An Approach for Designing Board Games That Promote Children's Social Skills

by

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Abstract

As the world becomes more and more cooperative, children's development of social skills becomes increasingly vital to their personal growth, and most importantly, future success in adulthood. Traditionally, educators intervene in children's social skills development through the method of direct instruction. Despite being empirically proven and widely applied, its effectiveness is limited mainly because of a lack of motivation and simulation. Alternatively, this thesis bases itself on the unparalleled value of play—an innate activity of humankind, specifically playing board games—an archaic yet timeless entertainment, on facilitating the development of children's social skills. Although the benefits of playing board games on children's social skills development have been verified both theoretically and practically, there are few resources available to designers on how to design board games to this end. This thesis reviews the literature on child development, childhood education, and play study in line with the thinking and doing from the industry of educational games and board games, and proposes a new, and hopefully optimal, approach for designing board games that promote children's social skills as the research result. At the end of this thesis, a board game prototype was provided to partially demonstrate how this approach works in practice. With inevitable limitations and imperfections, this thesis remains a good start for further research nevertheless.

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Nearly four years of study in the Auburn MID program made me realize that we humans are essentially social beings relying on and, at the same time, being dominated by our collective imagination. Design, as an innate ability and activity of humankind, materializes this imagination through persuasion mainly in visual language. A great designer can always empathize with others' imperative needs and spark in their minds intense desires for a better life.

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CHAPTER 1—INTRODUCTION

1.1 Problem Statement

The board game, as prehistoric entertainment, is so archaic that its emergence predates even the written language. According to archaeological evidence, the ancestor of board games today can be traced back to the dice found at the 5000-year-old Başur Höyük burial mound in southeast Turkey, which was followed by two royal games called *Senet* and *Ur* excavated respectively in ancient Egypt and southern Iraq around 3000 BC (Attia, 2016).

Although an ancient invention, the board game never gets old-fashioned. It remains popular among players of all ages across time, even in today's game industry where video and mobile games joined as potent competitors. It was reported that the board game market is experiencing a massive upsurge in recent years, with a deluge of thousands of new packages coming in (Brown & MacCallum-Stewart, 2020). Further evidence shows that the global board game market size would continue growing at a CAGR of 13% in the next five years and finally reach $13 billion by 2026 (Business Wire, 2021).

In his book on the history of board games, Donovan (2017) showcased this timelessness and resilience of board games by reviewing the replacement of the Chess Plaza in the southeast corner of Washington Square Park by the Uncommons board game café. In the following chapters, Donovan (2017) systematically explicated the diverse meanings and functions taken by board games under different ages and cultural contexts as well as its ever-changing relations with all aspects of human civilization, including religion, social mores, politics, warfare, education, and

technology. As he said: “But board games have done more than just survive. [...] [They] shaped us, explained us, and molded the world we live in” (p. 7).

Among all these facets of board games, the most noteworthy one is arguably its effects on social relationships and child development. Donovan (2017) wrote in chapter 12 from the perspectives of two protagonists: Rhea Zakich, a California housewife inventing the *Ungame*, and Dr. Jon Freeman, the founder of the Brooklyn Strategist after-school program.

Zakich’s unusual board game *Ungame*, a game with no goal, no winning, and no losing, successfully creates an ideal space enabling players to freely express themselves and sympathetically listen to the emotions of others, and theoretically saves countless people from tensions in social relationships.

The story of the Brooklyn Strategist is a rather relevant one. With a wish to salvage his seven-year-old daughter from the world of digital isolation, Freeman, a former clinical psychologist, envisaged an after-school program based on board games that would help children develop in a fun way (Donovan, 2017). The effectiveness of his program on the enhancement of children’s social skills was in fact an unforeseen outcome to Freeman until he incorporated role-playing board games such as *Dungeons & Dragons* in the program plan by chance.

The developmental significance of playing board games has also been well-recognized by studies on children’s learning from playing board games. In 2019, Türkoğlu published a journal article justifying the effect of the Educational Board Games Training Program (EBGTP) on the social skills development of fourth-graders. During the experimenting period of 20 hours in total, five specifically-chosen board games (*Dixit*, *Brick by Brick*, *Kakuzu*, *Q-bitz Extreme*, and *Math Dice*) were introduced to 40 experimental subjects with an expectation that a positive change happens to their overall social skills in contrast to other 40 control subjects. At the end of the

research study, significant differences were observed between children's scores on The Social Skill Education Scale 7-12 (SSES 7-12), which indicated considerable effectiveness of these board games on developing children's social skills (Türkoğlu, 2019).

A similar conclusion was reached by later researchers as well. With an attempt to increase preschooler's delay of gratification, a self-regulatory skill predicting positive outcomes on social competence, Anzman-Frasca et al. (2020) developed a special board game *Gem Hero*, and conducted two experiments with 98 three- to five-year-old children and their parents to test its feasibility and efficacy. Despite limitations on sample selection and statistical significance, the study offers an innovative and promising developmental approach by providing a game-based experience in which children's act of delaying gratification was awarded, acquired, and kept in their lives (Anzman-Frasca et al., 2020).

The two experiments differ from each other in many aspects: The former study used commercially available board games and the latter study used a customized board game; the former let children play with peers and the latter with parents; the former evaluated children's social skills level through direct assessment and the latter through indirect inference. However, it is still undeniable that children's social competence increased after playing board games in the experiment sessions.

Although the benefits of playing board games on facilitating the development of children's social skills have been proved in both industry and academia, there are few resources available to designers on how to design effective board games to this end, let alone systematic studies on relevant topics. In addition to being a problem rarely studied, applied research on this topic is meaningful and valuable for another three reasons.

1.2 Needs for Study

First of all, social development is as essential as physical and cognitive development to a child's growth into a well-rounded adult. As social beings interdependent from the cradle to the grave, we humans need to be socialized so as to survive and thrive in our daily lives. Handel et al. (2007) demonstrated this imperative of socialization by reviewing reports of "wild" children—those children, for different reasons, were raised by animals and isolated from human society since being born. It was concluded that:

> When such interaction [suitable interaction between very young children and more socialized humans] is missing in the early years, a child is damaged in developing her or his human potential; and later efforts to compensate for such damage require intensive and extensive effort, and success in uncertain. (Handel et al., 2007, p. 40)

Also, as noted by Spodek in the foreword of *Guiding Children's Social Development* by Kostelnik et al. (1988/1993): "the importance of social competence, [is] not only in getting along in society, but in learning to use the intelligence available to every individual" (p. x). Research by the Carnegie Foundation for the Advancement of Teaching exposed a very impressive fact that "even in such technical lines as engineering, appropriately 15 percent of professional success is due to one's technical knowledge and about 85 percent is due to skill in human engineering—to personality and the ability to handle people" (Carnegie, 1936/1998, p. xvi).

Secondly, the most effective approach to help children with this process is through play, an innate activity of humankind. Although personal development happens all the time throughout one's life, the golden period of social development for an individual is before the age of 12, during which "the foundation for all socialization takes place" (Kostelnik et al., 1988/1993, p. xiii). Since

play had been a part of early childhood programs in the Froebelian Kindergarten and the Macmillan Nursery School in the nineteenth century, numerous research and practices have already shown that play is the only effective medium for different types of learnings including social skills (Hromek & Roffey, 2009; Saracho, 2021; Saracho & Spodek, 1998; The Learning Key, n.d.). However, this unique value of play was constantly ignored and gradually undermined nowadays by an increasingly hurried lifestyle and parents' eager wish for producing super-achieving children (Ginsburg, 2007). To eloquently convey such an indispensable part of children's lives, Diana Loomans (n.d.), an author, speaker, and coach in the personal development field, wrote in her poem *If I Had My Child to Raise Over Again*: "If I had my child to raise over again, [...] I'd stop playing serious, and seriously play."

Thirdly, compared with other forms of play, such as toys, sports, dramas, card games, and video games, board games possess many advantages, including being low in cost, optimizing participant engagement, and encouraging more face-to-face interaction. All these features make a board game full of fun for children even if it was used for educational ends (Ellington et al., 1982; Stenson, 2011).

1.3 Objectives of Study

In order to solve the problem and satisfy the needs aforementioned, this study aims to develop an approach for designing board games that promote children's social skills. To this end, goals that ought to be achieved are as following:

- To understand the foundation of child (social) development, childhood education, and childhood sociology.

- To learn what the abilities are that need development for children in different age groups in order to achieve social competence and how the developing process is normally facilitated.
- To figure out how educational games can help in developing these abilities.
- To be familiar with the design and the market of board games, especially those for educational purposes.
- To develop an approach for designing board games that promote children's social skills on the basis of the learnings from previous studies.
- To partially demonstrate the practicability of the approach proposed.

1.4 Definitions of Terms

- BOARD GAME is a game (such as checkers, chess, or backgammon) played by placing or moving pieces on a board (Merriam-Webster, n.d.).
- BOARD GAME CAFÉ is a commercial establishment normally serving food and drinks, and especially offering facilities for playing board games but not for gambling (thecodezombie, 2015).
- CHILD DEVELOPMENT is the field of inquiry that involves the scientific study of the patterns of growth, change, and stability that occur from conception through adolescence (Feldman, 2001, p. 5).
- COGNITIVE DEVELOPMENT is a branch of child development studying the ways that growth and change in intellectual capabilities influence a person's behavior (Feldman, 2001, p. 6).

- GAME is a representative and conflicting system involving surmountable challenges, in which players freely move according to a set of arbitrary rules and voluntarily learn from the reinforcement of their behaviors.
- PHYSICAL DEVELOPMENT is a branch of child development studying how the body's physical makeup, including the brain, nervous system, muscles, and senses, and the need for food, drink, and sleep, helps determine behavior (Feldman, 2001, p. 6).
- PLAY is a pleasurable and meaningful process which happens as a result of spontaneity, changes with one's self-motivation, ends with inside satisfaction or outside compulsion, and involves restrictions, challenges, and sometimes imagination.
- ROLE PLAY (used in games) is a technique in which participants act out the parts of other persons or categories of persons (Ellington et al., 1982, p. 143).
- SOCIAL COMPETENCE is an evaluation of a person's performance in a given social context, which is determined by not only behavioral and observable skills but also language and cognitive skills.
- SOCIAL DEVELOPMENT is a branch of child development studying the way in which individuals' interactions with others and their social relationships grow, change, and remain stable over the course of life (Feldman, 2001, p. 6).
- SOCIAL SKILLS is a set of abilities to behave in a socially acceptable and reinforced manner, to discern the rules and norms of different social situations, to detect others' wishes and intentions and evaluate consequences beforehand, to adjust behaviors according to social feedback from others, and to achieve any personal goal as expected, which is both reciprocal to each other and positive to the whole society.
- SOCIALIZATION is a process in which children are encouraged to adopt socially

desirable behavior patterns through a system of guidance, rewards, and punishments, and as a result, they learn the ways of a given society or social group so that they can adequately participate in it (Etaugh & Rathus, 1995, p. 56; Handel et al., 2007, p. 83).

- SOCIETY is a system of interrelationships that connects together a group of people who live in a particular territory, are subject to a common system of political authority, and are aware of having a distinct identity from other groups (Giddens et al., 2011, p. 42).

1.5 Assumptions

This study is based on a couple of assumptions:

It is assumed that theories on child development proposed from different perspectives, such as psychoanalytic, cognitive, behavioral, ethological, and ecological approaches, complement each other and constitute together a full picture.

It is assumed that the contents and process of children's social development follow a general structure independent of historical and culture factors.

It is assumed that the children for whom the board games are designed already possess the basic physical and cognitive abilities necessary for social skills development and the introduction of board games.

It is assumed that the board games studied in this thesis remain a kind of play, though it serves an educational and developmental purpose.

It is assumed that the research outcomes in the field of educational play and game study can also be applied to the analysis of children's board games.

1.6 Scope and Limits

The scope of this thesis is not limited to the design of the particular board game provided in chapter 4 as a partial demonstration of the design approach. Instead, it is generalizable to the design of most children's board games with an end goal of promoting children's social skills development and cultivating characters positive to the whole society.

Nonetheless, given the resources available and time required for this thesis, the research is limited in six aspects: Firstly, the social skills development of children with delays, disorders, or disabilities is not studied.

Secondly, the choice of children's board games is limited to those available in the North American market, and some latest or less popular games might be left out.

Thirdly, due to the author's educational background, minor errors might appear in the review of literature on child (social) development and childhood education from the professional viewpoint.

Fourthly, the approach proposed in this thesis focuses exclusively on the conceptualizing phase rather than subsequent phases: prototyping, playtesting, developing, and publishing. It is the designer's or design team's responsibility to learn from other resources to ensure a holistic and satisfying outcome.

Fifthly, this approach should be taken as only a source of reference rather than the rule of thumb.

Lastly, this study does not include a testing phase; therefore, its actual effectiveness is not scientifically guaranteed.

1.7 Procedures and Methods

- Step 1—Study the field of child (social) development and childhood education through the method of literature review.
- Step 2—Study children's board games on the market, especially those relating to social skills development through the methods of literature review and case study.
- Step 3—Develop a design approach based on the research outcomes of previous steps.
- Step 4—Develop a prototype of children's board game as a partial demonstration of how this approach works in practice.

1.8 Anticipated Outcomes

The primary outcome of this study is a practical approach for designing board games that promote children's social skills. By following this approach and considering multiple suggestions, board game designers should be able to conceptualize board games that serve as a context for children to practice and master specific social skills.

The secondary outcome is a children's board game prototype that functions as a partial demonstration of the design approach proposed herein.

CHAPTER 2—LITERATURE REVIEW

This chapter is framed into three sections: Why Develop Social Skills, Why Develop Social Skills Through Play, and Why Develop Social Skills Through Playing Board Games, in which literature on child social development, childhood education, play study, and (board) game design is reviewed. Opinions of theorists from different perspectives along with the empirically proved practice of educators and designers are collected, compared, and composed into a coherent whole. The aims of this chapter are to justify the necessity of social skills development for children and to justify the necessity and uniqueness of the facilitating approach proposed in this thesis (through playing board games), comparing with other similar attempts in the past.

Before inquiring into the three questions mentioned at the very beginning, the age range of subjects discussed in this thesis needs to be demarcated and defined to avoid any misunderstanding and misconception.

According to the field of child development, children, people in their childhood, correspond to the age span from three to twelve years old, following the periods of infancy (from birth to one year old) and toddlerhood (from one year old to three years old), and preceding the period of adolescence (from twelve to twenty years old). Children in their early childhood (from three to six years old) are usually called young children or preschoolers, and those in their middle and late childhood (from six to twelve years old) are called older children, school-age children, or grade-schoolers. As was referred to in chapter 1, the period from birth to twelve is primary and fundamental to a person's social development (Kostelnik et al., 1988/1993, p. xiii). Even though there is still debate around how early children can differentiate their internal states from those of

others, “there is evidence that children as young as eighteen months can engage in sympathetically-motivated prosocial acts” (Cartledge & Milburn, 1995, p. 7), which is a critical part of the prerequisite for the training of most social skills. In another aspect, although there are many board games on the market targeted to toddlers, researchers studying children’s play development pointed out that only after the age of four do children gradually start to develop motor, cognitive, and linguistic abilities needed for the introduction of games with simple rules. At the same time, the main function of their play transfers from sensory stimulation to emotional and social development (Johnson, 2006, pp. 17-18). Therefore, the subjects in this thesis are narrowed down to children aged four to twelve.

2.1 Why Develop Social Skills

Considerable research has shown that most children gradually become more independent and attentive to their relationships with peers and adults by the end of toddlerhood. The famous developmental psychologist Jean Piaget termed the ages from two to seven the preoperational stage, during which children begin to contemplate their behaviors and the potential outcomes (Etaugh & Rathus, 1995, pp. 64-65; McGinnis & Goldstein, 2003, p. 3). Besides other significant changes happening in this period, such as language acquisition and awareness of feelings, the development of social skills is indispensable as well to young children’s increasingly frequent and complex social interactions. In order to better understand the importance of social skills to all aspects of children’s lives, however, it is necessary to give them a clear definition. The first subsection reviews some opinions from previous scholars and closes with the author’s interpretation of social skills based on them.

2.1.1 Definition of Social Skills

Social skills, prosocial skills, or interpersonal skills have always been a topic of interest appealing to a large group of theorists working on giving it an accurate description. The comparatively earliest definition seems to be the one presented by Libet and Lewinsohn (1973): "the complex ability both to emit behaviors which are positively or negatively reinforced and not to emit behaviors which are punished or extinguished by others" (p. 304). Another one came from Combs and Slaby (1977): "the ability to interact with others in a given social context in specific ways that are societally acceptable or valued and at the same time personally beneficial, mutually beneficial, or beneficial primarily to others" (p. 162). Compared with the definition from Libet and Lewinsohn, Combs and Slaby further consider the situation of social skills besides its outcomes. Trower (1980) afterward discriminated social skills into skill components and skill processes. The first refers to "actual normative behaviors—single elements (looks, nods, lexical clauses, etc.) or identifiable sequences of elements (greetings, partings, segments of discourse) that ordinary people use in social interaction in given subcultures and that are governed by social rules" (p. 328). The second refers to "the individual's ability to generate skilled behavior according to rules and goals and in response to social feedback" (p. 328). His definition sheds light on the successful initiation of social skills, which demands a conjunctive use of a person's knowledge, awareness, and adjustment of good manners.

Subsequent opinions then mainly focused on the purpose, that is, the acquisition of tangible benefits or the achievement of individual goals through positive social interactions. For example, Argyle (1981) incisively stated that: "by socially skilled behavior I mean social behavior which is effective in realizing the goals of the interactor" (p. 1). Likewise, Kelly (1982) described social skills in a similar but implicit manner: "those identifiable, learned behaviors that individuals use

in interpersonal situations to obtain or to maintain reinforcement from their environment" (p. 3). Then he added that: "social skills can essentially be viewed as behavioral pathways or avenues to an individual's goals" (p. 3). Kelly's work was reviewed and acclaimed later by Matson and Ollendick (1988, pp. 6-7) with a summary of three kinds of goals one might obtain from maintaining social reinforcement: (a) building and sustaining relationships, (b) secondary gains (e.g., a good grade for children or monetary rewards for adults), and (c) the accomplished handling of unreasonable behaviors of others. Finally, Elliott and Gresham (1987) reviewed plenty of definitions of social skills proposed at their time and divided them into two types: the peer acceptance definition and the behavioral definition, from which they developed the social validity definition which quickly received increasing empirical support from contemporary scholars:

> Social skills are those behaviors exhibited in specific situations that help in predicting a child's attitude on important social outcomes. Important social outcomes for children and young people of school age include (a) acceptance by the peer groups, (b) significant others' judgments of social skills (e.g., teachers, parents), (c) academic competence, (d) adequate self-concept or self-esteem, and (e) adequate psychological adjustment (i.e., absence of psychopathology). (p. 96)

In comparing the seven definitions of social skills above, it is evident that although each varies from one another to some extent, the similarity among them is nevertheless greater than the difference.

So, the definition of social skills in this thesis is integrated and concluded as: the ability to behave in a socially acceptable and reinforced manner, to discern the rules and norms of different social situations, to detect others' wishes and intentions and evaluate consequences beforehand, to adjust behaviors according to social feedback from others, and to achieve any personal goal as

expected, which is both reciprocal to each other and positive to the whole society.

However, most of the time, the term social competence is considered a synonym and used interchangeably with social skills. Therefore, to further clarify the notion of social skills and the scope of this thesis, the remainder of this subsection makes an effort to differentiate between these two concepts. The distinction between social competence and social skills was first clearly articulated in a frequently cited article by McFall (1982), which is:

> Social skills are the specific behaviors that an individual must exhibit to perform competently on a given task. On the other hand, social competence is an evaluative or summary term based on conclusions or judgments that the person has performed the task adequately. (Merrell & Gimpel, 1998, p. 9)

Another contemporary scholar, Hops (1983), confirmed it with pretty much the same conclusion: "Competence is a summary term which reflects social judgment about the general quality of an individual's performance in a given situation" (p. 3). Their arguments were complemented by later research. Gresham (1986) elaborated on different scales against which one's social competence was measured: "these judgments may be based on opinions of significant others (e.g., parents [and] teachers), comparisons to explicit criteria (e.g., number of social tasks correctly performed in relation to some criterion), or comparisons to some normative sample" (p. 146). And Hops and Finch (1985) expanded the skill types involved in the measurement of social competence with their research result that "motor skill performance is a more powerful predictor of how the child is perceived by social agents in the environment than was performance in social skills" (p. 35).

From the opinions aforementioned, it is easy to see that the scope of social competence is larger than that of social skills in two main dimensions. First, social skills regard the behavioral performance of a person in a specific social context, whereas social competence regards the

measurement of that performance. Second, a person's social competence is determined by not only behavioral and observable skills but also many other abilities, such as motor, language, and cognitive skills. Although some of them are incorporated in the design approach proposed in chapter 3, the focus of this thesis remains on behavioral and observable skills.

2.1.2 Importance of Social Skills

The great impact of social skills development on all aspects of children's lives has been soundly demonstrated in a big volume of papers, reports, and treatises. First and foremost, children in their preschool years begin to develop a strong emotional desire for others' stable relationships with them (i.e., friendship and popularity). As research has shown, although physical attractiveness (i.e., the "beautiful is good" stereotype) exerts a great influence on children's popularity, their social skills and behaviors also play a critical part in their likability for peers and adults (Feldman, 2001, p. 292). That is to say, children possessing more positive social skills tend to smile more often, perform less aggressive or disruptive behaviors, and are more cooperative, thoughtful, and welcome to their peers (Mendelson et al., 1994, pp. 413-414; Philippot & Feldman, 1990, p. 52).

Secondly, for most children, self-esteem forms in the preschool years and continues to develop throughout their middle and late childhood and adolescence despite a slight decline around the age of twelve (Feldman, 2001, p. 388). Concerning the relationship between self-esteem and social skills, Kelly (1982) noted that: "such constructs as self-esteem or self-concept are thereby determined by the interpersonal relations and feedback that an individual receives during the course of development" (p. 11). Most often, children described as problematic students suffer poor self-esteem. One way to tackle this issue is to help these children be more competent and confident that their behaviors can produce positive consequences. When children are aware of their

possession of skills and abilities to make changes, their self-esteem is expected to improve (McGinnis & Goldstein, 1997, pp. 4-5).

Thirdly, social skills are fundamental for children to take full advantage of educational activities. In an experiment with 48 primary students, Walker and Hops (1976) found a significant difference in academic achievement between those who were more socially skilled and those less. Siperstein and Rickards (2004, p. 2) further explained in the opening of their book that since teachers usually use strategies, such as group studying and peer tutoring, to improve students' academic performance, social skills become required for them to interact with one another in a collaborative and productive way. Otherwise, students might be unable to benefit from these teaching patterns.

Fourthly, the development of social skills is believed to prevent frequent occurrences of children's violence. In 1972, Roff et al. (p. 180) indicated that children's inadequacy of social skills is either directly or indirectly related to their adoption of a delinquent lifestyle. The National Association for the Education of Young Children (1993) subsequently confirmed that the lack of social skills is among the main factors leading to the increased prevalence of violence among American children. The root of this phenomenon was commented on by Natale (1994):

> Kids who commit violent acts often do so because they believe their choices are limited [...] children with that view have learned aggression is a viable tool for resolving conflict—in fact, they've learned it's one of their only tools. (p. 38)

Many scholars, therefore, called for interventions, such as teaching alternative skills and conflict resolution strategies, in children's development at a very early age as well as a transition of schools' curricular approaches from "the teaching of facts" to "the teaching of tools" (McGinnis & Goldstein, 1997, pp. 9-10, 22-23).

Lastly, social skills are considered relevant to a positive classroom and school climate. Siperstein and Rickards (2004) observed that:

> Every day, teachers deal with the conflicts, emotional outbursts, changing alliances, and hurt feelings that so often characterize the social interactions of children. All of these events affect, and often interrupt, student learning. The more time you take to deal with conflicts and inappropriate behavior, the less time you have to devote to teaching actual subject matter. (p. 2)

Moreover, the imperative of establishing desirable behavioral patterns in school-age children has been frequently cited as a critical term on the agenda of creating a safe school environment in school reform (McGinnis & Goldstein, 1997, p. 14).

2.1.3 Practicability of Social Skills Intervention

Evidently, children develop socially in many aspects, including self-concept, gender and ethnic identity, morality, and social skills as a part of them. Most of them, however, not only require a long-term intervention from a wide range of influencers, such as parents, teachers, neighbors, policymakers, and mass media, but also are die-hard once being established. For instance, the formation of preschoolers' self-concept reflects the particular worldview of the culture that they belong to. Specifically, children in Western societies tend to view themselves individually, whereas those in Asian societies are more likely to consider themselves as a part of social relations (Feldman, 2001, p. 285). As they get older, self-esteem (i.e., the sense of value or worth people attach to themselves) starts to become the most essential part of self-concept. Many studies have suggested that children raised by authoritative parents, those who adopt both restrictive and communicative attitudes to their children, often have a favorable self-esteem

compared to those growing up in an authoritarian family demanding only submission and obedience (Etaugh & Rathus, 1995, p. 450). Moral development is another issue exemplifying the complexity and difficulty of intervention because children are very easily affected by immoral behaviors happening around them (e.g., violent television shows) and therefore become aggressive similarly (Feldman, 2001, pp. 304-307). In fact, many educators have tried to incorporate moral education into their training programs in the form of moral reasoning, in which children were exposed to cognitive conflicts relating to moral dilemmas and encouraged to consider, discuss, and examine their reasoning. Nonetheless, the effectiveness and benefits of these practices remained somewhat undetermined and only experimental (Merrell & Gimpel, 1998, pp. 153-154).

The development of social skills, however, is more likely to be successfully intervened in due to its behavioral and observable attributes. As a result, a number of empirically proved curricula have been proposed and published.

First introduced in 1976, the *Skillstreaming* social skills training program developed by Ellen McGinnis and Arnold P. Goldstein is arguably one of the earliest and most broadly-applied curricula in the United States. Its effectiveness has been validated by numerous studies conducted over the years and with different populations (McGinnis & Goldstein, 1997, p. ix). The whole program includes three books prepared respectively for the teaching of social skills to preschoolers, grade-schoolers, and adolescents, which are nearly identical in terms of their general principles, teaching approaches, and learning models. The only apparent difference lies in the number of social skills for each age level. The curriculum for the preschool level (age three to six) contains forty prosocial skills grouped into six categories, whereas that for the elementary school level (age six to twelve) has sixty skills in five categories.

Thomas M. Stephens presented another similarly early curriculum aimed at school-age

children in 1978. It features a "directive teaching" approach which is, according to Stephens (1978), "a system of teaching, consisting of assessing students' academic and social performance, planning instruction based upon the assessment information, implementing the instructional strategies in the plan, and evaluating the effects of instruction" (p. xii). There are a hundred and thirty-six specific social skills in total indexed and organized into thirty subcategories and grouped into four major categories (environmental behaviors, interpersonal behaviors, self-related behaviors, and task-related behaviors). Each of them was analyzed in detail in the aspects of assessment methods, teaching strategies under different conditions, and evaluation procedures after instruction.

The last program, *Getting Along With Others*, was contributed by Nancy F. Jackson, Donald A. Jackson, and Cathy Monroe in 1983 for elementary school students. This program provides two separate manuals (a program guide and an activity book) which specify what to do and say in each class session, and materials that might be used by participants. Because of its primary philosophy: "all interactions are opportunities for children to improve their social behavior and to receive support and positive consequences for doing so" (Jackson et al., 1983, p. 1), this program focuses more on the interaction between teachers and children and the application of the skills acquired in class into real-life settings. Although only seventeen core social skills were included in this program, it was one of the most complete training guides in terms of curriculum structure at its time.

2.1.4 Possibilities of Social Skills Intervention

Just like the three social skills training programs discussed above, most programs commercially available share considerable similarities, in spite of each having unique features. Because of this commonality, they are all subject to similar limits in facilitating children's social

skills development.

Firstly, most of them are based on the principle of direct instruction and therefore inevitably fall short of providing the ideal context for practice. In each lesson, a target social skill chosen from the training plan is introduced, thoroughly explained, and displayed by living or inanimate models to a group of children. Students then role play with each other and receive feedback from teachers on the correctness and quality of their performance. Although some programs suggest pre-assessment and after-evaluation for each session, with which a certain modification or customization is made corresponding to the learner's skill level, the variation on the training contents and progress is still minor. In other words, children in social skills training learn in much the same way as they learn academic concepts (Cartledge & Milburn, 1995, p. 75). Despite the inclusion of role play in the teaching schedule, it was still considered as, in most cases, a step in the structured and pre-planned process, which provides students with only an opportunity to rehearse the skills being taught (Stephens, 1978, p. 7).

The experience from childhood education has revealed that the actual acquisition of social skills takes time and effort, especially because it can only be more efficiently internalized in real-life settings (Kostelnik et al., 1988/1993, p. 7; McGinnis & Goldstein, 1997, p. 169). Concerning strategies useful to complement direct instruction of prosocial behaviors, Kostelnik et al. (1988/1993) suggested "teaching children games that promote cooperation and awareness of others" (p. 414).

Secondly, all these programs lay much stress on teaching strategies and managing techniques, and therefore focus on a teacher-directed approach and tend to ignore the encouraging effect of children's free play in the development of social skills. The manuals of *Skillstreaming* training program and Stephens's curriculum both spent a number of pages talking about the

arrangement and implementation of the training as well as the issues related to reinforcement, refinement, maintenance, and generalization of learned behaviors. Later practices like *Getting Along With Others* started to incorporate free play, snack time, and games into daily schedule. The role of these activities, however, seems more like a reward or punishment to children's performance and attitude in their learning process. For instance, the program guide of *Getting Along With Others* recommends teachers to allow only children completing homework satisfactorily go and get a game, and to add more written questions or role play practice for those habitually not bringing completed homework (Jackson et al., 1983, p. 76). Albeit a certain degree of challenges is needed in children's learning process, these practices overlook the fact that "children learn best when they feel comfortable and secure, [...] when they are in the company of people they trust and like, [and] when they know that mistakes are tolerated" (Kostelnik et al., 1988/1993, p. 7).

Fortunately, the value of free play and game was gradually realized by later researchers like Cartledge and Milburn (1995) who noticed that "Games are particularly useful for providing motivation and introducing social skills teaching in a nonthreatening context" (p. 171). His opinion was further advocated by following practitioners with the conclusion that group games like board games and role-playing games can be developed and used to enhance the learning of various social skills (McGinnis & Goldstein, 2003, p. 179).

To sum up, social skills are not only valuable for children's success and happiness in social life but also possible for adults to intervene and help. Although the systematic curriculum is the most common practice and well-applied approach nowadays, there is still weakness and thereby room to improve. First, children need a more realistic simulation to truly practice these behavioral skills learned in class. In the meantime, the whole process needs to take place in a motivational

manner, specifically, in a balance between challenge and chance. In the following sections, the potential benefits of playing board games on these two issues (i.e., simulation and motivation) would be justified.

2.2 Why Develop Social Skills Through Play

Up to now, it has been justified that children need to learn and practice social skills and that adults can intervene in this process through direct instruction, despite limitations to some extent. Since this thesis takes playing board games as its unique approach, it is therefore also necessary to justify the value and validity of children's play, especially the play relevant to board games, in facilitating their social skills development. This section starts with a summary of defining characteristics of children's play activities and a proposition of its definition from the author. It is then followed by a classification of children's play for the purpose of specifying the particular types of play exclusively concerned in this thesis (i.e., dramatic play, social play, and games-with-rules). Lastly, explanations on how these types of play contribute to children's social skills development were provided as a close of this section.

2.2.1 Defining Characteristics of Play

In order to recognize the value of children's play on their social skills development, a unified and reliable understanding of its nature needs to be established at first. For a long period of time, numerous childhood educators, developmental psychologists, philosophers, and other researchers have tried to understand children's play from multiple viewpoints. Some opinions of them, however, are considered as inappropriate today. For instance, early childhood pioneers like

Friedrich Froebel and Maria Montessori developed systematic and prescriptive ways to integrate play activities in childhood education. Since children have to follow precise directions when using materials, these activities lacking playfulness and spontaneity would not be regarded as play today (Saracho, 2021, p. 6). Some professionals also tried to render a serious meaning to children's play by stating that "play is the work of the child," which is misrepresentative and only communicates a false sense of play (Saracho, 2021, p. 7).

Schiller:	The aimless expenditure of exuberant energy.
Guts Muths:	The natural exercise and recreation of body and mind.
Froebel:	The natural unfolding of the germinal leaves of childhood.
Ruskin:	Exertion of body or mind, made to please ourselves, without a determined end.
Spencer:	Superfluous actions taking place instinctively in the absence of real actions. ... Activity performed for the immediate gratification derived, without regard for ulterior benefits.
Lazarus:	Play is activity which is in itself free, aimless, amusing or diverting.
Webster's Dictionary:	Any exercise or series of actions intended for amusement or diversion.
Standard Dictionary:	Action without special aim, or for amusement.
Hall:	The motor habits and spirit of the past persisting in the present.
Groos:	Instinctive practice, without serious intent, of activities that will later be essential to life.
Strayer and Norsworthy:	The manifestation of instincts and tendencies not immediately useful.
Seashore:	Free self-expression for the pleasure of expression.
Lee:	Instinctive activity, looking toward an ideal.
Dewey:	Activities not consciously performed for the sake of any result beyond themselves.
Gulick:	What we do because we want to do it.
Colvin and Bagley:	An act performed spontaneously and for no conscious purpose beyond the activity itself.
Stern:	Play is voluntary, self-sufficient activity.
Patrick:	Those human activities which are free and spontaneous and which are pursued for their own sake alone. Interest in them is self-sustaining, and they are not continued under any internal or external compulsion.
Allin:	Play refers to those activities which are accompanied by a state of comparative pleasure, exhilaration, power, and the feeling of self-initiative.
Curti:	Highly motivated activity which, as free from conflicts, is usually, though not always, pleasurable.

Table 2-1: Historical Definitions of Children's Play (Mitchell & Mason, 1934, pp. 86-87)

Scholars in the earliest period like Mitchell and Mason (1934) tried to distill an inclusive

understanding of play by reviewing and comparing extensive definitions proposed by previous thinkers and philosophers (see Table 2-1). It is easy to see that, in the early ages, opinions towards the meaning of children's play were mostly negative (e.g., aimless, superfluous, and selfish). Some opinions took a neutral stance (e.g., natural, instinctive, and unconscious), whereas only one or two of them viewed children's play from a positive perspective (e.g., essential and pleasurable). Since each interpretation is so distinctive from another, the problem of defining play has yet to be resolved.

As an alternative, later researchers suggested combining the characteristics of play regarding a person's motives and attitudes in giving it a definition (Saracho & Spodek, 1998, p. 4). However, there was little empirical evidence on selecting one set of characteristics over another to define an activity as play (Spodek & Saracho, 1988, p. 11). In the following decades, scholars continually argued against each other about the appropriateness of different sets of play criteria. For example, the criteria suggested by Krasnor and Pepler (1980) (i.e., flexibility, positive affect, intrinsic motivation, and non-literality) was questioned by Sutton-Smith and Kelly-Byrne (1984) for the reason that some forms of play are not actually voluntary or flexible and that play may sometimes relate to negative effects (Saracho, 2021, p. 8). Finally, Rubin et al. (1983, pp. 698-700) intensively reviewed about four hundred and fifty publications between 1970 and 1982 and specified six criteria serving to distinguish play from other activities, which was then summarized by Spodek and Saracho (1994) as a set of principles:

> Play is motivated by the satisfaction gained from the activity. It is not governed by basic needs or drives, or by social demands. [...] Players are concerned with activities more than with goals. Goals are self-imposed, and the behavior of the players is spontaneous. [...] Play occurs with familiar objects or following the exploration of unfamiliar objects.

> Children supply their own meanings to play activities and control the activity themselves. [...] Play activities can be nonliteral. [...] Play is free from the rules imposed from the outside, and the rules that do exist can be changed by the players. [...] Play requires the active engagement of the players. (pp. 199-200)

On the basis of former scholars' works, Frost (1992) provided another group of characteristics:

> Play is a source of pleasure, evidenced by expressions of joy and excitement by the participants. [...] Play is carried on for its own sake with emphasis on the play itself rather than its outcome. [...] Play is free of imposed rules or tasks. [...] Play is intrinsically motivated. [...] Play is spontaneous and voluntary. [...] Play requires active involvement of the individual player. [...] In symbolic or dramatic play characteristic of early childhood, play is a simulative, nonliteral, symbolic behavior that bridges the imaginary and real worlds and is characterized by an "as if" consciousness. [...] In organized play or games with rules, characteristic of early and middle childhood, play is bound by rules. (p. 14)

Subsequently, Fromberg (2002, pp. 10-12) described children's play using such adjectives as voluntary, meaningful, symbolic, rule-governed, pleasurable, and episodic. And Gray (2017) concluded that "an activity is play, or is playful, to the degree that it contains the following four characteristics. [...] (1) self-chosen and self-directed, (2) intrinsically motivated, (3) guided by mental rules that leave room for creativity, and (4) imaginative" (p. 220).

In summary, scholars in modern days gradually reached a consensus that play is a positive and indispensable part of childhood. Therefore, the definition of children's play is proposed by the author as: Play is a pleasurable and meaningful process which happens as a result of spontaneity, changes with one's self-motivation, ends with inside satisfaction or outside compulsion, and involves restrictions, challenges, and sometimes imagination.

As a close of this subsection, a definition from the International Play Association is quoted below since it gives children's play a comprehensive, definitive, and concise description from the author's viewpoint.

> Children's play is any behavior, activity or process initiated, controlled and structured by children themselves; it takes place whenever and wherever opportunities arise. Caregivers may contribute to the creation of environments in which play takes place, but play itself is non-compulsory, driven by intrinsic motivation and undertaken for its own sake, rather than as a means to an end. Play involves the exercise of autonomy, physical, mental or emotional activity, and has the potential to take infinite forms, either in groups or alone. These forms will change and be adapted throughout the course of childhood. The key characteristics of play are fun, uncertainty, challenge, flexibility and non-productivity. (International Play Association, 2016)

2.2.2 Classifications of Play

The defining characteristics of play depicted so far can be helpful to understand the big picture of children's play. But it is important to note that children's play behavior changes constantly and manifests itself in several forms across different stages for each individual. Children may play physically or intellectually, realistically or imaginatively, exploratively or creatively, and solitarily or socially. This property indeed leads to considerable effort of scholars in sorting them. So, why does it matter for game designers to put tremendous effort into figuring it out? First, it helps designers create a developmentally appropriate play experience, a critical quality of any product designed for children in educational play. Since children have inclination and aversion to certain types of play across different developmental stages, it is responsible for designers to adapt

the features of their board games to such preferences. Second, it helps designers align the play experience to particular developmental or educational goals. As will be reviewed, different types of play encourage specific aspects of development and certain kinds of learning, though not exclusively. In design practice, the elements of a product should facilitate the occurrence of particular types of play so that children can develop and learn as expected. Third, it helps designers better research children's board games on the market and design theirs. There are no purely new games throughout history. Most games, especially educational games, evolve from the antecedent. Understanding different types of play and their developmental and educational meanings would provide designers with a new perspective when inspecting the board games published previously.

Traditionally, researchers classified children's play by its structural components (i.e., "What is the child doing?") and its social participation contexts (i.e., "With whom is the child playing?") (Rubin & Coplan, 1998, p. 145). The first approach derived largely from Piaget's authoritative book *Play, Dreams, and Imitation in Childhood* (1962), in which he described three stages of children's play that approximately match the periods of their intellectual development (Frost, 1992, p. 78). The first stage is practice play in the period of infancy, which results from reflexive patterns of physical behaviors. The second is symbolic play which happens mainly among preschoolers. The third is games-with-rules typical for older children (Spodek & Saracho, 1988, p. 14). According to Frost (1992, p. 79), Piaget didn't observe constructive play in a distinctive developmental stage as he did with practice play, symbolic play, and games-with-rules. So, he maintained that constructive play "occupy, at the second [symbolic play], and more particularly at the third level [games-with-rules], a position half-way between play and intelligent work, or between play and imitation" (Piaget, 1962, p. 113). After a few years, Smilansky (1968), based on her studies on lower socioeconomic Israeli children, elaborated Piaget's category into

functional play, constructive play, dramatic play, and games-with-rules (see Table 2-2). She argued that these four types of play develop in a relatively fixed sequence and that each was initiated by a question whose answer leads to the next question to be solved (Kieff & Casbergue, 2000, p. 23; Rubin & Coplan, 1998, p. 146).

Practice/Functional Play:	This play occurs during the early sensorimotor period of development, in which the child repeats the same movements with or without objects in order to gain pure pleasure from the performance of behavior itself or to practice newly acquired skills.
	It does not disappear with the onset of other forms of play. Instead, it becomes more complex, involves new play materials or equipment, and is frequently integrated with constructive and dramatic play.
	Examples of this play are kicking balls, /Jenga/, and seesaws.
Constructive Play:	This play emerges around twenty-two to twenty-four months of age, in which the child builds or creates something and replaces random movements with goal-oriented movements, language, imitation, and dramatics.
	Examples of this play are /Lego/, /Robot Turtles/, and sandbox.
Symbolic/Dramatic Play:	This play happens by the end of the second year, in which the child begins to use things, actions, or language to represent absent objects or events.
	It may evolve into sociodramatic play in which a group of children pretend or take on someone else's role, imitating actions and speech they have encountered in some situations.
	Examples of this play are prop boxes, /Dungeons & Dragons/, and playhouses.
Games-with-rules:	This play takes place around five or six years of age, in which the child conforms to the external rules and a division of labor, and learns to control their behaviors within limits and adjust to them.
	Examples of this play are Rubik's Cube, /Monopoly/, and sports.

Table 2-2: Piaget's/Smilansky's Classification of Children's Play (Frost, 1992, pp. 78-83; Rubin & Coplan, 1998, p. 145)

The second approach attributes to the classic study of Parten (1932) in which she discovered that the social participation of preschooler's play increases with their ages (Frost, 1992, p. 85). By observing children aged two to five at free play, she identified six types of play with different levels of social participation: unoccupied play, onlooker play, solitary play, parallel play, associative play, and cooperative (or social) play (see Table 2-3). Parten believed that cooperative play is more advanced than solitary play and that parallel play is a transition from solitary play to cooperative play (Saracho, 2021, p. 17).

Unoccupied Play:	The child is not playing at all, either staring blankly into space or wandering aimlessly.
Onlooker Play:	The child is not playing but watching an ongoing play of others.
Solitary Play:	The child is playing alone and oblivious to others in the room.
Parallel Play:	The child is playing individually in close proximity with the other, perhaps communicating nonverbally and sharing materials, but having no attempt to coordinate play.
Associative Play:	The child is playing in close proximity with the other, communicating verbally and sharing materials, but pursuing individual goals.
Cooperative/Social Play:	The child is playing in close proximity with the other, communicating verbally and sharing materials, also joining a negotiation to determine group goals.

Table 2-3: Parten's Classification of Children's Play (Kieff & Casbergue, 2000, p. 26; Rubin & Coplan, 1998, p. 146)

Later, researchers began to combine Piaget's category with Parten's and argued that a complete understanding of children's play must consider the interaction of play content with play context (Rubin & Coplan, 1998, p. 147). Some scholars also made minor changes to their classifying systems. For example, Rubin et al. (1978) modified the scale slightly by collapsing Parten's associative and cooperative play into group play to make it more reliable and easier to use. Some scholars proposed new categories and utilized these to observe and assess young children's cognitive and social behaviors (Frost, 1992, pp. 90-92). Some questioned the effectiveness of such classifications on people's understanding of play with a remark:

> This classification of play into physical play, manipulative play, symbolic play, and games seems quite logical. Unfortunately, the distinctions implied are more arbitrary than real. Still, some sort of taxonomy seems essential, if only because it helps us see the range of activities that come under the heading of play. But taxonomies point out the differences better than similarities. In fact, after examining the myriad types of play, one might easily despair of ever reaching any agreement about what play is. (Chance, 1979, p. 9)

However, it is worth knowing that although suffering from many arguments and critics, the two categories proposed by Piaget/Smilansky and Parten remain the most accepted classifying systems

of children's play in academia and the most widely-applied in prekindergarten through elementary classrooms. Therefore, all the discussions on children's play in this thesis will be based on Piaget's/Smilansky's and Parten's works.

Additionally, in the research process, the author noticed that perhaps because of the growth of child development as a research field and the increasing attention to childhood education from the public, the taxonomy of children's play gets more and more complicated. This phenomenon can be troublesome for outsiders like designers to explore or communicate new ideas. Therefore, as to this inconsistency of the taxonomy, the author would like to briefly clarify three typical sources of confusion.

The first kind of confusion is called "renaming", which simply means the confusion results from a new name given to the old thing. For instance, dramatic play was sometimes renamed as fantasy play, make-believe play, or imaginative play; functional play was renamed as mastery play, manipulative play, or explorative play. The second kind is called "refining", which represents the confusion caused by specifically depicting the contents of a play activity. Many scholars or bloggers incorporate role play, block play, or rough-and-tumble play into their taxonomies. The third and arguably the most complicated kind is called "regrouping", which is to say the play activities were categorized under multiple classifying standards. For example, object play and language play refer to a sorting by the medium of play; physical play, cognitive play, and creative play refer to a sorting by the developmental goal of play; competitive play and deep play refer to a sorting by the experience of play; indoor play and outdoor play refer to a sorting by the environment of play. Designers might find the third way of classification to be extremely confusing due to its floating rules.

2.2.3 Developmental Significance of Play

The knowledge from philosophers (e.g., John Amos Comenius, John Locke, Jean Jacques Rousseau), theorists (e.g., Jean Piaget, Lev Vygotsky, Erik Erikson), and educators (e.g., Friedrich Froebel, Maria Montessori) has revealed that children's learning, especially for young children, differs from that of adolescents or adults (Saracho, 2021, p. ix). According to Kostelnik et al. (1988/1993), "children do not learn everything by direct instruction. Instead, they learn many things indirectly through experiencing the consequences of their actions" (p. 143). In spite of being a little absolute and extreme, the quote clearly demonstrates the distinctive value of play on children's learning and a broad range of developmental goals. According to the constructivist view, children build knowledge and skills through a continuous and spiraling process of construction. Children actively learn, transforming prior knowledge into new understandings and ways of thinking while interacting with people and objects in their environment. With each transformation, knowledge and skills become more sophisticated and more personally meaningful for the child (Hoorn et al., 2007, pp. 28-29). Moreover, play integrates a child's physical, intellectual, emotional, linguistic, and social developments into unity (Hoorn et al., 2007, p. 3). Therefore, play not only is a supportive medium for children's complete aspects of development but also coordinates and consolidates different developmental dimensions into a competent wholeness. Kieff and Casbergue (2000) partially enumerated some examples of skills that can be developed and enhanced through children's play (see Table 2-4). Although children's play influences all these competencies in a unified way, the aim of this thesis is to help children develop social skills from playing board games. Research has already shown that children tend to play with a broader range of peers since the preschool period than toddlers, which was evidenced by a significant increase in sociodramatic play and games-with-rules (Rubin & Coplan, 1998, p. 149). Therefore, the

following discussions will exclusively center on how the three types of play (i.e., dramatic play, social play, and games-with-rules) take critical roles in children's development of socially competent behaviors.

Creative Expression:	Improvising; Thinking flexibly; Exploring new options; Extending and elaborating on ideas; Manipulating rhythm, sound, form, and volume; Testing new materials.
Cognitive Competencies and Literacy Skills:	Developing symbolic capabilities; Practicing newly acquired skills; Attempting novel or challenging tasks; Solving complex problems; Making predictions; Drawing conclusions; Comparing sizes, shapes, colors; Determining cause and effect; Developing an understanding of time; Enhancing literacy skills; Energizing and organizing learning; Paying attention to a project until it is done.
Social Competence:	Interacting with others; Expressing and controlling emotions; Taking on new roles; Sharing; Taking turns; Negotiating to resolve problems; Settling arguments; Cooperating; Having and being friends.
Healthy Lifestyle:	Refining large motor skills; Refining small motor skills; Understanding safety concerns; Understanding nutrition concepts; Developing trust in one's own capabilities.

Table 2-4: Skills Relevant to Children's Play (Kieff & Casbergue, 2000, pp. 9-10)

Due to its comparatively early emergence by the end of the second year, dramatic play lays the foundation for children's social skills development in a couple of ways. First of all, dramatic play creates an imaginary context where children behave in accordance with not only external stimuli but also internal ideas. Which is to say, "the child begins to act independently of what he sees" (Vygotsky, 1978, p. 97). As a result, children learn to think before doing and act in a purposeful and responsible manner (Creasey et al., 1998, p. 122). Second, while engaging in dramatic play, children also acquire the awareness of social context or a sense of savoir-faire from repeat practices of certain experiences uncommon in real life (Chance, 1979, p. 33). Lastly, since dramatic play is also characterized by the opportunity for children to take different roles, it enables them to empathize, to be sensitive to others' feelings, and to be expressive of their own emotions (Chance, 1979, p. 33; Kieff & Casbergue, 2000, p. 90).

With the arrival of social play around the age of four, children are exposed to frequent peer interaction with a wide range of playmates, which provides them with an important context that facilitates the acquisition and improvement of social skills. From the perspective of social learning

theory, social interaction is one of the most significant factors shaping children's social behaviors in the near future (Curry & Bergen, 1988, p. 122). In social play, children give meanings for each social behavior in terms of the consequences of the behaviors and the context in which it occurs (Saracho, 2021, p. 9). The simplest and most subtle skills children learn at the beginning of this process are making eye contact with whom they are talking to and facing to whomever they wish to play with. These behaviors imply a mastery of communicating art (Chance, 1979, pp. 32, 34). Strategies on entering a play session or extending ongoing play are also learned in like manner. These strategies not only indicate social competence but also give children a chance to get familiar with the influence of their actions on each other's decisions (Fromberg, 2002, pp. 22-23). The following skills to acquire in the process of social play are negotiating and compromising on the plan of play, cooperating and helping to attain collective goals, and temper-managing and conflict-settling in the face of arguments and disagreements (Curry & Bergen, 1988, p. 127; Johnson et al., 2005, p. 144; Saracho, 2021, p. 10). Piaget (1926) suggested that these conflicting moments are actually a unique learning environment for children to realize that people can hold different viewpoints from their own and that a person's behaviors should be treated according to his or her intentions instead of objective consequences. And such experience often equips children with perspective-taking and problem-solving abilities (Creasey et al., 1998, p. 121; Saracho, 2021, p. 11). In addition, play with peers is a safe haven without adult's supervision, in which children can freely make and correct mistakes, readily share concerns, explore issues of intimacy and trust, and eventually learn to be reciprocal and mutually encouraging (Creasey et al., 1998, pp. 126, 132; Rubin & Coplan, 1998, p. 150).

Earlier than Piaget assumed, at about five or six years of age, children are already able to play within the bounds of rules (Curry & Bergen, 1988, p. 125; Frost, 1992, p. 82). Children first

learn the concept of turn-taking when playing simple games, and it is later elaborated into team spirit through group games with complex rules (Chance, 1979, pp. 33). In contrast to the rules in sociodramatic play imposed by standards of life, playing games requires children to conform to external rules (Frost, 1992, p. 82; Johnson et al., 2005, p. 211). Many scholars consider it as an ideal medium to promote children's autonomy or self-regulation since it provides "a context in which children can voluntarily accept and submit themselves to rules. Children are free to exercise their autonomy by choosing to play and choosing to follow rules" (Devries, 2006, p. 122). Concerning this characteristic distinction between the rules of games and those of sociodramatic play, Smilansky believed that children develop socially, in general, through sociodramatic play, whereas they learn specific social skills or knowledge by playing games. (Frost, 1992, p. 83). In the opposite of cooperation, children also learn, in their process of struggling toward an arbitrary goal, competitive skills, such as making use of the rules and being a good sport, which are necessary for their future survival in adulthood (Kostelnik et al., 1988/1993, p. 144).

In sum, each of these theoretical positions supports the idea that play and social skills are closely interrelated. However, despite its value in the aspects of education and development, play is an essential part of childhood in and of itself. Many observers argued that children who do not play will grow up into mentally unhealthy adults and that a childhood devoid of play is fraught with harmful potential for the whole society (Johnson et al., 2005, p. 10). Although other aspects of the value of children's play are somewhat irrelevant to the topic of this thesis the author would still like to take it as an opportunity to advocate more attention and protection to such a child's inborn right. Free play is necessary for children to develop into a fully-fledged adult as well as for the society to operate vigorously.

2.3 Why Develop Social Skills Through Playing Board Games

In the above two sections, it is clear that children benefit from direct instruction for social skills development (the ends) and that to help them achieve a better learning outcome, adults sometimes need to take another approach, play (the means), into consideration. This is essentially because children learn many things differently from adults or adolescents. Furthermore, it is known that certain types of play (i.e., dramatic play, social play, and games-with-rules) are extremely relevant to the practice and mastery of social skills due to their contextual characteristics.

Discussions in this section will decide on the object with which children play (the tool), that is, to justify why it is board games, on which this thesis focuses, instead of toys, dramas, sports, or other kinds of games (e.g., card games, video games, and arcade games). This section begins with a definition of board games by regarding it as a kind of game played in a specific medium, then explains its advantages on social skills development over other kinds of play contents, and ends with a study of some less effective educational board games on the market.

This chapter concludes with the justification of the necessity of this thesis, which is playing board games (the means and the tool) is conducive to socially skillful children (the ends), and the justification of the uniqueness of this thesis, which is the approach proposed herein aims to help designers create new, and hopefully better, board games in serving children's developmental goals.

2.3.1 Definition of Board Games

To define the board game, one has to figure out what a game is. However, even worse than defining social skills and children's play, seeking for a perfect definition of games is literally impossible. Just as the game historian Parlett (1999) wrote in the opening of his book: "the word

[game] is used for so many different activities that it is not worth insisting on any proposed definition. All in all, it is a slippery lexicological customer, with many friends and relations in a wide variety of fields" (p. 1). However, to design a game, one has to figure out the similarities shared by most games throughout history as well as the differences that separate them from other forms of human's play activities. And this necessitates a definition.

Elements of a game definition	Huizinga 1938	Caillois 1962	Abt 1970	Sutton-Smith 1971	Crawford 1984	Suits 1990	Costikyan 1994	Parlett 1999
Proceeds according to rules that limit players	x	x	x	x	x	x	-	x
Conflict or contest	-	-	-	x	x	-	-	x
Goal-oriented/outcome-oriented	-	-	x	x	-	x	x	x
Activity, process, or event	-	-	x	x	-	x	-	-
Involves decision-making	-	-	x	-	x	-	x	-
Not serious and Absorbing	x	-	-	-	-	-	-	-
Never associated with material gain	x	x	-	-	-	-	-	-
Artificial/Safe/Outside ordinary life	x	x	-	-	x	-	-	-
Creates special social groups	x	-	-	-	-	-	-	-
Voluntary	-	x	-	x	-	x	-	-
Uncertain	-	x	-	-	-	-	-	-
Make-believe/Representational	-	x	-	-	x	-	-	-
Inefficient	-	-	-	-	-	x	-	-
System of parts/Resources and tokens	-	-	-	-	x	-	x	-
A form of art	-	-	-	-	-	-	x	-

Table 2-5: A Comparison of Historical Definitions of Games (Salen & Zimmerman, 2004, p. 79)

In contrast to Parlett's skepticism in defining games, Upton (2015) believed that "in order for a game to function as a game it must meet certain universal conditions" (p. 10). Earlier than him, to distinguish game design from other design areas, Salen and Zimmerman (2004) spent eight pages in *Rules of Play*, their seminal book on game design, exhaustively comparing the eight most significant definitions coming from a variety of scholars. By dissecting and inspecting these

concepts, they summarized the elements of a game indicated in each definition into a chart. After cobbling the essence together and whittling the irrelevant away, they proposed that "a game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (p. 80). Since their work is so comprehensive in reviewing previous literature and influential to the later definitions of games, the full chart they constructed (see Table 2-5) is reprinted herein alongside the definitions they quoted from previous scholars.

The first definition came from Johan Huizinga (a Dutch anthropologist) in 1938:

> [Play is] a free activity standing quite consciously outside "ordinary" life as being "not serious," but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings, which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means. (Salen & Zimmerman, 2004, p. 75)

The second came from Roger Caillois (a French sociologist) in 1962:

> [Play is] *free*: in which playing is not obligatory; if it were, it would at once lose its attractive and joyous quality as diversion; [Play is] *separate*: circumscribed within limits of space and time, defined and fixed in advance; [Play is] *uncertain*: the course of which cannot be determined, nor the result attained beforehand, and some latitude for innovations being left to the player's initiative; [Play is] *unproductive*: creating neither goods, nor wealth, nor new elements of any kind; and, except for the exchange of property among the players, ending in a situation identical to that prevailing at the beginning of the game; [Play is] *governed by rules*: under conventions that suspend ordinary laws, and for the moment

> establish new legislation, which alone counts; [Play is] *make-believe*: accompanied by a special awareness of a second reality or of a free unreality, as against real life. (Salen & Zimmerman, 2004, p. 76)

The third came from Clark C. Abt (a German-American engineer, educator, and founder of Abt Associates Inc.) in 1970:

> Reduced to its formal essence, a game is an *activity* among two or more independent *decision-makers* seeking to achieve their *objectives* in some *limiting context*. A more conventional definition would say that a game is a context with rules among adversaries trying to win objectives. (Salen & Zimmerman, 2004, p. 74)

The fourth came from Brian Sutton-Smith (a New Zealand-American play theorist and children researcher) in 1971: "Games are an exercise of voluntary control systems, in which there is a contest between powers, confined by rules in order to produce a disequilibrial [*sic*] outcome" (Salen & Zimmerman, 2004, p. 78). The fifth came from Chris Crawford (an American video game designer) in 1984:

> A game is a closed formal system that subjectively represents a subset of reality. [...] The most fascinating thing about reality is not that it is, or even that it changes, but *how* it changes, the intricate webwork of cause and effect by which all things are tied together [interaction]. [...] A third element appearing in all games is conflict. Conflict arises naturally from the interaction in a game. The player is actively pursuing some goal [*sic*]. Obstacles prevent him from easily achieving this goal. [...] Conflict implies danger; danger means risk of harm; harm is undesirable. Therefore, a game is an artifice for providing the psychological experiences of conflict and danger while excluding their physical realizations. In short, a game is a safe way to experience reality. (Salen & Zimmerman,

2004, p. 77)

The sixth came from Bernard Suits (an American philosopher interested in games) in 1990:

> To play a game is to engage in activity directed towards bringing about a specific state of affairs, using only means permitted by rules, where the rules prohibit more efficient in favor of less efficient means, and where such rules are accepted just because they make possible such activity. [...] playing a game is the voluntary effort to overcome unnecessary obstacles. (Salen & Zimmerman, 2004, p. 76)

The seventh came from Greg Costikyan (an American game designer and sci-fi writer) in 1994: "A game is a form of art in which participants, termed players, make decisions in order to manage resources through game tokens in the pursuit of a goal" (Salen & Zimmerman, 2004, p. 78). And the last came from David Parlett (a British game historian) in 1999:

> A formal game has a twofold structure based on ends and means: *Ends*. It is a contest to achieve an objective. Only one of the contenders, be they individuals or teams, can achieve it, since achieving it ends the game. To achieve that object is to win. Hence a formal game, by definition, has a winner; and winning is the "end" of the game in both senses of the word, as termination and as object. *Means*. It has an agreed set of equipment and of procedural "rules" by which the equipment is manipulated to produce a winning situation. (Salen & Zimmerman, 2004, p. 74)

Their remarkable insights on the nature of games, however, were not free from criticisms. Upton (2015) argued against the method through which Salen and Zimmerman developed their definition of games with a comment: "they wind up with a definition that tells us a lot about how people have historically thought about games, but little about whether this way of thinking about games is useful" (p. 12). Upton (2015) continued on elaborating his understanding of what a

definition really is: “The ‘goodness’ of a definition is measured not by its popularity or how well it encapsulates the essence of a thing, but by its capacity to generate a productive discourse” (p. 12). To rephrase it, a good definition doesn’t have to be factual (i.e., encapsulates the essence of a thing) but has to be functional (i.e., to generate a productive discourse). Because of this, he also allowed the existence of multiple contradictory definitions as long as “they each manage to independently structure a productive discourse” (Upton, 2015, p. 13). In a nutshell, to define something semantically complex, he suggested seeking for an appropriate definition which serves perfectly to align everyone’s understanding with the subject in a discourse, instead of an accurate definition which aspires to precisely separate the subject from the others.

Upton is likely right. Actually, even Salen and Zimmerman (2004) themselves acknowledged that “this [their] definition of games is intentionally quite narrow” (p. 80). They subsequently discussed two kinds of games slightly overstepping their demarcation: role-playing games like *Dungeons & Dragons* and simulation games like *SimCity* and *Minecraft*. For the role-playing games, Gygax (1978), co-designer of *Dungeons & Dragons*, explained: “Advanced *Dungeons & Dragons* is, as are most role-playing games, open-ended. There is no ‘winner,’ no final objective, and the campaign grows and changes as it matures” (p. 7). This feature obviously disobeys the condition in the definition from Salen and Zimmerman that a game results in a quantifiable outcome. Similarly, there are considerable debates around whether *Minecraft* is a game or a digital version of *Lego*, simply because, according to its designer Will Wright, its goals are player-imposed and not obligatory (chris1096, 2014; Salen & Zimmerman, 2004, p. 82). Let alone the *Ungame*, a board game mentioned in chapter 1 with no goal, no winning, and no losing, where players move around the track in an endless loop (Donovan, 2017, p. 187).

Other factual definitions of games are not satisfactory as well. For example, McGonigal

(2011, p. 21) stated that all games share four traits (i.e., a goal, rules, a feedback system, and voluntary participation) working as an interconnected system. Apparently, her definition is too broad. As a demonstration of her idea of games, Farber (2015) in his social studies class likened presidential election to "a winner-take-all, red-state-vs.-blue-state, zero-sum game" (p. 30). This comparation, from the author's viewpoint, is undoubtedly inapt and ridiculous. Participating in the election is far away from voluntary, it is an unavoidable procedure to control the power and govern the country. Most importantly, losing will incur tremendous costs be it billions of dollars or the fate of a nation. A presidential election is hence a serious work, not a game at all. For the same reason, *Squid Game*, a South Korean survival drama television series in 2021, is not a game either.

Therefore, the author advocates Upton's proposal and defines games in an inaccurate but functional way. Since the board game in this thesis is expected to facilitate children's social skills development, it has to satisfy the following characteristics. First, because children need a simulative context to practice social skills, the game has to be representative, either of a real-life situation or of a fantastic setting. Second, because children are motivated to explore and learn while pursuing goals and encountering surmountable challenges, the game has to involve conflict, either between players or between players and the game system. Third, because of the nature of children's play, the player's behaviors or moves have to be voluntary and free, which means it cannot be directed by a linear and close-ended script. Fourth, because children's sense of rules is different from that of adults, the game has to allow for certain adaptations on its rules without jeopardizing its fairness and playfulness. Lastly, because children's learning by play is facilitated by reinforcements and undermined by discouragements, the game has to primarily offer feedback to player's moves in the form of rewards rather than punishments. Therefore, the game concerned in this thesis is defined functionally as a representative and conflicting system involving

surmountable challenges, in which players freely move according to a set of arbitrary rules and voluntarily learn from the reinforcement of their behaviors.

As a subset of games, board games can be considered on the basis of the definition of games proposed just now. Harold James Ruthven Murray (1952/1978), a British educationalist writing the authoritative book *A History of Board-Games Other Than Chess*, defined board games in the first sentence: "Games, which resemble chess, draughts, and backgammon in being played on a specially arranged surface with pieces or 'men', whose powers of move and capture are defined by the rules of each game, are designated as 'board-games'" (p. 1). At the turn of the century, another comparable work, *The Oxford History of Board Games*, was completed by David Parlett (1999), a British game historian, in which he wrote:

> "Board" derives from a word originally meaning "plank", and secondarily "table", as in the phrase "bed and board." So, in a broad sense, a board game is any that can be played on a flat surface such as a table or floor. (p. 5)

The method of defining board games in terms of the playing medium was echoed by Ellington et al. (1982): "This third group [board games] contains all the various manual games that are played on a board or on a special surface of some sort" (p. 15). As to the term "manual", Ellington et al. (1982) noted that "[it] was originally applied to educational and training games that did not make use of electronic aids such as computers, but can equally well be applied to all other non-electronic games that do not depend primarily on psychomotor skill" (p. 15). This classifying approach, of course, is by no means impeccable. Games like *Cribbage* and a number of gambling games (e.g., *Roulette* and *Crown & Anchor*) should not be called board games, even though making use of or taking place on a specially designed game board. It is because no interaction between playing pieces happens on the game board which is only used either for recording the scores or placing the

stakes (Parlett, 1999, pp. 7-8). But still, the playing medium remains the optimal feature differentiating board games from the whole.

Therefore, the board game in this thesis is defined as a game played by placing, moving, or removing pieces, tokens, or cards on a pre-marked board or other physical surfaces or virtual interfaces. A complete definition of board games would be: A board game is a representative and conflicting system involving surmountable challenges and played by placing, moving, or removing pieces, tokens, or cards on a pre-marked board or other physical surfaces or virtual interfaces, in which players freely move according to a set of arbitrary rules and voluntarily learn from the reinforcement of their behaviors.

2.3.2 Advantages of Board Games for Social Skills Intervention

Besides its entertaining use, the teaching and training function of board games can be traced back to hundreds, if not thousands, of years ago. For instance, the game *Senet*, mentioned at the very first of chapter 1, is an ancient Egyptian board game designed for reinforcing people's religious belief about what they will do in the afterlife (Farber, 2015, p. 11). Similarly, *Snakes and Ladders*, a board game originated in India and better known to Americans as *Chutes and Ladders*, was created initially to reinforce the tenets of Jainism such as karma. The graphics on the board, more snakes and less ladders, are to imply the fact that it is more difficult to do good than evil (Farber, 2015, p. 11). *Kriegspiel*, an educational game for military schools in the eighteenth century, was relished among Prussian army officers and was claimed as behind every Prussia's military victory. Some of battles in the Russo-Japanese War (1905) and World War I were also credited to the strategies drawn from playing it (Poundstone, 1992, pp. 37-38). As an internationally well-known board game, *Monopoly*, before being patented by Chas B. Darrow in

1933, had been transferred and modified by a group of people, hence being a collective invention. Its ancestor, *Landlord's Game*, was designed by Elizabeth Magie, an advocate of single-tax movement, in 1902 on the basis of the theories in the economist Henry George's book *Progress and Poverty* in order to demonstrate to children the gross injustice of the land system at that time and the curing effect of a land value tax with a wish that they would campaign for it after growing up (Donovan, 2017, pp. 72-75). As an explanation on the educational function of these classic board games, Farber (2015) said: "To play a game—or better yet, to win a game—takes a level of mastery. It can be said, therefore, that all games teach" (p. 27).

In the modern ages, scholars such as Johan Huizinga and Roger Caillois tried to connect the significance of structured play to child development (Farber, 2015, p. 28). For social skills development, Cartledge and Milburn (1995) confirmed games as "a vehicle for teaching skills like taking turns, sharing materials, being a good winner or loser, teamwork, cooperation, attention to details, following rules, self-control, and various problem-solving skills" (p. 150). As was concluded in the first section, the effectiveness of direct instruction on facilitating children's social skills development is limited due to the lack of simulation and motivation. And the board game can be a curing factor for both of them.

Firstly, compared with sports, games model real-world systems and provide a "true-to-life" experience to test out the consequences of actions without actually suffering them, which makes the learning of skills and concepts more meaningful and relatable (Farber, 2015, pp. 9, 28; Glazier, 1976, p. 1). According to Ellington et al. (1982), games were unanimously considered closely related to simulation which is "an operating representation of central features of reality" (p. 10). The best practice from childhood educators indicates that "the trainer must aim to approximate realistic conditions, including physical surroundings, participants, problems, and encounters

closely representative of the ones the learner is most likely to experience in real life" (Cartledge & Milburn, 1995, p. 120).

Secondly, in comparison with toys or dramas, games not only are fun to play but also, in most cases, involve a higher competition factor. Provided that educational content and the game structure are well integrated, it can become a training exercise in which the participants are highly motivated (Ellington et al., 1982, p. 48). Furthermore, because of its motivational attribute, games are particularly suitable for facilitating children's involvement and reliving anxieties and resistance accompanying with the delivery of social skills training (Cartledge & Milburn, 1995, p. 150). The anxiety-relieving feature of games was also proved by Charlier (2014) in a project of designing and implementing a board game to teach and assess first aid competencies of secondary school and university students. In the result of this study, a significant increase of knowledge gain and reduction of test anxiety were observed (Charlier, 2014, pp. 56, 62). The researchers attributed these positive effects of board games mainly to its intrinsically motivating character and recommended taking board games as an effective means of teaching and assessing student's learning at the end of a practical course (Charlier, 2014, pp. 49, 59).

Lastly, for the educational usage, the board game is better than card games, video games, or arcade games for several reasons, such as taking less resources and effort to develop, encouraging more face-to-face interaction, and providing a typical game mechanics appropriate to educational use. Moseley and Whitton (2014, p. 2) found that most educational games were created by educators or learning developers with little or no support from professional designers. They believed that traditional games can be an excellent solution for them to develop core game mechanics in a short time with minimum requirements of skills and costs (Moseley & Whitton, 2014, p. 2). Rockwell and Sanchez (2014, pp. 74-75) reinforced this advantage of board games

over the others with their findings in a design project that non-electronic games engendered more interests and discussions than their digital counterparts. Regarding the typical mechanics of board games, Ellington et al. (1982, pp. 47-48) explained that most board games are based on relatively few but versatile standard patterns, which means children can quickly master and repeatedly engage in the game content. And at the same time, their greater potential for complexity enables simulating a wide variety of fairly complicated systems in real life.

2.3.3 Cases of Less Effective Board Games for Social Skills Intervention

Game Name	Community	Publisher
Social Skills Chipper Chat®	1-5 players (5-12 years)	Super Duper® Publications
Social City™	2-5 players (5+ years)	Super Duper® Publications
Communicate™ Junior Game	2-4 players (5-10 years)	Super Duper® Publications
The You & Me Social Skills Board Game	2-6 players (4-12 years)	Childs Work Childs Play
The Good Behavior Board Game	2-6 players (4-10 years)	Childs Work Childs Play
The Talking, Feeling & Doing Board Game	2-5 players (4+ years)	Childs Work Childs Play
Helping, Sharing, and Caring Board Game	2-6 players (4-12 years)	Childs Work Childs Play
The Social and Emotional Competence Board Game	2-6 players (6-14 years)	Childs Work Childs Play
The Coping Skills Game	2-4 players (7-12 years)	Childs Work Childs Play

Table 2-6: Cases of Social Skills Board Games

Recognizing the enormous value of game-based learning, a number of social skills board games were manufactured by game companies and applied in classrooms (see Table 2-6). Some educators also attempted to modify entertaining board games into educational use. For example, Cartledge and Milburn (1995, p. 151) suggested adding a deck of cards requiring the verbal or behavioral demonstration of social skills in the board game *Candyland*. Before the child can move on to the next space on the board in each turn, he or she must correctly complete the actions specified on the card. A similar study was conducted by Foxx et al. (1984), in which the board

game *Sorry* was adapted by adding extra cards which elicit responses from the participants about the appropriate behaviors in different social situations (Cartledge & Milburn, 1995, p. 151).

However, these attempts were deemed as ineffective in the eyes of contemporary scholars. Farber (2015) ascribed the poor design of educational games to the fact that "many games were rushed to market and placed educational content ahead of game mechanics" (p. 16). He termed them "chocolate-covered-broccoli" games where "the mechanics [the role's actions in the game world] had nothing to do with the concept it was delivering [the player's actions in the real world]" (Farber, 2015, p. 16). For instance, the classic "chocolate-covered-broccoli" game *Math Blaster* sets its stage in a space war and asks players to shoot enemy's spaceships (i.e., the role's action) by answering mathematic questions (i.e., the player's action). In contrast, the game *Angry Birds* is an example delivering abstract physics concepts, such as velocity and gravity, in a friendly and more effective way (Farber, 2015, p. 16). All in all, although the potential of board games has attracted considerable attention, more research remains undone on enhancing its effectiveness.

2.4 Chapter Conclusion

This chapter clarifies and justifies the following statements:

- Social skills is a set of abilities to behave in a socially acceptable and reinforced manner, to discern the rules and norms of different social situations, to detect others' wishes and intentions and evaluate consequences beforehand, to adjust behaviors according to social feedback from others, and to achieve any personal goal as expected, which is both reciprocal to each other and positive to the whole society (see Subsection 2.1.1).
- Social skills are valuable for children to develop for five reasons (see Subsection 2.1.2).

- Compared with many other aspects of child social development, social skills are more practical for adults to intervene in, normally through the method of direct instruction (see Subsection 2.1.3).
- The effectiveness of direct instruction, however, is limited mainly because of a lack of simulation and motivation (see Subsection 2.1.4).
- Children's play is a pleasurable and meaningful process which happens as a result of spontaneity, changes with one's self-motivation, ends with inside satisfaction or outside compulsion, and involves restrictions, challenges, and sometimes imagination (see Subsection 2.2.1).
- Children's play can be classified into practice or functional play, constructive play, symbolic or dramatic play, and games-with-rules under Piaget's/Smilansky's category, or into unoccupied play, onlooker play, solitary play, parallel play, associative play, and cooperative or social play under Parten's category. This thesis focuses exclusively on dramatic play, social play, and games-with-rules (see Subsection 2.2.2).
- In addition to direct instruction, the three types of play mentioned above are significant to children's social skills development for a couple of reasons (see Subsection 2.2.3).
- The board game is a representative and conflicting system involving surmountable challenges and played by placing, moving, or removing pieces, tokens, or cards on a pre-marked board or other physical surfaces or virtual interfaces, in which players freely move according to a set of arbitrary rules and voluntarily learn from the reinforcement of their behaviors (see Subsection 2.3.1).
- Compared with other content of play (e.g., toys, dramas, sports, card games, video games, and arcade games), playing board games is more appropriate and effective to facilitate

children's social skills development both generally and specifically for several reasons (see Subsection 2.3.2).

- However, most social skills board games commercially available on the market fall short of being effective mainly because of their "chocolate-covered-broccoli" game mechanics (see Subsection 2.3.3).

In a nutshell, designers need more advice on designing board games that promote children's social skills. This thesis serves this need by proposing a new, and hopefully better, design approach. Notice that the intention of this thesis is not to substitute traditional direct instruction method with educational games but only to take board games as a supplement to children's social skills development.

CHAPTER 3—DESIGN APPROACH

This chapter introduces the design approach developed as the result of reviewing the literature and instructs how to use it in the design of board games that promote children's social skills. An overview of the design approach (see Figure 3-1) was presented at first, followed by a discussion on a few points worth being noticed by designers before applying this approach. The reader should be aware that the approach proposed in this thesis serves as only a source of reference rather than the rule of thumb and that it is by no means the only nor the best approach but a hypothetical one. Designers are expected to modify and optimize it according to their own experience and preferences in real practice. Now the author would like to mention a few critical points before giving details on the design approach.

Firstly, this design approach is only about conceptualizing the game mechanics and game theme. It has to be known that creating even only a playable game is a daunting task, let alone a playful one, which is often a long journey involving various professionals and agencies, including game designers, game developers, game testers, game publishers, and game producers. As an intricate artificial system resembling the even more complicated interaction happening in the real world, a playable game requires mechanics both stable and dynamic so that it can sustain the player's misbehaviors and, at the same time, allow for the player's free moves for the winning condition. Generally, the creation of a board game walks through the five steps shown below, which are indicated in Figure 3-1 with red boxes:

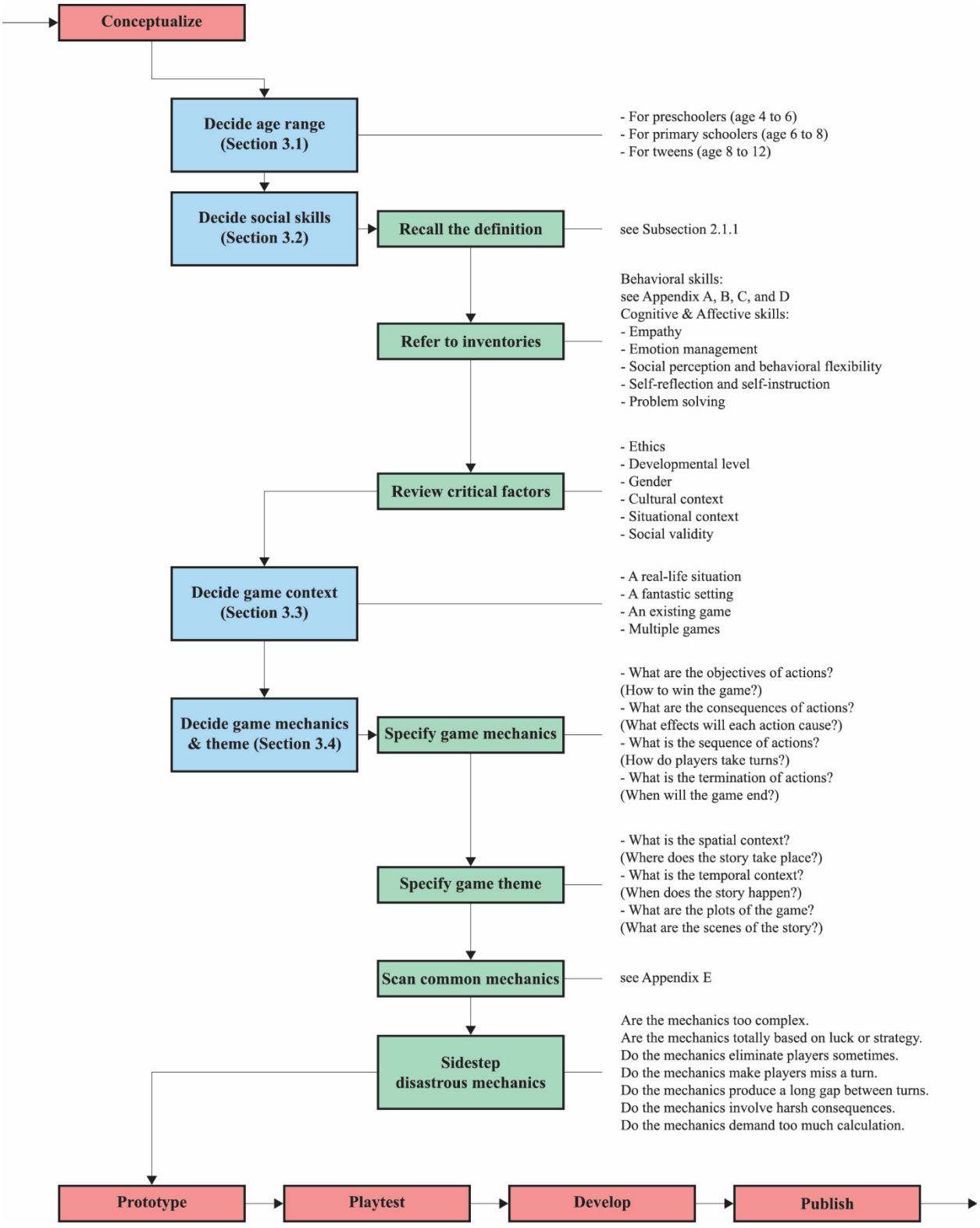

Figure 3-1: An Overview of the Design Approach

- Step 1—Conceptualize (Design): In this step, the game mechanics and game theme were specified as a game concept.
- Step 2—Prototype: In this step, the game concept was realized with simple materials and easy techniques at the minimum cost for the maximum effect.
- Step 3—Playtest: In this step, the game prototype was tested by both the design team and outside players for any imperfection with the potential to break down its rule system.
- Step 4—Develop: In this step, the game was commercially developed into a product through the processes, such as name-giving, rulebook-writing, and packaging.
- Step 5—Publish: In this step, the game was patented, manufactured in a large batch, and distributed to retailers for sale.

In the real project, the game designer is primarily responsible for the first step wherein two critical components of the game concept (i.e., game mechanics and game theme) were settled. Game mechanics is simply a set of actions operated by players in the game session, which is relevant to multiple critical issues, such as how players move in a game, how players win a game, how a game ends, and how much time a game might take. Game theme is basically the real-life situation or fantastic setting represented by the game through storytelling and graphic design. Good mechanics and good theme complement each other and contribute collectively to a smooth and engaging game experience. Because this thesis focuses on the design rather than the development or creation of a board game, the subsequent sections will surround the first step exclusively. However, designers are still suggested to get familiar with the other steps by doing further research so that they can better collaborate with other colleagues and deliver a holistic and satisfying design outcome.

Secondly, it is important to keep in mind that the fun and playfulness of the board game should be prioritized over its educational meaning. As discussed at the end of chapter 2, most

social skills board games in the marketplace emphasize too much on delivering training content and hence fall short of being playable and appealing to children at all. To avoid similar ineffectiveness, designers were recommended not to prescribe the player's actions or the sequence of the actions and not to punish players for behaving in a wrong way. All of these should be left to the game participants themselves to negotiate and determine. The board game should only provide a representative and attractive context which allows for the occurrence of communications and decisions between players.

Lastly and most importantly, the design process of games is more like an artistic creation rather than a methodological production. And game designers rely mainly on their past experiences, intuition, sudden inspirations, and initiatives instead of a pre-planned, well-defined, and must-follow recipe. Historically, game designers like Ellington et al. (1982, p. 19) tried to standardize their designing approaches in a logical and systematic way. They purported that with their method everyone can design a not bad game just like customizing a sub sandwich. Select a type of bread first, choose the proteins next, add some cheese and vegetables, and finally cover it with favorite sauces. Their approach might work at that time, whereas with the game industry growing exponentially nowadays and the games manifesting themselves much more diversely in both topics and rules, such a way of designing a game does not work effectively anymore. Alternatively, contemporary game designers advocate creativity, intuition, and inspirations in front of evolving challenges. For example, Ernest (2011, p. 10) suggested that designers should stop breaking a game down to component parts and trying to invent a new one by simply changing one of them. He continually said that designers should think like a child, at least in the brainstorming stage, to catch every single idea in an undisciplined way. When describing his method of game design, Looney (2011) articulated a straightforward fact that "ideas just pop into my head" (p. 47).

Regarding how to find inspirations, Austic (2014, pp. 21-23) gave a three-step method through which designers may figure out fresh ideas by collecting and combining the elements from ten pieces of artwork, ten stories, and ten games. In the thesis, the design approach was initially planned to include only a few general steps with some unstructured suggestions. But because of the requirements of thesis writing, the approach herein has to follow a rigid structure and logical path. Therefore, designers should not follow it step-by-step in composing their works; instead, they are highly encouraged to use it loosely and flexibly and revise it freely at any time in any way.

In this approach, conceptualizing a social skills board game involves the consideration of four aspects: children's age range, the social skills to practice, the game context, and the game mechanics and theme, which are indicated in Figure 3-1 with blue boxes. Designers might write down their thinking process of these aspects as a design brief. The following four sections offer specific suggestions, steps, resources, factors, or questions for each aspect respectively, which might facilitate this thinking process. However, mechanically operating these steps won't ensure a satisfying end result. Designers must exert their own initiative and intuition on fulfilling a piece of desirable artwork.

3.1 Determine Age Range

In this step, designers make a decision on the age range of children for which the board game was designed. The research and practice from many scholars and game designers have revealed that children in their different periods normally have different preferences for their games and limitations on the play activity. It is then necessary for designers to take into account these traits when developing their game concepts to make it developmentally appropriate for the target

players. The suggestions in this section were collected and summarized by the author based on the insights from Fisher (2015), Funday Factory (2016, 2017), Johnson (2006), and Manning (2006). Designers should conduct more extensive and deeper research to develop these suggestions shown as only an example into well-rounded guidelines. In addition to the developmental appropriateness, the design of children's products also needs to be appropriate in many other aspects, such as gender, culture, socioeconomic status, and special needs. Though not included in this thesis, they are equally indispensable to a playable game experience.

3.1.1 Developmentally Appropriate Suggestions for Preschoolers (Age 4 to 6)

- Preschoolers are not really accurate in performing some fine motor skills, such as controlling a writing tool, string beads, and cutting with scissors; it's better to avoid too many actions demanding dexterity in the game.
- Preschoolers are also known for switching hands and fingers unpredictably; it's better to remember that kids may use either hand at any time to play with the gaming pieces.
- Preschoolers are always curious, eager to learn everything surrounding them, and therefore easily sidetracked; it's better to keep tasks in the game short and give them timely feedback in positive ways.
- Preschoolers learn much about common scripts for how to interact with social life, such as how to eat in a restaurant and how to behave in the classroom; it's better to establish the game theme on the basis of real-life contexts.
- Preschoolers learn a specific subject content primarily through experimentation, discovery, and repetition; it's better to involve as many repetitive practice tasks in the game mechanics as possible.

- Preschoolers are considerably creative and skillful in reproducing the things they see in everyday lives; it's better to leave space in the game for imagination, invention, and self-expression.
- Preschoolers also enjoy building miniature play scenes and composing stories about the scenes, although the relevant details may be left out; it's better to keep the game theme open to re-composition and the playing pieces constructible.
- Preschoolers are very egocentric and struggle to understand others' perspectives, goals, and beliefs; it's better to limit the complexity of person-versus-person games at this age.
- Preschoolers are incipient in literacy making rational decisions; it's better to only have a few simple rules and an easy scoring system in the game. Matching and lotto-type games and race games are appropriate for preschoolers.

3.1.2 Developmentally Appropriate Suggestions for Primary Schoolers (Age 6 to 8)

- Primary schoolers are very focused and usually seek to finish one task before moving on to the next; it's better to make objectives in the game progressive.
- Primary schoolers enjoy the sense of achievement and share it with their peers or parents when mastering new skills; it's better to facilitate the proud moments in the game by designing a reward system such as badges or trophies.
- Primary schoolers are mostly capable of holding multiple rules in mind, following multiple-step instructions, participating in a more extended play session, and switching between tasks; it's good to introduce more complex games which involve formulating plans or strategies. Most classic board game mechanics are appropriate to them.
- Primary schoolers become better at understanding people have different perspectives and

goals; it's time to encourage more frequent negotiation and compromise in the game.

- Primary schoolers typically exhibit remarkable motor skills and noticeable craftsmanship; it's good to incorporate modeling making and the use of all kinds of safe tools in the game.
- Primary schoolers are able to realistically construct in detail things in their personal lives in both two- and three-dimensional forms and prefer modeling their miniature worlds in the play; it's better to provide them with enough space for creative construction in the game settings.
- Primary schoolers also grow in their ability to write and share more detailed and longer stories, though making frequent spelling or grammatic errors; it's better to grant a significant degree of freedom on the composition of the game theme.
- Primary schoolers develop a sense of self for both physical characteristics and less tangible characteristics; it's better to include role enactment and situation transformation in the game theme.
- Primary schoolers expand their social circles rapidly in elementary school; it's better to help them with essential skills on building trust, friendship, and intimacy with peers.

3.1.3 Developmentally Appropriate Suggestions for Tweens (Age 8 to 12)

- Tweens show a strong preference for gender-typed play activities that are culturally sanctioned for their gender; it's better to differentiate the games designed for boys from those for girls.
- Tweens are capable of planning and carrying out a long sequence of purposeful activities, exercising self-control, and submitting voluntarily to restrictions and conventions collectively agreed; it's good to introduce games with complex rules and teamwork.

- Tweens are keen on things being accessible as well as challenging; it's better to make the game easy to learn but hard to master.
- Tweens like to explore by themselves instead of following strict rules or procedures from the outside; it's better to make plenty of room for exploration and only provide feedback to their actions rather than tedious rules.
- Tweens spend nearly half of their time with close friends in their cliques; it's better to encourage in the game more cooperation or at least competition between teams.

3.2 Determine Social Skills

In this step, designers make a decision on the social skills to be practiced by children in the game session. For convenience, designers may follow the steps indicated in Figure 3-1 with three green boxes on the top. Firstly, designers can recall the definition of social skills proposed in chapter 2 and brainstorm as many behaviors as possible in accordance with this definition. The brainstorming may take place in the form of group discussion and on the basis of an inclusiveness for different understandings of social skills.

Secondly, designers can refer to social skills inventories (see Appendix A, B, C, and D) which were reprinted from the program guides of three well-known social skills training programs proposed by Jackson et al. (1983), McGinnis (1997, 2003), and Stephens (1978). These inventories act as a dictionary validated by the field of child development and childhood education for designers to look up so that their board games can win more recognition from the professional circle. Since these skills are all behavioral, which means each skill involves only observable actions taken by a person in a certain social context, designers can easily merge them in the game

mechanics. Concerning children's motivation to participate in the game, it was not recommended to punish or give any sort of adverse feedback for failing to perform these actions. Besides behavioral skills, the following are some cognitive and affective social skills which are identified by scholars like Cartledge and Milburn (1995) and McGinnis (1997, 2003):

- EMPATHY refers to the ability to identify and discriminate different emotions, to shift away from egocentricity and take another's perspective, to be aware of the validity of another's emotions from its viewpoint, to understand the reasons behind these emotions, and to recognize the complexity and flexibility of a person's emotional expression.
- EMOTION MANAGEMENT refers to the ability to recognize the emotion-producing events, to stop from reacting in a perhaps well-established pattern of aggression or other unproductive behaviors, and to express feelings and respond in a positive behavioral manner. Typical emotions include interest/excitement, joy, surprise, distress/anguish, anger/rage, disgust/revulsion, contempt/scorn, fear/terror, shame/shyness/humiliation, and guilt.
- SOCIAL PERCEPTION or BEHAVIORAL FLEXIBILITY refers to the ability to distinguish between social situations in terms of its rules, norms, and the relationship of the participants, to understand which behaviors are acceptable or desirable in a certain context, to understand when and how these behaviors should be applied, and to act out and vary these behaviors according to feedback from others.
- SELF-REFLECTION and SELF-INSTRUCTION refer to the ability to monitor the behaviors of oneself and evaluate these behaviors in terms of the effectiveness in specific social contexts, to refrain from rapid and nonreflective responses, and to speak to oneself silently the right way of behaving.

- PROBLEM-SOLVING refers to the ability to recognize the existence of a problem, to define various issues involved in the situation, to generate a variety of possible solutions in the forms of actionable procedures, to speculate potential consequences of each solution, to make and implement the decision, and to evaluate the quality of the solution according to its effectiveness on the problem.

Although these skills are unobservable and only happen in one's mind, they are equally important, sometimes fundamental, to other observable behaviors. Since remaining undetectable, it is often difficult to reward and reinforce the performance of these actions directly, whereas designers may facilitate it through manipulating the game theme in the role-playing games. Even though the observable and unobservable skills herein are already comprehensive enough, they do not exhaust all the behaviors involved in positive social interaction. It may be necessary for designers to seek more behaviors from resources, such as behavior checklists and rating scales published for assessing children's social competence.

Lastly, designers should review and self-check some critical factors when selecting the most appropriate social skills for children to practice:

- Ethics—First and foremost, the selection of social skills must align with the universal values of humankind, which means the immoral behaviors, such as flatter/adulate, lie/bluff/pretend, boast/flaunt/gloat, and bully/hector, must be discouraged and prohibited, although people applying these behaviors were considered more socially skillful than the other in some societies.
- Developmental Level—Secondly, the selection of social skills should consider children's developmental goals during a specific period of childhood. Some behaviors are more appropriate or imperative to be introduced at a younger age, while others might be better

taught later. For example, preschoolers primarily need skills to regulate their emotions, whereas grade-schoolers demand more interpersonal skills (e.g., entering a conversation, being entertaining, handling teasing, and dealing with conflicts) to get involved in peer play (Cartledge & Milburn, 1995, pp. 5-7).

- Gender—Thirdly, designers might also take into account the gender difference of their target players. Traditionally, boys are expected to learn more about nonviolent alternatives to the situations of confliction because of a natural tendency to express anger in a direct and inflammatory way. Similarly, the group entry skills may be of greater importance to boys since they normally engage in larger group activities than girls (Cartledge & Milburn, 1995, pp. 7-8).
- Cultural Context—Fourthly, designers need to be aware that the cultural context of the target market varies from time to time and from place to place. Today's social culture prefers people more assertive and confident than conservative and discreet. Also, children in Western cultures are often taught to stand out and be themselves, whereas those in Asian cultures are inculcated to blend in their groups and avoid making themselves distinctive (Cartledge & Milburn, 1995, p. 9).
- Situational Context—Fifthly, designers need to pay attention to the specific situation related to the game settings in deciding social skills. Say, if the game sets its stage in the classroom, then the skills desired could be quite different as opposed to those required for peer acceptance or positive home relationships (Cartledge & Milburn, 1995, pp. 9-10).
- Social Validity—Lastly, designers get to self-evaluate after considering the five factors above whether their choice of social skills would be deemed to be valid and desirable by the market. For children's board games, the consumer and user are usually not the same

person. A successful game has to persuade both children and their parents of its value (Cartledge & Milburn, 1995, pp. 12-14).

3.3 Determine Game Context

In this step, designers make a decision on the context to represent in the board game. As defined in chapter 2, a game is basically a representative system of the real or a fantastic world. Despite some exceptions like *Mancala* and *Tic-tac-toe*, most board games either simulate a real-life situation or represent a fantastic setting. *Monopoly*, for example, mimics the business activities in the industry of real estate at its time, and *Dungeons & Dragons* is more like a story of adventure in an imaginative world. And also, the representation of a real-life context is especially critical if the board game functions as an environment where children can practice and master social skills. An appropriate game context lays a strong foundation for a playful and meaningful game experience. To set the stage for a board game, designers may take one of the following approaches:

- Determine a real-life situation to simulate, such as shopping at the grocery store or traveling with friends.
- Choose a fantastic setting to represent, such as adventuring in a medieval castle or wandering in a magical forest.
- Directly pick an existing game, novel, film, or a work from the cultural industry and use its setting.
- Combine the settings of multiple games, novels, films, or other works from the cultural industry to make a new one.

3.4 Determine Game Mechanics and Theme

In this step, designers make a decision on the board game concept by specifying the game mechanics and game theme on the basis of the context just selected. Similarly, designers may follow the steps indicated in Figure 3-1 with four green boxes at the bottom. Firstly, to determine the game mechanics, designers can write about the actions that players do in the game session, such as rolling dice, drawing cards, moving pieces, negotiating with others, and memorizing the card sequence, along with the actions of the roles in the game world, by contemplating the following questions:

- What are the objectives of actions? Or, how to win the game?
- What are the consequences of actions? Or, what effects will each action cause?
- What is the sequence of actions? Or, how do players take turns?
- What is the termination of actions? Or, when will the game end?

The author would like to share some insights that might help designers answer these questions: For the first question, the most common objective applied in game design is accumulating victory points enough to win the game. It could also be depleting other players' resources or health points, being the first to complete a task or reach a position, surviving at the end of a sequence of events, etc.

For the second question, most player's moves effect the game system directly. The players may add or remove gaming pieces, earn victory or health points, detract from other players' victory or health points, gain an extra turn, prevent other players' moves, etc. However, some player's moves only effect the game system indirectly, for example, move the rook then capture the king in the next turn.

For the third question, players usually take turns following the sequence determined at the beginning of the game, and this sequence is subject to changes in the playing process. However, in some cases, players take actions simultaneously in accordance with the first-come-first-serve principle. In such games, players compete with each other on the speed and accuracy of their actions.

For the last question, the ending condition of most games is the same as the winning condition, which means the game will naturally end as soon as someone wins the game. In contrast, the ending and winning conditions can be independent of each other. In such a case, players pay extra attention to certain objectives and strive to achieve them by the end of the game. Though making the game a little more complex, separating the ending and winning conditions often brings the game more variety and reality.

Secondly, designers can write about the actors or roles of the game theme by contemplating on the following questions:

- What is the spatial context? Or, where does the story take place?
- What is the temporal context? Or, when does the story happen?
- What are the plots of the game? Or, what are the scenes of the story?

Thirdly, designers can refer to a list of game mechanics commonly used in board games (see Appendix E) published by Board Game Geek (n.d.). Lastly, designers can self-check their game concepts against a list of disastrous game mechanics that ought to be avoided in order to deliver a pleasurable game experience. They are concluded by the author from an article by Howell (2011):

- The mechanics are too complex.
- The mechanics are totally based on luck or strategy.

- The mechanics eliminate players sometimes.
- The mechanics make players miss a turn.
- The mechanics produce a long gap between turns.
- The mechanics involve harsh consequences.
- The mechanics demand too much calculation.

3.5 Chapter Conclusion

In this chapter, the approach for designing board games that promote children's social skills was illustrated and supplemented with additional resources. Following the four steps indicated in Figure 3-1 with blue boxes and seven substeps shown with green boxes, designers can "conceptualize" a board game playful to children and meaningful to the practice of social skills to a certain degree. Additionally, and more importantly, this chapter discusses three critical points at its beginning that designers need to notice when applying this approach. In the next chapter, a board game prototype will be introduced with explanations on how it was conceptualized with the help of this design approach.

CHAPTER 4—DESIGN APPLICATION

This chapter presents a board game prototype and explanations of its design process to partially demonstrate how the design approach proposed in chapter 3 works in practice. As stated early in chapter 3, game design is more about conceptualizing the game mechanics and game theme rather than designing the gaming materials and graphics on it. Although making a board game prototype inevitably involves the design of visual and structural elements, this thesis retains its focus on conceptualizing the game concept itself. Secondly, since designing the game mechanics and game theme is not so much a methodical production on hand as an artistic creation in the mind, it is nearly impossible to record and illustrate every single step in this abstract and intricate process. There are numerous untold "aha" moments behind this board game prototype. In a sense, the explanations of the design process in this chapter are incomplete and cover only those obvious and general aspects. After all, game designers should mainly rely on their own experiences, intuition, and initiative while following the approach proposed in chapter 3.

After giving the explanations of its conceptualizing process, the board game prototype is introduced, in which the thematic background, components list, game setup, game objective (winning condition), how-to-play, and ending condition are provided.

4.1 A Framework for Conceptualizing the Board Game

According to the design approach illustrated in chapter 3, the conceptualization of this board game has four aspects to consider: the age range, the social skills, the game context, and the

game mechanics and theme.

4.1.1 Determine Age Range

Figure 4-1: Step One in the Design Approach

For the first aspect (see Figure 4-1), the author determines the target player to be children older than six years old. For one thing, children older than this age have normally approached and accepted many classic game mechanics. It is therefore easy to focus their attention to the game contents itself instead of spending much time on familiarizing them with how to play the game. For another, children in this period are exposed to frequent interaction with their peers in the primary school. Imaginably, their parents would demand considerable advice and help in teaching them appropriate social skills ensuring sound interpersonal relations.

According to the developmentally appropriate suggestions for primary schoolers and tweens (see Section 3.1), the game concept should be consistent with the recommendations below:

- It's better to make objectives in the game progressive.
- It's good to introduce more complex games which involve formulating plans or strategies.
- It's time to encourage more frequent negotiation and compromise in the game.
- It's better to provide them with enough space for creative construction in the game settings.
- It's better to grant a significant degree of freedom on the composition of the game theme.
- It's better to include role enactment and situation transformation in the game theme.
- It's better to help them with essential skills on building trust, friendship, and intimacy with peers.

- It's better to differentiate the games designed for boys from those for girls.
- It's good to introduce games with complex rules and teamwork.
- It's better to make the game easy to learn but hard to master.
- It's better to encourage in the game more cooperation or at least competition between teams.

However, due to the limited time and resources given to this project, some of these suggestions are left out of consideration:

- It's better to provide them with enough space for creative construction in the game settings.
- It's better to grant a significant degree of freedom on the composition of the game theme.
- It's better to include role enactment and situation transformation in the game theme.
- It's better to make the game easy to learn but hard to master.

In sum, the board game is planned to have progressive objectives and a relatively complex rule system on the basis of classic game mechanics. It should also encourage frequent cooperation, negotiation, and compromise between players so that children can practice necessary skills on building trust, friendship, and intimacy with their peers. Lastly, the visual style needs to be distinctive in terms of gender preference.

4.1.2 Determine Social Skills

For the second aspect (see Figure 4-2), the author advances the idea that one of the most essential values of social skills is to help children enhance their likability and hence become more popular among friends. Being unpopular in primary school is often a nightmare for many children even after growing up. If not receiving timely attention and assistance, these miserable kids could encounter plenty of challenges and experience serious traumas as a result of their insufficient social skills, especially in today's world—the ability to communicate and connect people influences our

work and life in a more and more pervasive way. As stated by Prinstein (2017) in his book:

> Popular children grow up to have greater academic success and stronger interpersonal relationships, and to make more money in their jobs years later, while those who were not popular are at much greater risk for substance abuse, obesity, anxiety, depression, problems at work, criminal behavior, injury, illness, and even suicide. We now also understand that popularity changes the wiring of our brains in ways that affect our social perceptions, our emotions, and how our bodies respond to stress. As discussed in this book, our experiences with popularity can even alter our DNA. (p. 7)

Therefore, comparing with the social skills on self-discipline, emotion management, and coping with aggression or conflict, the author decides to focus on those skills mostly relevant to the establishment and maintenance of positive interaction with peers in casual contexts.

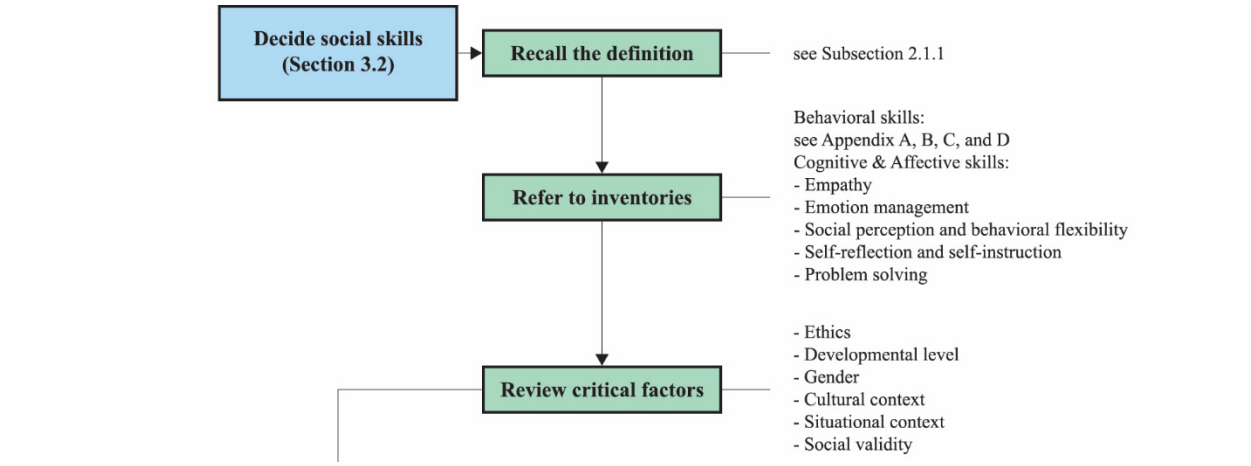

Figure 4-2: Step Two in the Design Approach

After referring the social skills inventories (see Appendix A, B, C, and D) and reviewing the six factors in selecting the appropriate social skills (see Section 3.2), the author determines the skills as below:

- Apologizing.

- Asking a favor.
- Asking a question.
- Asking for help.
- Beginning a conversation.
- Compromising.
- Contributing to discussions.
- Dealing with wanting something that isn't yours.
- Giving and receiving positive feedback.
- Interrupting a conversation.
- Joining in a discussion.
- Negotiating.
- Offering help.
- Saying no.
- Saying thank you.
- Sharing.
- Suggesting a topic.
- Using nice talk.

4.1.3 Determine Game Context

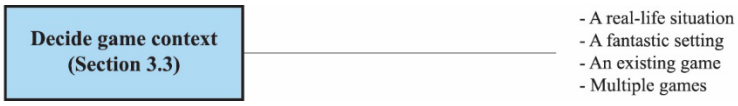

Figure 4-3: Step Three in the Design Approach

For the third aspect (see Figure 4-3), the author chooses to simulate a real-life situation,

specifically speaking at a social event. In many Western countries, party culture exists as an integral part of daily life for people to get together, socialize, and relax. Sometimes, parties can be held to celebrate a festival or a special time, such as a Halloween party and graduation party, or in honor of a specific person, such as a birthday party. Similar to the party culture, fashion—another cultural phenomenon emerging in the West since the Modern Age—relates to people's social relations as well. Not only does fashion help people express their own aesthetic tastes and identities, it also refers to how closely a person stays with the current trendy style and hence is embraced by many youngsters craving to be the most popular person. Therefore, for this board game, the author sets its stage as a party with the theme of fashion.

4.1.4 Determine Game Mechanics and Theme

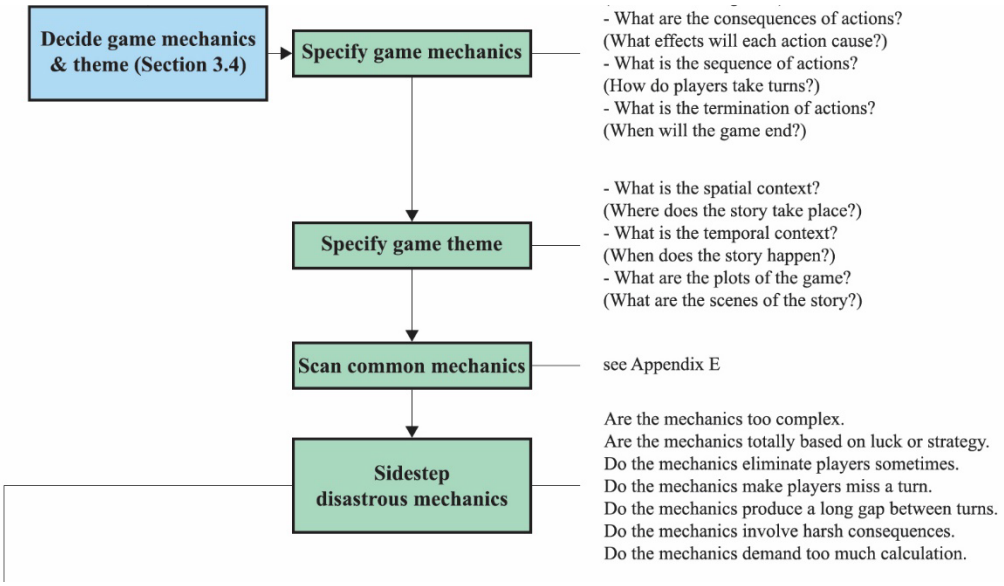

Figure 4-4: Step Four in the Design Approach

For the last aspect (see Figure 4-4), the author prefers to build the game with classic mechanics, which is a set of actions already familiar to most children, including rolling dice,

moving tokens around the game board, drawing cards, playing cards, and earning victory points. And of course, the game mechanics need to involve players in performing certain social behaviors as prescribed above. The next step is to come up with a system to realize and regulate these actions in a game session.

The simplest way is to let players just draw the cards that represent different social behaviors, play the cards (i.e., perform the behaviors), and earn corresponding victory points until one of them wins the game. However, this linear approach is defective for two main reasons. First, it is boring and not playful at all, because the sequence of actions is too much rigid and predictable. Every player can easily anticipate what to do next, how much points one will earn, and who will win the game in advance. Therefore, the author introduces randomness to the sequence of actions through the dice and game board. As a result, the players can only play the cards and perform the behaviors when rolling out specific numbers and landing on specific blocks on the game board, rather than at any time during the game session. Second, it is compulsive and discouraging, as the game system does not provide players with another way to earn the victory points. Players will soon lose motivation and patience in doing such repetitive work. Therefore, the author offers several alternative options, that is, players can also earn victory points through collecting and trading resources or relying on their lucky moves. Since this is not a role-playing game, the game theme is left out of consideration.

4.2 The Board Game Prototype

The board game presented here is called *A Life in the Fashion Town* and designed to be played by 4 children older than 6 in approximately 60 to 90 minutes. All the numerical data for

this board game is set by the author merely based on approximation. It needs to be revised and updated in the future through playtesting for better balance and fairness. Graphics on the game board, game cards, and tokens are created using Adobe Illustrator with resources downloaded from Adobe Stock and licensed for educational use.

4.2.1 Thematic Background

In a secluded corner on Earth, there is a small town where every resident dreams of being the most popular person. To win others' approval and admiration, they collect the rarest materials and sew the most fashionable clothes day and night. Every Sunday evening, the town hall hosts a fashion party for the community to get together, socialize, and satisfy their vanity with popularity coming from others' praise and adoration. But, will they really feel happy from all these things?

4.2.2 Components List

Figure 4-5 and Table 4-1 show the appearance and amount of all the gaming materials to be used in this board game. The following paragraphs give details on each of these components.

Figure 4-5: An Overview of the Gaming Materials

Index	Gaming Material	Amount
a	Game Board	1
b	Resource Cards * Categorized into three types (textiles, dye, and flats).	45
c	Garment Cards * Categorized into four colors (violet, scarlet, sapphire, and turquoise) and three brands (ELEE, FOXI, and HUMY).	24
d	Behavior Cards	45
e	Popularity Tokens Heart Tokens Moon Tokens Diamond Tokens	300 200 60 40
f	Player Tokens	4
g	Dice	2
h	Trays	4

Table 4-1: A Components List of the Board Game

Block	Instructions
7 Cards Maximum	The player landing here can keep only seven cards at the most in hands in this turn.
Advertising Campaign	The player landing here can trade two *garment cards* for 100 *popularities* or one *garment card* for 40 *popularities* in this turn.
Boutique	All players can trade *resource cards* for *garment cards* in this turn.
Cards +4	The player landing here can draw four more cards in this turn.
Cards +8	The player landing here can draw eight more cards in this turn.
Cards Double	The player landing here can draw double cards in this turn.
Half Cards Lost	The player landing here must discard half cards in hands immediately. If the amount is an odd number, then discard the smaller half.
Let's Social	All players can play *behavior cards* and earn *popularities* by following the instructions on the cards (see Table 4-3) in this turn.
Paparazzi	The player or players owning the least *popularities* can get 25 *popularities* immediately. If this player lands here, however, s/he must discard five *resource cards* to get these *popularities*.
Party Time	All players need to negotiate and determine a popular color and a popular brand for this turn. * The player or players owning one *garment card* in this color or brand can get 5 *popularities*; the player or players owning two *garment cards* in this color or brand can get 15 *popularities*; the player or players owning three *garment cards* in this color or brand can get 30 *popularities*; the player or players owning four or more *garment cards* in this color or brand can get 50 *popularities*.
Start (Cards +5)	The player passing here can draw five more cards immediately.
Trend Forecasting	The player landing here can check each card before drawing it in this turn.

Table 4-2: Instructions of Blocks on the Game Board

(a) The game board (see Figure 4-6) is printed on a 20 by 20 inches cardboard with twenty-eight 2.5 by 2.5 inches square blocks along its edges. Each block has instructions for players to

follow in a turn (see Table 4-2).

Figure 4-6: An Overview of the Game Board

(b) The forty-five *resource cards* (see Figure 4-7) are categorized into three types—*textiles*, *dye*, and *flats*—with fifteen cards in each category. These cards can be traded for *garment cards*. Players should keep them secret in their hands during the game session.

Figure 4-7: An Overview of the Resource Cards

(c) The twenty-four *garment cards* (see Figure 4-8) are categorized into four colors—*violet*, *scarlet*, *sapphire*, and *turquoise*—with six cards in each category and into three brands—*ELEE*, *FOXI*, and *HUMY*—with eight cards in each category. These cards can be traded by *resource cards* of corresponding types and amounts as marked at the bottom, if any player lands on “Boutique” block. Players should place them in the slots of their *trays* during the game session.

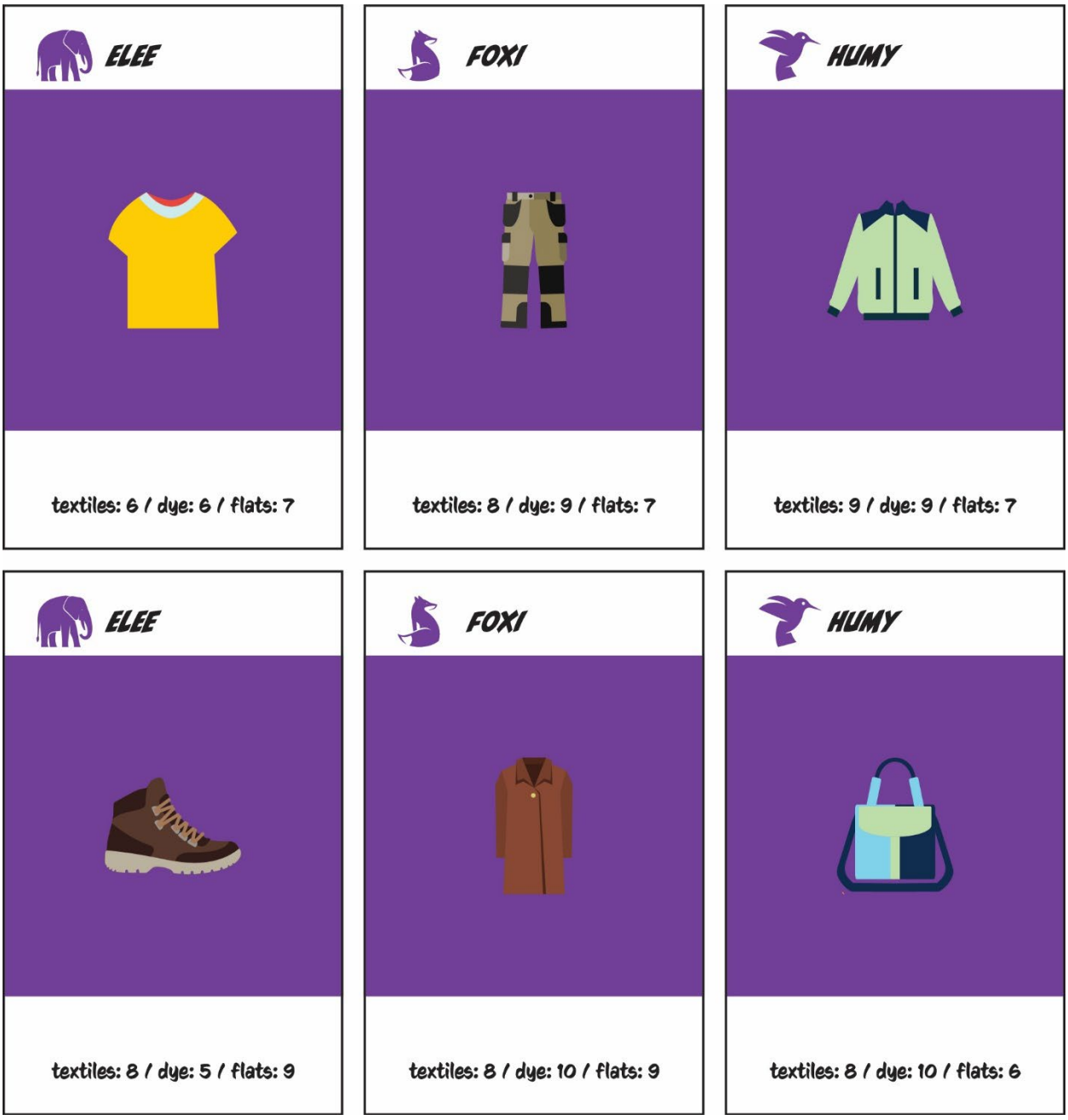

Figure 4-8: An Overview of the Garment Cards

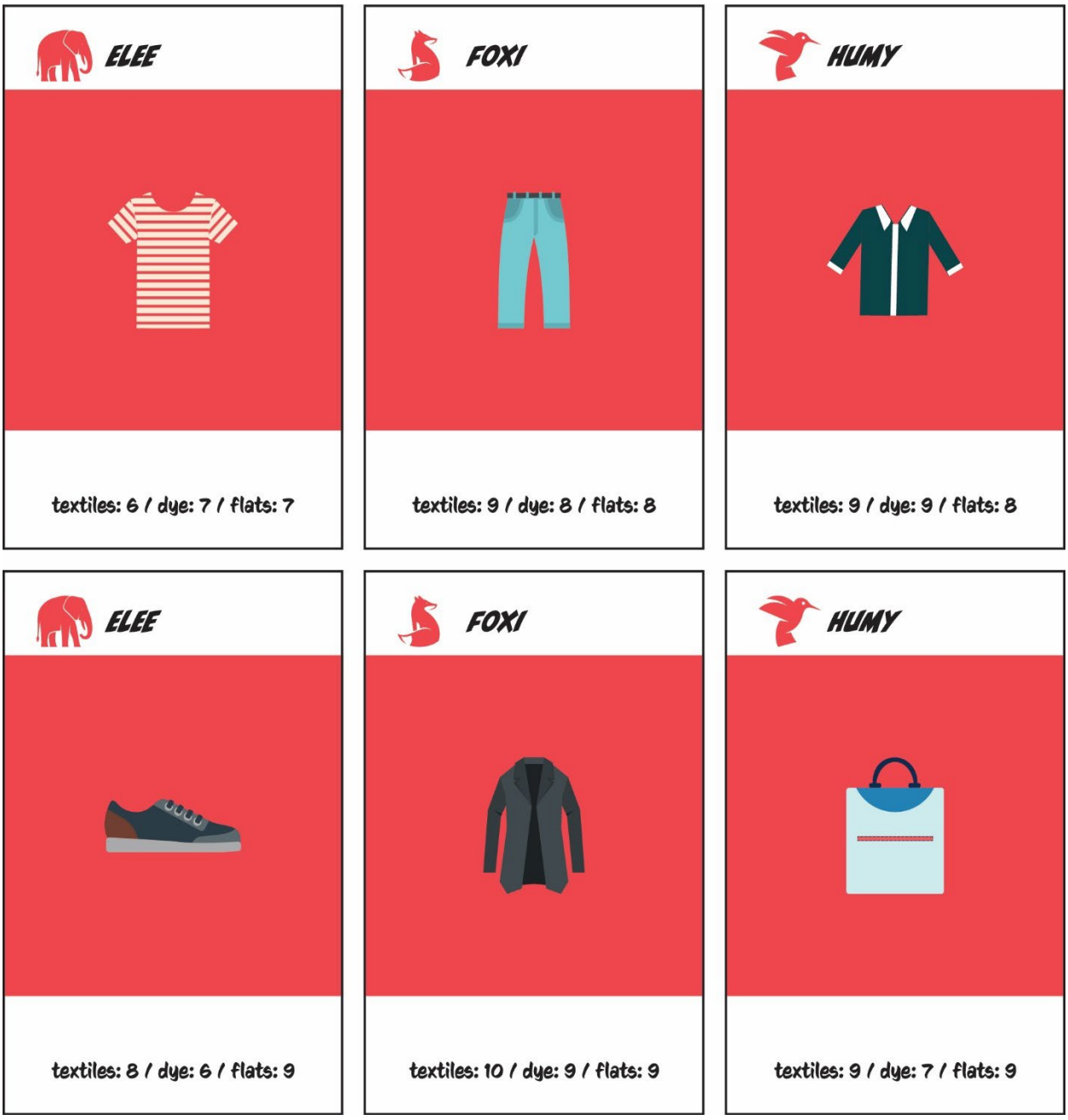

Figure 4-8: An Overview of the Garment Cards (*continued*)

Figure 4-8: An Overview of the Garment Cards (*continued*)

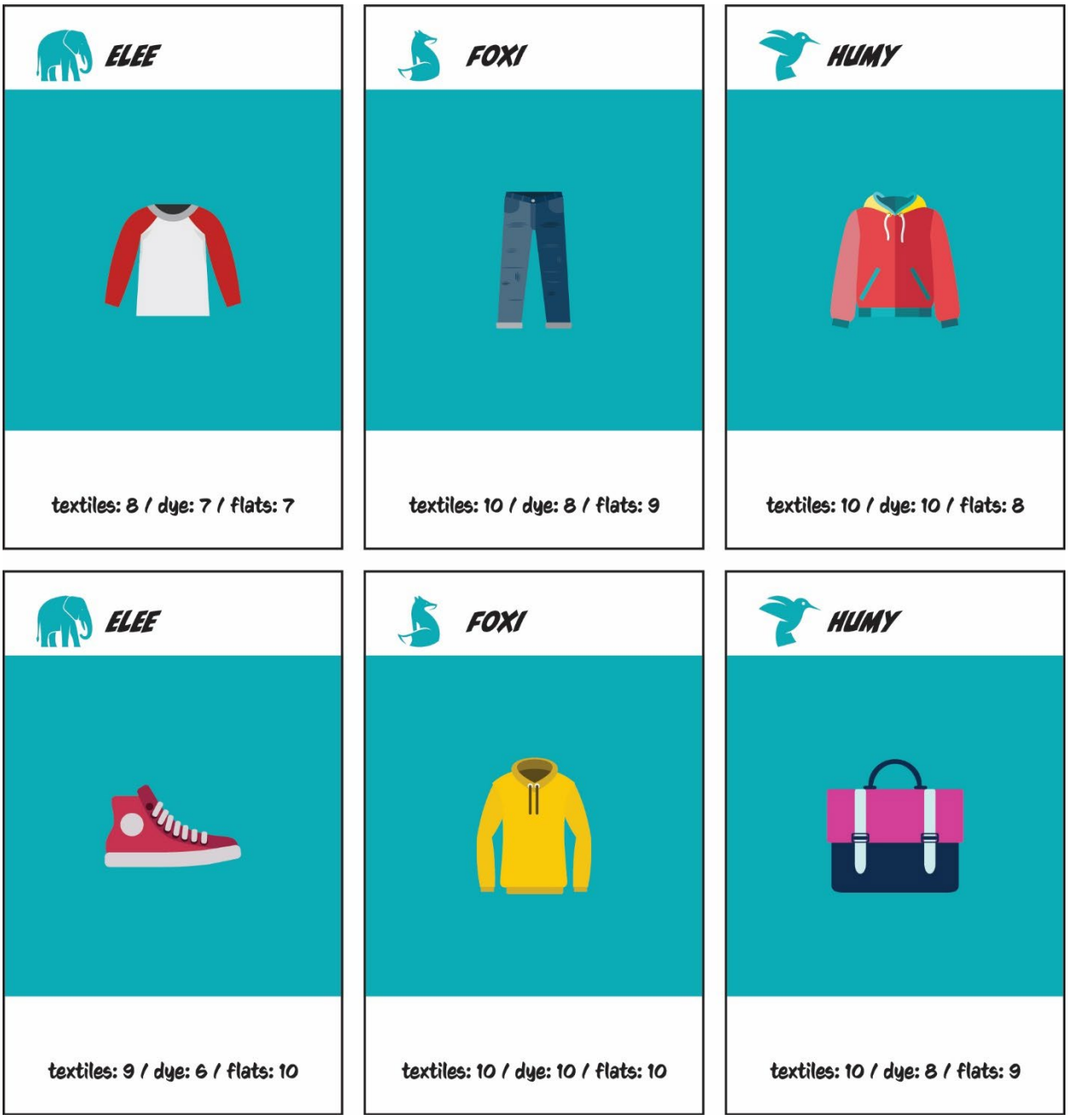

Figure 4-8: An Overview of the Garment Cards (*continued*)

(d) The forty-five *behavior cards* (see Figure 4-9) can be played to earn *popularities*, if any player lands on "Let's Social" block. There are nine different behaviors, each of which has five cards. Each card has instructions for players to follow (see Table 4-3). Players should keep them secret in their hands during the game session.

Figure 4-9: An Overview of the Behavior Cards

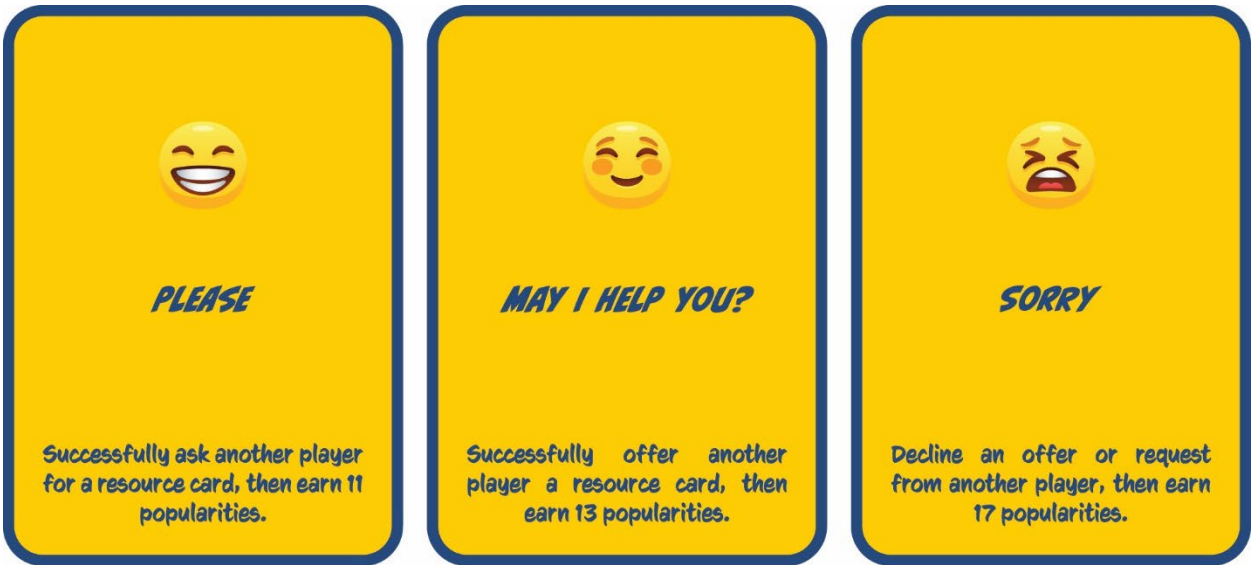

Figure 4-9: An Overview of the Behavior Cards (*continued*)

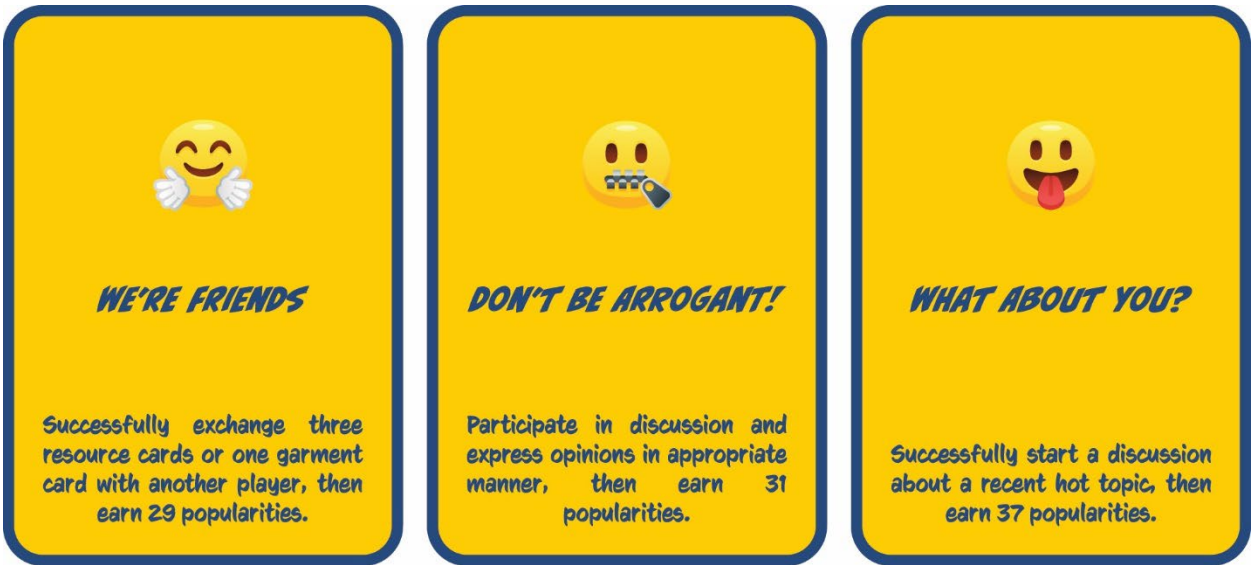

Figure 4-9: An Overview of the Behavior Cards (*continued*)

Behavior Card	Instructions
You're Amazing!	Praise the style and taste of another player, then earn 3 *popularities*.
Don't Be Brown-Noser!	Show admiration to the player owning the most *popularities*, then earn 5 *popularities*.
Be a Nice Kid	Show appreciation to another player for the favor or praise, then earn 7 *popularities*.
Please	Successfully ask another player for a *resource card*, then earn 11 *popularities*.
May I Help You?	Successfully offer another player a *resource card*, then earn 13 *popularities*.
Sorry	Decline an offer or request from another player, then earn 17 *popularities*.
We're Friends	Successfully exchange three *resource cards* or one *garment card* with another player, then earn 29 *popularities*.
Don't Be Arrogant!	Participate in discussion and express opinions in appropriate manner, then earn 31 *popularities*.
What About You?	Successfully start a discussion about a recent hot topic, then earn 37 *popularities*.

Table 4-3: Instructions of the Behavior Cards

(e) The three hundred *popularity tokens* (see Figure 4-10) represent player's *popularities* in the game. They have three denominations—1, 5, and 20—each represented by a symbol—*heart*, *moon*, and *diamond*. There are two hundred *heart tokens*, sixty *moon tokens*, and forty *diamond tokens* in total. Players can exchange between different denominations during the game session at any time.

Figure 4-10: An Overview of the Popularity Tokens

(f) The four *player tokens* represent player's position on the game board.

(g) In a standard game, players are recommended to roll only one die, but they can also use two dice to accelerate the game pace as desired.

(h) The four *trays* are used to hold player's *garment cards* during the game session.

4.2.3 Game Setup

To set up the gaming materials for a game session, follow these steps:

- Unfold the game board on a flat surface.
- Take out the *resource cards* and *behavior cards* and thoroughly shuffle together, then place them face down on one of the *deck areas* on the game board.
- Take out the *garment cards*, then scatter them in the center of game board.
- Let every player choose a *player token* and remember it, then place all *player tokens* on the game board in "Start (Cards +5)" block.
- Take out the *trays*, then place one of them in front of each player.
- Take out the *popularity tokens* and dice, then get ready to start!

4.2.4 Game Objective (Winning Condition)

The victory point in this game is called *popularity*. The winner is the player owning the most *popularities* at the end of game (i.e., when the ending condition is met). Players can earn *popularities* during the game session in one of the following ways:

- Land on "Advertising Campaign" block and trade *garment cards* for *popularities*.
- When any player lands on "Let's Social" block, play *behavior cards* and follow the instructions on the cards.
- When any player lands on "Paparazzi" block, the player or players owning the least *popularities* can get bonus *popularities*.
- When any player lands on "Party Time" block, all players can negotiate and determine on how to distribute bonus *popularities*.

4.2.5 How-To-Play

In the beginning, all players need to determine an order of turn-taking, and then players will take turns according to this sequence during the game session. In each turn, the player:

- Rolls a die and moves the *player token* counterclockwise around the game board to the designated block.
- Draws from the *deck area* the same number of cards as the die. For example, if rolling a 1, draw one card. If rolling a 2, draw two cards, and so on.
- Follow the instructions of the block where s/he lands. Some instructions are effective to all players (see Table 4-2).

During the game session, all the *resource cards* and *behavior cards* being traded, played, and discarded should be collected, shuffled, and placed at the spare *deck area* on the game board. All

the *garment cards* being discarded should go back to the center of game board and be available to all players. The game will continue until the ending condition is met.

4.2.6 Ending Condition

The game session will end if one of the following conditions is met:

- Any player collects seven *garment cards*.
- There are no more *garment cards* in the center of game board.
- The *popularity tokens* run out.

The players are encouraged to tweak the ending condition and even the rules to enhance the playfulness of game.

4.3 Chapter Conclusion

This chapter presents the board game prototype created with the help of design approach proposed in chapter 3. Besides introducing the gaming materials and the rules, this chapter makes a few explanations on how the game concept (i.e., the game mechanics and game theme) was conceived. Since this thesis focuses exclusively on the development of a game concept, the visual and structural design of gaming materials, which is inevitably involved in making a board game prototype, is reasonably omitted. Additionally, the explanations herein are based solely on the author's recollections and hence incomplete. Readers should be aware that the author's personal experience, intuition, and sudden inspirations all are contributing factors to this final game concept.

CHAPTER 5—CONCLUSION

The accelerating technology advancement since the Industrial Revolution in Great Britain enabled humankind, for the first time, to break spatial and temporal boundaries and live in a more and more collaborative world. As a result, people nowadays deal with other people in their work more frequently than with the real business—a fact that makes social skills ever significant to a person's success as well as to a society's prosperity. Research from a group of developmental psychologists and childhood educators has shown that children's developmental of social skills is not only critical to their future social relationships but also practical for adults to intervene in. Traditionally, the development of children's social skills was facilitated through the approach of direct instruction, which is both empirically proven and widely applied, yet its effectiveness is limited mainly because of the lack of motivation and simulation. As a supplement, educators began to involve playing board games in their practice of teaching social skills on the basis of the fact that children learn many things from free play—an innate activity of humankind. Many companies also published board games that are advertised as helpful to social skills development, whereas researchers and practitioners in the field of educational game argued that most of them tend to be less effective due to the misalignment of game mechanics and teaching contents. To solve the problem that there are few board games commercially available on the market that can effectively promote children's social skills and that there are few sources of information available to designers on how to design board games that can effectively promote children's social skills, this thesis develops a design approach and a board game prototype designed by applying the approach.

The design approach has four steps with three substeps in the second step and four substeps

in the last step, which correspond to four basic aspects of a playful and meaningful social skills board game: (a) children's age range, (b) the social skills to practice, (c) the game context, and (d) the game mechanics and theme. By following the approach in a flexible and critical manner and listening to the past experiences, intuition, sudden inspirations, and initiatives, designers are expected to conceptualize a board game that is effective to promote children's social skills.

The board game prototype developed with the help of this approach is named *A Life in the Fashion Town* and is designed to be played by 4 children older than 6 in approximately 60 to 90 minutes. In the game session, children are motivated to earn victory points by either trading resources with each other and collecting garments or performing specific social skills appropriately. The game is believed to promote children's social skills according to the theories discussed in previous chapters.

Although offering a reasonable approach for designing board games that promote children's social skills and a board game prototype that partially demonstrates and proves this approach, the thesis bears shortcomings in the following aspects, which are expected to be fixed in future research and practice:

First, the developmentally appropriate suggestions for board game design in chapter 3 are expected to involve more dimensions of child development. For example, young children may be limited in respect to their visual system and hence unable to discern between certain colors. If so, designers should be more thoughtful in their color choice. Admittedly, the visual and three-dimensional design of board games is typically the game developer's responsibility but it is also helpful for game designers to make more realistic board game prototypes.

Second, the social skills inventories provided in the appendices are expected to include the most recent research outcomes. Since most of the literature reviewed by the author were published

decades ago, the design approach proposed in this thesis may reflect outdated and disproven opinions from the contemporary perspective. Therefore, it is necessary for future scholars to identify these errors and provide better interpretations.

Third, the design approach proposed herein is expected to give out more advice and guidance on enhancing the game experience, that is, how to make the game more playful. For several years, scholars and designers in the sphere of game design have had many debates around the criteria of a fun game, whereas this thesis examines only the tip of the iceberg. The author acknowledges the inadequate study on relevant issues and wishes later researchers can cover them.

Fourth, it would be better if the visual and structural elements of the board game prototype can be elaborated further and enclosed in a well-designed package so that it looks more like a real product in the marketplace. Currently, because of the limited time given to this project, the graphics were created using licensed resources downloaded online, although a more original design would be undoubtedly more desirable.

At last, it would be better to conduct an experiment on how effective the board game prototype can promote children's social skills. The validity of the design approach proposed in this thesis would be also bolstered if the statistical result aligns with the expectation.

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Appendix A

Group I: Beginning Social Skills

1. Listening
2. Using Nice Talk
3. Using Brave Talk
4. Saying Thank You
5. Rewarding Yourself
6. Asking for Help
7. Asking a Favor
8. Ignoring

Group II: School-Related Skills

9. Asking a Question
10. Following Directions
11. Trying When It's Hard
12. Interrupting

Group III: Friendship-Making Skills

13. Greeting Others
14. Reading Others
15. Joining In
16. Waiting Your Turn
17. Sharing
18. Offering Help
19. Asking Someone to Play
20. Playing a Game

Group IV: Dealing with Feelings

21. Knowing Your Feelings
22. Feeling Left Out
23. Asking to Talk
24. Dealing with Fear
25. Deciding How Someone Feels
26. Showing Affection

Group V: Alternatives to Aggression

27. Dealing with Teasing
28. Dealing with Feeling Mad
29. Deciding If It's Fair
30. Solving a Problem
31. Accepting Consequences

Group VI: Dealing with Stress

32. Relaxing
33. Dealing with Mistakes
34. Being Honest
35. Knowing When to Tell
36. Dealing with Losing
37. Wanting to Be First
38. Saying No
39. Accepting No
40. Deciding What to Do

The *Skillstreaming* Social Skills Curriculum for Preschool and Kindergarten Children

Appendix B

Group I: Classroom Survival Skills

1. Listening
2. Asking for Help
3. Saying Thank You
4. Bringing Materials to Class
5. Following Instructions
6. Completing Assignments
7. Contributing to Discussions
8. Offering Help to an Adult
9. Asking a Question
10. Ignoring Distractions
11. Making Corrections
12. Deciding on Something to Do
13. Setting a Goal

Group II: Friendship-Making Skills

14. Introducing Yourself
15. Beginning a Conversation
16. Ending a Conversation
17. Joining In
18. Playing a Game
19. Asking a Favor
20. Offering Help to a Classmate
21. Giving a Compliment
22. Accepting a Compliment
23. Suggesting an Activity
24. Sharing
25. Apologizing

Group III: Skills for Dealing with Feelings

26. Knowing Your Feelings
27. Expressing Your Feelings
28. Recognizing Another's Feelings
29. Showing Understanding of Another's Feelings
30. Expressing Concern for Another
31. Dealing with Your Anger
32. Dealing with Another's Anger
33. Expressing Affection
34. Dealing with Fear
35. Rewarding Yourself

Group IV: Skill Alternatives to Aggression

36. Using Self-Control
37. Asking Permission
38. Responding to Teasing
39. Avoiding Trouble
40. Staying Out of Fights
41. Problem Solving
42. Accepting Consequences
43. Dealing with an Accusation
44. Negotiating

Group V: Skills for Dealing with Stress

45. Dealing with Boredom
46. Deciding What Caused a Problem
47. Making a Complaint
48. Answering a Complaint
49. Dealing with Losing
50. Being a Good Sport
51. Dealing with Being Left Out
52. Dealing with Embarrassment
53. Reacting to Failure
54. Accepting No
55. Saying No
56. Relaxing
57. Dealing with Group Pressure
58. Dealing with Wanting Something That Isn't Yours
59. Making a Decision
60. Being Honest

The *Skillstreaming* Social Skills Curriculum for Elementary Students

Appendix C

Environmental Behaviors

Care for the Environment:
- To dispose of trash in the proper container.
- To drink properly from water fountain.
- To clean up after breaking or spilling something.
- To use classroom equipment and materials correctly.
- To use playground equipment safely.

Dealing with Emergency:
- To follow rules for emergencies.
- To identify accident or emergency situations which should be reported to the teacher.
- To report accident or other emergency to teacher.

Lunchroom Behavior:
- To use eating utensils properly.
- To handle and eat only one's own food.
- To dispose of unwanted food properly.

Movement around Environment:
- To walk through the hall quietly at a reasonable pace.
- To enter classroom and take seat without disturbing objects and other people.
- To form and walk in a line.
- To follow safety rules in crossing streets.

Interpersonal Behaviors

Accepting Authority:
- To comply with request of adult in position of authority.
- To comply with request of peer in position of authority.
- To know and follow classroom rules.
- To follow classroom rules in the absence of the teacher.
- To question rules which may be unjust.

Coping with Conflict:
- To respond the teasing or name-calling by ignoring, changing the subject, or using some other constructive means.
- To respond the physical assault by leaving the situation, calling for help, or using some other constructive means.
- To walk away from peer when angry to avoid hitting.
- To refuse the request of another politely.
- To express anger with nonaggressive words rather than physical action or aggressive words.
- To handle constructively criticism or punishment perceived as undeserved.

Gaining Attention:
- To gain teacher's attention in class by raising hand.
- To wait quietly for recognition before speaking out in class.
- To use "please" and "thank-you" when making requests of others.
- To approach teacher and ask appropriately for help, explanation, instructions, etc.
- To gain attention from peers in appropriate ways.
- To ask a peer for help.

Greeting Others:
- To look others in the eye when greeting them.
- To state one's name when asked.
- To smile when encountering a friend or acquaintance.
- To greet adults and peers by name.
- To respond to an introduction by shaking hands and saying "how-do-you-do?"
- To introduce oneself to another person.
- To introduce two people to each other.

Helping Others:
- To help teacher when asked.
- To help peer when asked.
- To give simple directions to a peer.
- To offer help to teacher.
- To offer help to a classmate.
- To come to defense of peer in trouble.
- To express sympathy to peer about problems or difficulties.

Making Conversation:
- To pay attention in a conversation to the person speaking.
- To talk to others in a tone of voice appropriate to the situation.
- To wait for pauses in a conversation before speaking.
- To make relevant remarks in a conversation with peers.
- To make relevant remarks in a conversation with adults.
- To ignore interruptions of others in a conversation.
- To initiate conversation with peers in an informal situation.
- To initiate conversation with adults in an informal situation.

Organized Play:
- To follow rules when playing a game.
- To wait for one's turn when playing a game.
- To display effort to the best of one's ability in a competitive game.
- To accept defeat and congratulate the winner in a competitive game.

Positive Attitude toward Others:
- To make positive statements about qualities and accomplishments of others.

Social Skills in the Classroom **by Thomas Stephens**

- To compliment another person.
- To display tolerance for persons with characteristics different from one's own.

Playing Informally:
- To ask another student to play on the playground.
- To ask to be included in a playground activity in progress.
- To share toys and equipment in a play situation.
- To give in to reasonable wishes of the group in a play situation.
- To suggest an activity for the group on the playground.

Property: Own and Others':
- To distinguish one's own property from the property of others.
- To lend possessions to others when asked.
- To use and return others' property without damaging it.
- To ask permission to use another's property.

Self-Related Behaviors

Accepting Consequences:
- To report to the teacher when one has spilled or broken something.
- To make apology when actions have injured or infringed on another.
- To accept deserved consequences of wrong-doing.

Ethical Behavior:
- To distinguish truth from untruth.
- To answer when asked about possible wrong-doing.
- To identify consequences of behavior involving wrong-doing.
- To avoid doing something wrong when encouraged by a peer.

Expressing Feelings:
- To describe one's own feelings or moods verbally.
- To recognize and label moods of others.

Positive Attitude toward Self:
- To say "thank you" when complimented or praised.
- To be willing to have one's work displayed.
- To make positive statements when asked about oneself.
- To undertake a new task with a positive attitude.

Responsible Behavior:
- To be regular in school attendance.
- To arrive at school on time.
- To hang up one's clothes in required place.
- To keep one's desk in order.
- To take care of one's own possessions.
- To carry messages for the teacher.
- To bring required materials to school.

Self-Care:
- To use toilet facilities properly.
- To put on clothing without assistance.
- To keep face and hands clean.

Task-Related Behaviors

Asking and Answering Question:
- To answer or attempt to answer a question when called on by teacher.
- To acknowledge when one does not know the answer to a question.
- To volunteer an answer to teacher's question.
- To ask a question appropriate to the information needed.

Attending Behavior:
- To look at the teacher when a lesson is being presented.
- To watch an audiovisual presentation quietly.
- To listen to someone speaking to the class.

Classroom Discussion:
- To use tone of voice in classroom discussion appropriate to the situation
- The make relevant remarks in a classroom discussion.
- To participate in a classroom discussion initiated by teacher.
- To bring things to class which are relevant to classroom discussion.
- To express opinion in classroom discussion even when contrary to opinions of others.
- To provide reasons for opinions expressed in group discussion.

Completing Tasks:
- To complete assigned academic work.
- To complete assigned academic work within the required time.
- To continue working on a difficult task until it is completed.
- To complete and return homework assignments.

Following Directions:
- To follow teacher's verbal directions.
- To follow written directions.
- To follow directions in taking a test.

Group Activities:
- To share materials with others in a work situation.
- To work cooperatively on a task with a partner.
- To carry out plans or decisions formulated by the group.
- To accept ideas presented in a group task situation which are different from one's own.
- To initiate and help carry out a group activity.

Social Skills in the Classroom **by Thomas Stephens (*continued*)**

Independent Work:
- To attempt to solve a problem with school work before asking for help.
- To find productive use of time while waiting for teacher assistance.
- To find acceptable ways of using free time when work is completed.

On-Task Behavior:
- To sit straight at desk when required by teacher.
- To do a seat-work assignment quietly.
- To work steadily for the required length of time.
- To ignore distractions from peers when doing a seatwork assignment.
- To discuss academic material with peers when appropriate.
- To change from one activity to another when required by the teacher.

Performing before Others:
- To participate in a role playing activity.
- To read aloud in a small group.
- To read aloud before a large group or the entire class.
- To make a report before a small group.
- To make a report before a large group or the entire class.

Quality of Work:
- To turn in neat papers.
- To accept correction of school work.
- To make use of teacher's corrections to improve work.
- To go back over work to check for errors.

Social Skills in the Classroom **by Thomas Stephens (*continued*)**

Appendix D

Skill 1: Introducing

To introduce yourself to someone, you:
- Use a pleasant face and voice.
- Look at the person.
- Tell the person your name.
- Ask for the person's name.

To introduce two people who don't know each other, you:
- Use a pleasant face and voice.
- Look at each person.
- Tell each person the other's name.

Skill 2: Following Directions

To follow directions, you:
- Use a pleasant face and voice.
- Look at the person giving the directions.
- Say "OK."
- Start to do what was asked right away.
- Do it satisfactorily.

Skill 3: Giving and Receiving Positive Feedback

To give positive feedback, you:
- Use a pleasant face and voice.
- Look at the person.
- Tell exactly what you like about what the person did.
- Tell the person right after it was done.

To receive positive feedback, you:
- Use a pleasant face and voice.
- Look at the person.
- Acknowledge the feedback by saying, "Thanks" or, "You're welcome."

Skill 4: Sending an "I'm Interested" Message
To send an "I'm interested" message, you:
- Use a pleasant face.
- Look at the person.
- Keep your hands and body still.

Skill 5: Sending an Ignoring Message
To send an ignoring message, you:
- Keep a pleasant face.
- Look away or walk away from the person.
- Keep a quiet mouth.
- Pretend you're not listening.

Skill 6: Interrupting a Conversation
To interrupt the right way, you:
- Use a pleasant face and voice.
- Wait for a pause in the conversation.
- Say "Excuse me."
- Look directly at the person.
- Then talk.

Skill 7: Joining a Conversation
To join a conversation, you:
- Use a pleasant face and voice.
- Look at the person.
- Wait for a pause.
- Say something on the topic.

Skill 8: Starting a Conversation and Keeping It Going
To start a conversation and keep it going, you:
- Use a pleasant face and voice.
- Look at the person.
- Ask questions about the other person.
- Tell about yourself.

Skill 9: Sharing
To share, you:
- Use a pleasant face and voice.
- Divide up something there's not much of, so others can also have some (if appropriate).
- Take turns (if appropriate).

Skill 10: Offering to Help
To offer to help, you:
- Use a pleasant face and voice.
- Notice something that you can do for someone.
- Ask if you can help.
- If that person says "yes," then you do it.

Skill 11: Compromising
To compromise, you:
- Use a pleasant face and voice.
- Think of a way both people can get something that they want.
- Suggest it.

Skill 12: Asking for Clear Directions
To ask for clear directions, you:
- Use a pleasant face and voice.

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- Look at the person.
- Ask for more information.
- Repeat the directions to the person.

Skill 13: Problem Solving
To solve a problem, you:
- Take a deep breath to get a calm body and good attitude.
- Think of at least three different things you can do.
- Pick the best one for you.
- Try that one first.

Skill 14: Using Positive Consequences
To reward someone, you:
- Use a pleasant face and voice.
- Do something nice for the person.

Skill 15: Giving and Receiving a Suggestion for Improvement
To give a suggestion for improvement, you:
- Use a pleasant face and voice.
- Say something nice on the topic.
- Make the suggestion.
- Thank the person for listening.

To receive a suggestion for improvement, you:
- Use a pleasant face and voice.
- Listen to the suggestion.
- Make no excuses.
- Thank the person for the suggestion.

Skill 16: Handling Name-Calling and Teasing
To handle name-calling and teasing, you:
- Keep a pleasant face.
- Take a deep breath to get calm.
- Look away, or walk away if you can.
- Use positive self-talk (say to self, "I am calm," etc.).

Skill 17: Saying "No" to Stay Out of Trouble
To say "no," you:
- Use a pleasant face and voice.
- Take a deep breath to get calm.
- Look at the person.
- Keep saying "no."
- Suggest something else to do.

If suggesting something else doesn't work, you:
- Ignore and walk away.

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Appendix E

Acting	Dice Rolling	Modular Board	Simultaneous Action Selection
Action Drafting	Die Icon Resolution	Move Through Deck	Singing
Action Points	Different Dice Movement	Movement Points	Single Loser Game
Action Queue	Drafting	Movement Template	Slide/Push
Action Retrieval	Elapsed Real Time Ending	Moving Multiple Units	Solo / Solitaire Game
Action Timer	Enclosure	Multiple Maps	Speed Matching
Action/Event	End Game Bonuses	Multiple-Lot Auction	Square Grid
Advantage Token	Events	Narrative Choice / Paragraph	Stacking and Balancing
Alliances	Finale Ending	Negotiation	Stat Check Resolution
Area Majority / Influence	Flicking	Network and Route Building	Static Capture
Area Movement	Follow	Once-Per-Game Abilities	Stock Holding
Area-Impulse	Force Commitment	Order Counters	Storytelling
Auction/Bidding	Grid Coverage	Ownership	Sudden Death Ending
Auction: Dexterity	Grid Movement	Paper-and-Pencil	Take That
Auction: Dutch	Hand Management	Passed Action Token	Targeted Clues
Auction: Dutch Priority	Hexagon Grid	Pattern Building	Team-Based Game
Auction: English	Hidden Movement	Pattern Movement	Tech Trees / Tech Tracks
Auction: Fixed Placement	Hidden Roles	Pattern Recognition	Three Dimensional Movement
Auction: Once Around	Hidden Victory Points	Physical Removal	Tile Placement
Auction: Sealed Bid	Highest-Lowest Scoring	Pick-up and Deliver	Time Track
Auction: Turn Order Until Pass	Hot Potato	Pieces as Map	Track Movement
Automatic Resource Growth	I Cut, You Choose	Player Elimination	Trading
Betting and Bluffing	Impulse Movement	Player Judge	Traitor Game
Bias	Income	Point to Point Movement	Trick-taking
Bingo	Increase Value of Unchosen Resources	Predictive Bid	Tug of War
Bribery	Induction	Prisoner's Dilemma	Turn Order: Auction
Campaign / Battle Card Driven	Interrupts	Programmed Movement	Turn Order: Claim Action
Card Drafting	Investment	Push Your Luck	Turn Order: Pass Order
Card Play Conflict Resolution	Kill Steal	Race	Turn Order: Progressive
Catch the Leader	King of the Hill	Random Production	Turn Order: Random
Chaining	Ladder Climbing	Ratio / Combat Results Table	Turn Order: Role Order
Chit-Pull System	Layering	Re-rolling and Locking	Turn Order: Stat-Based
Closed Economy Auction	Legacy Game	Real-Time	Variable Phase Order
Command Cards	Line Drawing	Relative Movement	Variable Player Powers
Commodity Speculation	Line of Sight	Resource to Move	Variable Set-up
Communication Limits	Loans	Rock-Paper-Scissors	Victory Points as a Resource
Connections	Lose a Turn	Role Playing	Voting
Constrained Bidding	Mancala	Roles with Asymmetric Information	Worker Placement
Contracts	Map Addition	Roll / Spin and Move	Worker Placement with Dice Workers
Cooperative Game	Map Deformation	Rondel	Worker Placement, Different Worker Types
Crayon Rail System	Map Reduction	Scenario / Mission / Campaign Game	Zone of Control
Critical Hits and Failures	Market	Score-and-Reset Game	
Cube Tower	Matching	Secret Unit Deployment	
Deck Construction	Measurement Movement	Selection Order Bid	
Deck, Bag, and Pool Building	Melding and Splaying	Semi-Cooperative Game	
Deduction	Memory	Set Collection	
Delayed Purchase	Minimap Resolution	Simulation	

Board Game Mechanics