Explain,” the majority of participants quantified a 60% -75% level of clarity in their career direction but could not articulate exactly what it was or how they were to achieve it.

The last prompt was a follow-up to and asked the question, “Several of you have said that you have a career goal, but not a clear path towards it. What is needed to increase clarity?” Participants’ responses included, “no idea,” “networking,” “making connections,” and “I don’t know; there are too many distractions right now.”

The focus group was conducted during the fifth and final session of the Lego Serious Play intervention and was led by the Lego Serious Play facilitators. While the timing of the focus group and the focus group prompts were designed to aid the participants in summarizing their personal reflection, self-awareness, and learning associated with their vocational identity development, not one student even mentioned the Lego Serious Play intervention nor linked the ideas developed during the Lego Serious Play intervention to their vocational identity. A significant number of participant responses to the focus group prompts were in direct opposition to what had been built and shared through the Lego Serious Play intervention concerning their career and vocational goals. No participants mentioned their Christian faith. During the focus group interviews, the majority of participants stated they felt 60% - 75% clarity in their career direction yet such certainty did not emerge in the intervention which had been designed to illuminate these goals. During both the intervention and the focus group, the participants’

thoughts and experiences were fragmented, but there was a clear disconnect between the models built (which were general and uncertain) and described, and the narrative responses of the focus group (which were more specific and certain). For example, students cited tangible career goals in the focus group but had not addressed those goals in an intervention prompt that asked them to build something with Lego that expressed their desired impact on the world. When prompted during the focus group about the connection between career goals and what they had built during the intervention, participants alluded to the Lego Serious Play facilitators being agenda-driven and providing minimal and incomprehensible descriptions of expectations.

Failure Analysis

This study sought to test the effectiveness of a Lego Serious Play intervention activity to increase vocational identity. Using a pretest-posttest quasi-experimental design with a control group, the quantitative data collected indicated no statistically significant increase in the experimental group’s vocational identity. A post-intervention focus group discussion with the participants in the experimental group revealed that they had little understanding of their vocational identity and no evidence of faith integration. The intervention did not accomplish its hypothesized goals. We present here a failure analysis, reflecting on possible reasons that neither the vocational identity nor faith integration goals were achieved.

Several factors emerge as possible contributors to the failed outcome. Contextual factors such as the students’ understanding of vocational identity, the assumed Christian relevance of the issues, and socio-cultural factors may have attenuated the effects of the intervention. The failure could also indicate the goal of the Lego Serious Play intervention was incongruent with the participants’ specific needs or understanding of career and calling.

Possible Reasons for the Failure

Students’ Lack of Understanding of Vocation and Related Concepts

In any structured study, researchers should create mechanisms of objectivity so that participants are not led, either directly or indirectly, toward the desired outcomes. Demand characteristics (aspects of the intervention, other than the independent variable, that influence the dependent variable) should be kept to a minimum (Nichols & Maner, 2008). However, a lack of understanding of the subject matter can make it difficult for participants to put activities associated with the intervention into context.

During the post-intervention focus group discussion, the investigators discovered that the participant's lack of understanding of vocation and related concepts could have contributed to the failure of the Lego Serious Play intervention. It is plausible that the intervention failed to resonate with the participants due to a lack of foundational understanding of vocation, its significance, and how it relates to their Christian faith, future aspirations, and career paths. In hindsight, the facilitators should have presented an overview of vocation to the participants to enable them to benefit from the workshop meaningfully.

First-year college students often need exposure to diverse vocational options to develop their understanding of vocational identity. Addressing barriers to comprehension and engagement makes it easier to make meaningful shifts in understanding (Heusdens et al., 2019; Walker & Cariaga, 2021). First-year college students might be unfairly expected to identify career pathways with minimal knowledge of vocation, vocational options, what they are good at doing, and how to navigate the college experience (Smith, 2011).

Furthermore, in many academic environments, a stronger emphasis on academic achievement and traditional career paths overshadows a more expansive vocational identity in career development discussions and curricula (Heusdens et al., 2019). As we discovered during the post-intervention focus group discussion, the participants demonstrated limited knowledge of and exposure to the workplace that could have restricted their understanding of vocation and hindered their ability to approach vocational exploration pathways.

In addition, the participants' lack of understanding could also be related to insufficient exposure to discussions and activities related to their vocational identity within their broader educational context. It is possible that the vocational identity concept itself was too abstract or unfamiliar to the participants, making it challenging for them to engage meaningfully with the Lego Serious Play intervention.

Lack of Understanding of the Relationship Between the Christian Faith and Vocational Identity

Addressing gaps in understanding and tailoring the Lego Serious Play intervention activity to meet participants' specific needs and contexts appears to be necessary for fostering meaningful engagement and achieving learning outcomes related to vocational identity and the Christian faith. The Lego Serious Play intervention, as presented, did not help the participants connect their faith to their vocational identity. Such knowledge separation typically

leads to a fragmented understanding of how vocational identity informs or shapes professional choices and actions (Kortt et al., 2012).

The lack of understanding of the relationship between the Christian faith and vocational identity may have contributed to the failure of the Lego Serious Play intervention. In order to avoid being overly directive, the facilitators did not present content on vocational identity in the context of Christian faith in the Lego Serious Play intervention. However, as mentioned above, not addressing these core elements, even at a cursory level, may have resulted in a disconnect between the intervention and the participants' culture or lived experiences and belief systems. Without a pre-activity explanation of the role of faith in shaping vocational aspirations, the intervention may have missed a crucial opportunity to engage participants at a deeper level and facilitate meaningful reflections on the intersection of Christian faith and vocational identity. If this is the case, it underscores the importance of not assuming that students have a sufficient background in Christian concepts to successfully navigate faith integration on their own, even when presented with ideas that are especially propitious to it.

A Lack of Trust in the Lego Serious Play Facilitators

The Lego Serious Play facilitators' first interaction with the students was when they introduced the Lego Serious Play intervention activity to them. There was no investigator-participant interaction before the first meeting, and the purpose of the intervention was not explained beforehand. During the first day of the Lego Serious Play intervention, the facilitators attempted to build trust through rapport-building with the participants. The rapport-building process included social conversation and a Lego Serious Play technique referred to as Skills Building. Skills Building is a process that allows participants to become comfortable constructing items with Lego bricks and figurines, and then explaining them. However, it does not yet include the prompts specific to the problem to be addressed. Building rapport is a crucial foundation for effective teaching and learning (Frisby & Munoz, 2021). The participants had seemingly felt comfortable with the course professor and had grown accustomed to her style and the course cadence. However, the participants hesitated to engage when the facilitators entered the course with new expectations for participation.

A lack of trust in the Lego Serious Play facilitators could have significantly undermined the effectiveness of the intervention. Trust is foundational in any educational setting, particularly in interventions that foster personal

growth and reflection (Rich, 2020). The participants may have hesitated to engage fully in the activities or openly share their experiences and perspectives. This lack of trust may have stemmed from various factors. For example, participants may have felt that facilitators needed to understand their backgrounds, beliefs, or experiences before being willing to discuss core questions related to their identity.

Furthermore, during the post-intervention focus group discussion, the participants alluded to the Lego Serious Play facilitators being agenda-driven and providing minimal and incomprehensible descriptions of expectations. Not understanding what was expected of them during the intervention could have influenced their discussion of personal topics such as vocational identity and faith, especially if the participants were wary of the facilitators' motives and how they might influence their beliefs, perspectives, or values.

In such situations, for the facilitators to build rapport and trust, they should establish credibility and foster a supportive and inclusive learning environment that includes genuine empathy, respect, and cultural humility in their interactions with participants (Scott, 2019). However, it is unclear to what extent the facilitators should have tried harder to create such an environment that was conducive to discussing vocational identity development or to what extent the participants were simply unprepared for meeting the expectations of the facilitators.

False Assumptions About the Students and Their Relationship with God

Our false assumptions about the participants could also have contributed to the failure of the Lego Serious Play intervention. When designing the intervention, we may have made inaccurate or incomplete assumptions about the participants' prior knowledge, experiences, or motivations. These false assumptions may have led us to design activities that did not align with the participants' needs or interests.

The facilitators' preconceived beliefs could have impacted their teaching behavior, decision-making regarding the Lego Serious Play curriculum delivery, and expectations for student participation. The facilitators assumed to some degree that students came into the Lego Serious Play intervention with some awareness of vocation and how it related to the Christian faith. As the intervention and debriefing interview unfolded, it became clear that the participants needed a deeper understanding of vocation and how it related to a Christian's life. The intervention

could have benefited from scaffolding or motivational strategies to support participant learning and engagement.

Furthermore, it is important to recognize that participants who have developed and internalized an intentional, faith-based worldview are likely to have a different sense of purpose than those who have not. It was presumed that those who had encountered a personal transformation through their faith would approach vocational identity not merely as related to a career but as a calling from God for his divine purposes (Eph. 4:1, Phil. 3:14). It was not apparent that any of the participants did this.

Participants may have viewed their vocation primarily through secular lenses, emphasizing personal interests, skills, and societal expectations rather than a divine calling to lead a holy life, to serve others, and proclaim him to others (1 Pet. 2:9). The role of the Holy Spirit in vocation is central to this understanding of calling. The Holy Spirit guides and empowers believers to discern God's will for their lives (Rom. 8:14, 12:1-2), which will influence their vocational path. The Holy Spirit provides wisdom, clarity, and conviction, enabling individuals to align their talents, passions, and opportunities with God's purposes.

As would be expected in a Christian university that does not have a faith requirement for admission, the participants had diverse backgrounds, perspectives, interest levels, and levels of desire to integrate their faith into the classroom material, making it challenging to design a single-model intervention. It is possible that many or all participants may not have developed a particularly robust faith perspective. In addition, some or all may not have values aligned with the core missional values of the institution despite their presence as students. This is speculative but not completely unfounded, given the institution's open enrollment policy in this study. False assumptions about the students' receptivity to the intervention may have also led to missed opportunities for engagement and learning. Addressing these false assumptions about the participants requires a commitment to cultural humility, empathy, and curiosity. This requires researchers, when designing future interventions, to understand the participants' diverse backgrounds, perspectives, and needs rather than assuming that they would share certain Christian values and beliefs.

Inadequate Sample Size

Another possible reason for the failure was the inadequate sample size. We had expected all students of both classes to complete the online pretest and posttest, but only about half of the participants did so. Some completed one but not the other. We had assumed that the participants had sufficient motivation and skills needed to complete online

surveys to reach a near 100% completion rate. This was a false assumption that points to our need to better understand the motivation and abilities of our students. It is too easy to assume that they have characteristics that they might not possess (Ross et al., 1977). Knowledge and understanding of students' backgrounds are essential for successful faith integration interventions because a foundational prerequisite of loving others is knowledge of their status and needs (cf. Phil. 1:9-10).

Nevertheless, even if we had higher completion rates, the effect of the intervention was so small that hundreds of additional participants would have been needed to make the detection of such a small effect size likely. It is more likely that the intervention as presented was simply ineffective. Moreover, such a small effect size, even if statistically significant, would likely have no practical or visible impact on vocational identity.

Over-Reliance on the Attractiveness of Lego Serious Play

By presenting the materials in one-hour classroom blocks, we may have inhibited opportunities for reflection, given that Lego Serious Play interventions typically are administered in blocks of several hours (Moore & Schatz, 2017). But it is also possible that we simply assumed that Lego, a much-loved toy, would bring out the best in the students and would have positive effects on them regardless of the relevance of the intervention.

McGehee (2022) contends that Lego Serious Play is a tool that can be used for exercising the mental muscle of creative confidence, suggesting that individuals can learn to think differently through this process. Despite a lack of significant results in this study, we remain reasonably optimistic that the methodology can play a key role in cognitive shifts related to faith integration if we were to provide appropriate instructions and possess an adequate understanding of the participants' backgrounds and values. Additional research on Lego Serious Play is needed, with larger groups and at different stages of life. We should integrate the instruction necessary for the students to grasp the subject matter and design Lego Serious Play prompts that are more direct and relevant to the life stage of the participants. We are planning a future study with undergraduate students approaching graduation that will focus on their ability to articulate a Christian worldview in the business ethics framework; the lessons learned from this failure will be incorporated into its design.

Conclusion

Research around Lego Serious Play is relatively new to the academic conversation. While this novel study sought to explore the impact the method would have on building the

vocational identity of freshman students at a Christian university, it opened the door for future exploration of the use of Lego Serious Play as a pedagogical tool in higher education, specifically around faith development. Scott (2019) reminds us that when viewed through a Christian lens, vocational identity involves realizing and cultivating the talents bestowed by God and becomes intertwined with an individual's spiritual growth and maturation. For the first-year students in this study, their spiritual maturity, understanding of God, and ability to link their faith to their vocation may have still been in the early stages of development. Such conditions may have prevented the students from achieving the desired outcomes from the intervention as it was designed. A more appropriately designed Lego Serious Play intervention may lead to better outcomes.

Zenk et al. (2018) contend that the use of Lego Serious Play in the context of higher education requires accurate planning and implementation in order to address the subject of the course as well as the needs of the students. The Lego Serious Play methodology is designed to build on the knowledge that is in the room, meaning that it can draw out ideas, thoughts, and perspectives that may be deeply held or subconscious. This study suggests that a knowledge gap was present in the participants concerning how their faith relates to vocation, career, and identity. Without a foundational understanding of a topic, students have nothing to draw upon to develop their understanding of it and will have difficulty connecting the topic to their lives. A blend of traditional learning followed by a Lego Serious Play intervention to reinforce the ideas and personalize the content may promote deeper learning and engagement in the classroom.

The caveat, as with any pedagogical method, is that the tool and the content must be aligned, accompanied by an understanding of the audience and the context of the learning environment. Additional research may reveal a more effective use of Lego Serious Play to facilitate learning, growth, and development in vocational identity from a Christian perspective. Further research is also needed to develop a faith-based curriculum and pedagogy that contributes to vocational identity. Given its success in other domains of higher education, it is reasonable to conclude that the Lego Serious Play methodology remains an intriguing tool for future Christian educators to use in a variety of settings.

¹The distributions of the data for the experimental group (skew = .08, kurtosis = .11) and control the group (skew = .54, kurtosis = .08) were both normal (Shapiro-Wilk test, $W_{\text{experimental}} = .973, p = .92$; $W_{\text{control}} = .95, p = .69$). There was no evidence that the distributions had unequal variances (Lavene's test for equality of variances, $F = .01, p = .91$). One reviewer suggested using an independent-samples Mann-Whitney U test to test the hypothesis that the values in the experimental group tend to be larger than the values in the control group; however, this hypothesis was not supported (Mean Rank_{experimental} = 9.80, Mean Rank_{control} = 9.13, $U = 43.00, p = .41$). This result is congruent with the independent samples *t*-test which indicated that the means of the two groups were not significantly different.

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