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An Inquiry Into Small Go Boards for Go Beginner Education

Daniela Trinks*, Chi-Min Oh, Kim Chaelim, Shim Da Un, Kim Jinhwan
Myongji University, Korea

Abstract: This study examines the educational benefits and challenges of using small Go boards to teach beginners. Through a thematic analysis of interviews with 13 experienced Go teachers, it discusses the advantages, disadvantages, and practical strategies for integrating small boards into Go education. It emphasizes how small boards make the game more accessible and less intimidating, promoting a quicker understanding of basic rules and enjoyment in the learning process. While noting great benefits such as increased engagement and simplified teaching, the study also acknowledges challenges like limited strategic development and the lack of teaching materials and guidelines regarding transitioning to the 19x19 board. The research contributes to a better understanding of effective approaches to introducing beginners to the game of Go in a more straightforward and enjoyable manner.

Keywords: Go Education, Small Go Boards, Differentiation, Go Promotion, International Study

* dtrinks@mju.ac.kr

I. Introduction

In the last few decades, there has been a growing academic interest in the benefits of Go education. Research has demonstrated that Go significantly enhances intellectual, interpersonal, and academic abilities (Lee & Jeong, 2007; Kim & Cho, 2010). Despite awareness of its positive effects, many Korean adults expressed interest but hesitated to learn due to its perceived difficulty (TNO Korea, 2024).

Similarly, instructors find teaching Go to beginners a formidable challenge as its simple rules conceal a depth of skills, including tactics and strategic thinking. Moreover, the standard 19x19 board size can make Go seem daunting to novices, creating a high entry barrier. This study seeks to improve Go education by introducing small boards, such as 9x9, to reduce the perceived difficulty and improve the learning experience for beginners.

The purpose of this study is to examine Go teachers' experiences and strategies to advance Go education and to better understand the effects of teaching Go on small boards by addressing the following questions:

1. What are the advantages and disadvantages of using small Go boards to teach beginners the basic rules and concepts of the game?
2. How do practical activities such as solving problems and playing games on small Go boards impact the learning experience for novices, and what are the associated benefits and drawbacks?
3. What are the practical implications for implementing Go education on small boards?

In summary, this research examines Go teachers' insights to offer practical strategies for developing Go education, aiming to change the perception that Go is inherently difficult and to make the game more accessible and enjoyable for beginners.

II. Literature Review

Learning and playing Go have well-known advantages, such as enhancing cognitive abilities, problem-solving skills, and emotional intelligence development in elementary school students (Kim & Cho, 2010; Lee & Jeong, 2007). However, it also presents challenges for popularization, due to its complexity and numerous possibilities (Yoon, 2020), posing difficulties even for Go experts (Jeon, 2021). Consequently, beginners often find Go difficult, leading to high dropout rates of over one-third within a year, which hinders the development and education of Go (Gallup Korea, 2016). According to a recent survey of 1,000 Korean adults, despite high intention to learn Go (62.9%), the number of people who know how to play Go has declined over the years from 36.3% in 1992 to 20% in 2023. Non-players commonly argue that Go is difficult and its rules are hard to understand (TNO Korea, 2024). This contradicts the notion that Go and its rules are easy to learn (Wan, 2011; Moskowitz, 2013).

Recognizing its high entry barrier, several studies have addressed the challenges of Go education (Chun, 2009; Kim & Lee, 2009). The Korea Baduk Federation (2019) describes Go as a sport, culture, and art, accessible to many, yet, self-study is particularly challenging for beginners. This emphasizes the critical role of Go teachers in promoting Go successfully. Jeong (2016) notes that Korean Go instructors recognize a lack of educational media and manuals as a major issue, indicating difficulties in not only teaching materials but also in the educational methods.

To address these challenges, scholars have suggested innovative approaches. Cazenave (2003) introduced software tools like Ponnuki, FiveStones, and GoloisStrasbourg, each with unique rule sets and board sizes, such as the 9x9

board, to simplify the learning process. Trinks (2010) highlighted cultural differences in teaching methods, noting that while Korean teachers prefer traditional 19x19 boards, German teachers find smaller boards more effective for beginners, especially children. Kim (2014) developed a Go education program tailored for young children, simplifying the game with engaging activities and integrating it into various developmental areas, thereby making it more accessible and enjoyable for them. Following the development of AI in Go, Wakabayashi and Ito (2020) created an AI-powered education model to motivate beginners with positive feedback on their moves and progress, using numerical values and figures.

As shown above, the high entry barrier in the game of Go hinders its promotion as well as its educational effectiveness. Hence, it is important to systematically establish pedagogic methods for beginners. Utilizing smaller Go boards could help counter the widespread belief that Go is a difficult game to learn. According to Bankauskas (2000), in the case of chess, reducing the number of pieces facilitates communication about their moves, thoughts, and strategies for both educators and learners. Similarly, simplifying techniques and methods in teaching Go could lay the groundwork for understanding the basic principles of the game and allowing gradual progression to the standard board, thus lowering the entry barrier and early drop-out rate.

III. Research Method

This study employs a qualitative research approach, utilizing in-depth interview data from a selected group of experienced Go teachers. A descriptive research design was chosen for its effectiveness in providing insights into current teaching practices and perspectives by studying a few selected Go

teachers' views and experiences about teaching Go on small boards. The goal was to gain a deeper understanding of the participants' perspectives and to identify themes and patterns in their answers.

Participants

In order to recruit Go teachers with significant experience in teaching Go and small boards, we posted online announcements and sent emails to Go teachers from November 20 to December 8, 2023. From 41 applications, we selected 13 Go teachers based on their expertise in teaching Go, particularly on small boards, as well as their demographic background, including their Go teaching expertise and Go strength, which are presented in Table 1.

For our research, we aimed to gather data from a diverse group of Go teachers. As shown above, the participants' ages range from the 20s to the 60s and include nine male and four female Go teachers. To ensure cultural diversity, we selected interviewees from seven different countries in Asia (2 countries), Europe (3), and North America (2). This diversity allows for a comprehensive understanding of Go teaching practices on an international scale. Each interviewee contributed significant expertise to the study, with Go teaching careers ranging from 10 to 46 years. Additionally, all participants had substantial know-how in teaching Go on small boards, which was a central criterion for our selection process. Their familiarity in this specific area varied from 6 to 46 years, indicating a deep understanding of the nuances involved in using small boards as an educational tool.

Table 1. Interviewees' Demographic Information

Par-ti-ci-pant	Gen-der	Age	Residen-cy	Go Teach-ing Expe-rience	Small Board Teaching Experi-ence	Go Strength	Go Teaching Cre-dentials
A	Male	60s	Europe	46 years	46 years	4 dan	Certified Go teacher, Certified Educator, Retired Full-Time Go Teacher, now Part-Time Go Teacher
B	Male	50s	Europe	23 years	23 years	5 kyu	Full-Time Go Teacher
C	Male	50s	Europe	11 years	11 years	3 kyu	Part-Time Go Teacher
D	Male	30s	Europe	15 years	13 years	1 dan	Full-time Go teacher, Owner of a Go school
E	Fe-male	30s	Europe	12 years	12 years	2 dan	Part-Time Go Teacher
F	Male	30s	North Ameri-ca	12 years	12 years	3 dan	B.A. Pedago-gy, Certified Go Teacher, Full-Time Go Teacher
G	Male	50s	North Ameri-ca	12 years	10 years	1 dan	Certified Teacher, Teacher of the Year Award, Full-Time Go Teacher
H	Fe-male	30s	Asia	12 years	6 years	3 dan	Full-Time Go Teacher, B.A. Go Studies
I	Male	60s	Asia	30 years	12 years	7 dan	Certified Coach, Part-Time Go Teacher

K	Male	40s	Asia	25 years	25 years	6 dan	Certified Go Teacher, Full-Time Go Teacher
L	Female	30s	Asia	20 years	20 years	7 dan	B.A. Go Studies, Certified Go Teacher, Full-Time Go Teacher
M	Male	30s	Asia	13 years	8 years	5 dan	Certified Go Teacher, Outstanding Go Teacher Award, Part-Time Go Teacher
N	Female	20s	Asia	10 years	10 years	3 dan	B.A. Go Studies, Full-Time Go Teacher

The teachers' Go strength varied from 5 kyu to 7 dan, i.e. intermediate to expert level, demonstrating that their level of expertise is sufficient to teach Go to beginners. This variety in proficiency levels allowed us to gather diverse perspectives and teaching philosophies from each participant. Moreover, the interviewees held various qualifications that underscored their expertise and dedication to the game of Go. Some possessed university degrees in Go Studies, while others were recognized with awards given by their national Go associations. Such credentials not only validated their authority in the field but also provided a solid foundation for the reliability of the pedagogical insights provided. All participants' names were anonymized in the study to protect their privacy and are represented by alphabetic pseudonyms from A to N.

Research Tool

To investigate the positive and negative aspects of using small boards in Go education, we designed a semi-structured interview outlined in Table 2.

Table 2. Content of Semi-structured Interview

Topics	Number of Questions	Keywords
Teaching Go on Small Boards	8	advantages, challenges, adaptation
Practicing on Small Boards	5	observation, learning materials, comparison with 19x19 board
Practical Considerations	10	board choice, evaluation, transition

The interviews began with a self-introduction by the interviewees, providing a context for their teaching experiences. This was followed by a series of thematic questions categorized under three topics, "Teaching Go on Small Boards," "Practicing on Small Boards," and "Practical Considerations." Each theme contained specific open questions aimed at uncovering insights into the advantages and disadvantages of using small boards.

Data Collection

We conducted a mix of offline and online interviews with 13 selected Go teachers, each lasting between 40 and 120 minutes. The interviews took place from November 24 to December 14, 2023, either at the interviewee's workplace or online via Zoom. All interviews, audio-recorded with the interview-

ees' consent, were transcribed using "TurboScribe," an AI-based program chosen for its high accuracy. Nonetheless, the research team reviewed and corrected the transcriptions by re-listening to the audio recordings. Translations of the Korean interviews into English were initially carried out using "ChatGPT-4", followed by a thorough verification and correction process by the researchers to ensure accuracy. The complete set of transcripts, encompassing 205 pages, provided a comprehensive basis for our in-depth analysis.

Data Analysis

The data analysis involved a thematic analysis to identify, analyze, and report trends and themes systematically. Our procedure, based on Terry & Hayfield (2020), incorporated six phases: familiarization with the data, generation of initial codes, searching for initial themes, reviewing these themes, defining and naming them, and finally, documenting the research. This method allowed us to extract meaningful patterns related to our three research questions and the overarching topic of small-board Go education.

In our thematic analysis, ChatGPT-4 served as an auxiliary tool, providing AI-driven insights that complemented the human researchers' interpretations. The findings of Zhang's (2023) study suggest that using ChatGPT improves the quality of thematic analysis while also discussing challenges related to prompt engineering and outcome verification, emphasizing the increasing significance of thoughtful AI utilization in qualitative data exploration. Although the primary analysis was conducted by our research team, ChatGPT's role was instrumental in offering alternative perspectives and validating emerging themes. Its ability to quickly process and analyze large volumes of data was particularly beneficial in identifying initial patterns and themes that might have been overlooked. Nevertheless, due to some misunderstandings

of Go terminology by the program, the final interpretation and validation of these themes were conducted by our research team to ensure a comprehensive and nuanced understanding. This synergistic approach, combining AI efficiency with human contextual and subjective judgment, has led to a more robust and well-rounded understanding of the educational implications of teaching Go on small boards.

IV. Teaching Go on Small Boards

In this chapter, we present the results we obtained from our thematic analysis of in-depth interviews, focused on the advantages, disadvantages, and practical implications of using small boards in Go education for beginners. We also discuss the teachers' needs and demands regarding small board Go education. This analysis not only addresses our core research questions but also provides an informed outlook on potential future developments in this educational approach.

1. Advantages

Teaching and learning Go on small boards, such as 9x9 and 13x13, offers numerous advantages, particularly for beginners and young learners. The insights from interviewed Go teachers have been organized into six themes.

Accessibility and Convenience

Small boards are less intimidating and easier to grasp for beginners, thus making Go more approachable for a wider audience. The initial complexity and scale of a 19x19 game are reduced greatly, making it less overwhelming

for new learners. For example, interviewee D states: “Go has a high entrance barrier. (…) So it’s very important to start with small boards.” The smaller scale allows beginners to quickly understand the basic rules including the objective of the game, and enjoy playing the game.

Furthermore, using small boards is more convenient and portable, which is important for teachers who teach at various places and need to carry the equipment with them. Their portable nature makes small boards not only ideal for settings like classrooms or casual play environments (Go clubs) but also a useful tool for promotion events, such as festivals with Go introductory booths. One teacher reports their observation of learners playing practice games on 9x9 boards during school breaks. Without being told, they chose it because they regarded it as an attractive fun activity that could fit a short period.

This practicality not only aids instructors but also plays an important role in making Go more accessible and appealing to a broader audience. Small Go boards encourage more people to try to learn Go, potentially increasing its popularity and reach. Another teacher discusses the historical use of small boards in teaching Go in the West, suggesting their absence or rare use in the 1960s and 70s slowed the spread of the game (Teacher B). Teaching on large boards is more time-consuming and challenging for beginners, which hindered Go’s faster dissemination in the past. Reflecting on contemporary practices, interviewee C explains, “We begin on a small board, that’s very normal,” indicating the widespread acceptance of small boards in their region. However, this is different in other countries, as Teacher M observed: “They are not yet mainstream or widely distributed, but they offer a different kind of charm. Even in 5x5 games, there are life-and-death problems that can puzzle us, and it’s the same with 4x4 boards.” In other words, the acceptance of small Go boards as an instructional medium to introduce Go to beginners

differs greatly, while being the norm in one country, they are rare in another country.

Educational and Cognitive Benefits

Interviewees I, M, and G observed in their classrooms that learning Go on small boards can enhance mathematical abilities through pattern recognition and calculation. It also promotes strategic thinking and problem-solving abilities, which are transferable to other academic and life contexts. Additionally, Go can aid in developing focus and emotional regulation, beneficial for children who have difficulties concentrating.

Moreover, playing on small boards focuses on tactical skills1), providing a solid foundation for playing on bigger boards. They are very practical for group settings in educational programs which facilitate the integration of Go into school curricula as they allow teachers to easily incorporate Go into classroom activities. This can be seen as a key factor in making Go a tool aimed at broader educational impacts. Teachers can adapt the use of small boards to various teaching methods and integrate them well with existing educational materials, offering flexibility in different educational approaches. This adaptability proves advantageous in customizing the learning experience to meet diverse student needs.

Engagement and Motivation

The quick pace and shorter duration of games align with the limited attention spans of young children, keeping them engaged and interested. This aspect ensures that learners remain involved in the game without feeling bored or overwhelmed. The simplified nature of smaller boards makes learning

1) Due to the fewer possibilities on small Go boards, certain skills such as close combat, reading, territory completion, and endgame strategy become more important.

Go less daunting and more enjoyable, which is necessary to sustain learners' interest in the early stages. This enjoyment can be a key factor in retaining players and encouraging continued play, thereby reducing the risk of early drop-outs. Teacher N argues, "(…) when it comes to educating children, I think small boards are much more advantageous. The reason is that playing on a 19x19 board can be very time-consuming, which can lead to significant physical and mental exhaustion for children. Starting with a large board might quickly lead them to quit. Children need to find the game fun."

Psychological Aspects

The image of Go as a difficult game causes people to refuse to learn it as they fear the complexity. Especially learning Go on the 19x19 board is an experience that many learners describe as frustrating. Small boards help lower the psychological barrier and intimidation factor for new players. The short game time as well as the simplification play an important role. Teacher N reports their observation as follows: "When you first bring out a large board, children find it difficult and intimidating. There's a sense of pressure because there are too many lines and they have to place so many stones, so we use a smaller board to help them realize that it is actually easy."

Introducing Go on small boards allows beginners to progressively build their understanding and skills, avoiding the potential frustration that might arise from starting directly on larger boards. Interviewee M states, "Starting on these small boards makes it more fun for the children, almost like solving quizzes." It is a step-by-step process, increasing learning efficacy. The tactics and basic strategies learned on small boards are directly applicable to larger boards, facilitating a smoother transition for players as they advance. This continuity in learning helps maintain learners' interest and motivation. In addition, the transition from smaller to larger boards provides learners not only

with achievable goals but also a sense of achievement and motivation after the transition.

Furthermore, teachers find it more manageable to introduce and explain basic Go concepts on small boards to young learners. This simplicity also benefits learners who can more easily comprehend and apply these concepts in their games. The limited space on small boards allows players to focus on fundamental Go concepts. Teacher M describes their experience like this: "I realized that 19x19 was too complex with too many possible scenarios and I saw many struggling with it. I thought narrowing it down to nine or thirteen lines might make it easier for children to understand." The simplified game not only leads to faster acquisition of basic Go skills but also lays a solid groundwork for understanding more complex concepts and strategies they will learn later on bigger boards.

Adaptation to Learners' Needs

Small boards cater to a wide range of student abilities and interests, from the highly focused to those with lower engagement levels. This adaptability ensures that all students can participate and benefit from learning Go. The simplicity and size of small boards make them particularly suitable for young learners. Teacher D notes that except for children with outstanding high IQ or concentration levels, "I think 19x19 board is not a choice."

On the other hand, despite their size, small boards can present complicated and challenging situations, offering depth in gameplay and strategy. For instance, Teacher E emphasizes that it is much easier to reinforce some very abstract concepts like sacrificing stones2) if children are taught on a small

2) Teaching the concept of 'sacrificing stones' begins with simple throw-in techniques (snapback or to make eyes false), but extends later to the strategic idea of trades where a player deliberately gives up on stones to gain benefits such as territory, influence, or a severe attack on his opponent's group.

board. This rich game experience ensures that even experienced players can find small boards intellectually stimulating and rewarding.

The ability to play multiple games in a short period allows beginners to rapidly learn from mistakes and continuously improve. It also has the advantage of playing against a variety of opponents, fostering social skills, and exposing them to various Go levels and playing styles. This variety enhances the learning experience as learners encounter different levels of challenges and perspectives in the game. Such exposure not only enhances their Go skills but also encourages adaptability and critical thinking, essential for personal and cognitive development.

Furthermore, small boards offer a complete game experience, from the opening to the endgame, in a more manageable and less time-consuming format. Teacher D explains that for beginners, finishing games, detecting dead stones, and counting to determine the winner are key skills but are not that easy to learn. As small boards allow more games in a given time, reaching the end of the game repeatedly facilitates beginners' understanding of these fundamentals. This aspect ensures that learners experience all three stages of the game of Go, as well as acquire profound knowledge about the objective and the conclusion of the game.

Positive Impact on Teachers

Teaching Go on small boards offers significant personal fulfillment for teachers, enhancing their enthusiasm and satisfaction in the teaching process. As they witness students' progress and engagement, teachers often experience a sense of accomplishment. Teacher A, for instance, describes their joy in contributing to students' happiness and gratification when former students recall their Go experiences fondly. It reflects the lasting impact a passionate teacher can have. This reciprocal benefit strengthens the teaching-learning

relationship, as a teacher's enthusiasm can significantly influence students' perceptions and enjoyment of the game.

2. Disadvantages

While the above-mentioned advantages encourage teachers to use small Go boards for teaching beginners, we also inquired about the disadvantages of this approach. As shown below, four themes emerged when analyzing the interviews.

Lack of Accessibility and Awareness

First of all, teachers mention lacking Go promotion for elementary students, which affects Go teachers regardless of their choice of board size. They also point out that small Go board sets are not readily available. That limits the possibilities for beginners and teachers to buy Go equipment for a reasonable price. Furthermore, some instructors struggle with teaching strategies for small boards due to a lack of expertise or experience, which affects the quality of Go education.

In addition, teachers noted that there is a general lack of awareness and interest in small-board Go among parents, researchers, and some beginners, potentially leading to a stereotype of small-board Go. For example, Teacher D argues that a minority of students are attracted to the complexity and depth of the 19x19 board and dislike playing on small boards. This misunderstanding could impact the broader appreciation and strategic understanding of Go.

Participant E mentions the limitations in organizing tournaments with small boards, including the need for more equipment and the fact that results from small-board games are not included in certain official databases like the European Go Database. This could discourage some players from participat-

ing in small-board tournaments, and therefore deprive them of competitive play and recognize games on small boards as “real Go.”

Limited Strategic Development

Teaching Go on small boards often leads to a concentration on immediate tactical play, such as capturing and saving stones, which might inhibit the development of broader strategic thinking required for advanced play on larger boards. This focus on short-term tactics can prevent students from understanding and appreciating the more complex and nuanced aspects of Go, such as those encountered on the full-sized 19x19 board. Consequently, on smaller boards, it is difficult to teach and learn essential concepts like openings, joseki, and choosing the right joseki by considering surrounding stones. As such, while small boards are less intimidating and suitable for beginners, they may not fully satisfy students who are interested in exploring deeper strategic layers of Go.

The fast-paced nature of games on small boards can lead to quick, impulsive decisions, increasing the likelihood of mistakes with limited scope for correction, as Teacher B points out: “When you are a bit stronger, it immediately becomes an all-or-nothing game. And on a large board, you can compensate for mistakes. That’s not possible on a 9x9 board.” This can adversely affect the learners’ development of careful strategic planning and reading skills.

Transition and Adaptation Challenges

Moving from 9x9 to 19x19 boards is not just a physical expansion but introduces a much greater complexity and range of possibilities, challenging students to adapt their strategies significantly, as highlighted by interviewee B: “If you move from 9x9 to 19x19, it is still a multiplication, and a tremen-

dous shift, so a completely different dimension. It's not just four times as big, but there's so much more behind it in terms of possibilities." Children, in particular, may express eagerness to play on large boards, mirroring observed adult activities, which presents both motivational opportunities and teaching challenges.

Komi and Handicap-Setting Challenges

In the case of level differences between learners, it is common to use handicaps and komi to bridge that gap. However, setting appropriate handicaps and komi on small boards can be confusing, leading to questions and inconsistencies in understanding the rules, as expressed by participant N: "The more advanced students play on a 19x19 board and use a 6.5-point komi when playing as White, but when we use a smaller board, I tend to set a 3.5-point komi. This leads to questions from those who play White, wondering why it isn't a 6.5-point komi, even on a smaller board." This lack of clarity and established guidelines for komi and handicaps adds complexity to teaching and learning Go on small boards.

Overall, while small Go boards have their advantages for beginners, they come with drawbacks that can impact accessibility, strategic development, the transition to larger boards, and calculating the appropriate handicap.

3. Practical Implications

In this part, the above-mentioned advantages and disadvantages will be explored in more detail, utilizing the insights and best practices shared by the interviewees. These Go teachers provided invaluable advice for those unfamiliar with teaching on small boards to address common challenges, including the drawbacks discussed earlier.

Introducing Go

Among the interviewees, there is consensus that beginners, especially children, should begin on small boards. Playing face-to-face on a 9x9 board is highly beneficial for beginners, allowing for interactive and adaptable learning. However, there are different strategies regarding the initial board size. While some advocate for kindergarteners and elementary school students to begin on a 9x9 board, two teachers suggest 6x6 or 7x7 for the first games to focus on learning how to complete a game. On the other hand, some teachers prefer their elementary students to begin learning Go on the 13x13 board, while other teachers recommend that young children spend more time on 9x9 to learn the fundamentals of the game.

Some beginners express interest in playing on the standard 19x19 board but the interviewees discourage them until they are "ready" to move on. Another way to counter the young learners' curiosity is allowing them to play a game on the full-sized board which usually results in stopping the game in the middle as the size is overwhelming. In that case, the learner will quickly realize the benefit of playing on small boards.

Board Size Diversity

When teaching Go, the choice of the board size is a strategic decision influenced by various factors including the learners' age, Go strength, and individual preferences, as well as the teacher's educational philosophy and logistical realities of the classroom settings. For elementary school students and novices, the 9x9 board is most commonly employed as an introductory tool, complemented by a range of sizes up to the standard 19x19 for advancing learners.

Teacher L articulates their approach, noting, "I particularly recommend smaller boards for girls, as they offer a more intimate and approachable way

to learn the game. Younger children, especially those in the first and second grades, tend to prefer smaller boards as well. However, there are times when some kids, overflowing with a competitive spirit, express a desire to play on larger boards. In such cases, I naturally introduce them to the standard 19x19 Go board."

Flexibility in teaching is important, with day-to-day decisions on board sizes customized to meet the specific requirements of each learner while using various board sizes simultaneously promotes smooth skill progression. Interviewee D contributes a practical perspective, "Maybe technically for just teaching issues for the first two or three months, just playing on a 9x9 board would be better. But for some practical issues, I let them play on the other board also. And a 13x13 board is also better to let them see the concept of territory, not just capture." This approach supports children's innate curiosity and enables them to enjoy Go at their own pace, without the immediate need to grasp the intricacies of the bigger boards.

Throughout the interviews, we encountered an unexpected variety of board sizes, including 3x3, 4x4, 5x5, 6x6, 7x7, 9x9, 11x11, 13x13, and 15x15, as mentioned by the Go teachers. This diversity presents an excellent opportunity for experimentation with board sizes. Conversely, for teachers less familiar with small-board teaching methods, such variety can be formidable, as it complicates the selection and timing of their use in the curriculum.

Transition Through Board Sizes

Go teachers are also required to plan and execute the progression from the compact 9x9 board (or smaller variants) to the large-scale 19x19 board. Initially, novices are introduced to fundamental Go concepts on a 9x9 board, focusing on capturing techniques and basic territorial acquisition. As students progress, they are introduced to intermediary sizes such as 13x13, where

they can reinforce their understanding of the territory concept beyond mere capturing. The transition from smaller to larger boards varies based on age and learning pace; younger learners may spend more time on smaller boards, whereas adults might progress to bigger boards after about a month of learning.

In addressing this progression, Teacher N highlights an educational paradox in determining the appropriate board size for training: "To decide which board size to use for their training, I first play a game of Go with them. If I see that (…) they know all the technical skills but still focus on capturing, then I would likely parallelly use both the 19x19 and 13x13 boards." This approach emphasizes the need for students to fully grasp capturing skills before moving to larger boards. However, if a student becomes overly focused on capturing without understanding the concept of territory, further practice on smaller boards may be necessary—a delicate balance that educators must strike to prevent students from becoming overly fixated on one aspect of the game.

In this phase, educators carefully adjust problem-solving exercises to fit the larger board, helping students develop a more profound strategic understanding. One educator articulates the importance of this transition, stating, "I would advise them to ensure children understand that capturing stones may lead to winning on a small board, but this changes with larger boards. It's almost like brainwashing them to understand this distinction." This sentiment underscores the pedagogical shift needed as students approach the 19x19 board, requiring them to apply the principles learned on smaller boards to a broader strategic context.

Teacher B emphasizes the importance of a gradual teaching approach, comparing it to the natural growth of a child. Just as you would not assign tasks to a small child that exceed their physical capabilities, B advocates for

progressively introducing students to the strategic elements. They recommend transition through incremental steps, starting from a 9x9 board and progressing through 11x11, 13x13, and then to 15x15, where students can begin to play real openings and engage with more complex concepts like openings and joseki, thus carefully guiding them towards familiarizing with larger boards. This approach not only helps to maintain students' interest but also builds a sense of accomplishment as students progress to the next board size.

By closely monitoring the student's moves and strategic decisions on intermediary boards, educators can determine the right moment for a student to progress. Such a gradual and deliberate approach allows students to familiarize themselves with the increased complexity of the larger board over time, preparing them for the experience of playing Go on the standard board.

Curriculum

The curriculum for small-board Go education is designed to introduce the fundamental Go concepts in a logical sequence. Go instruction often begins with tangible aspects like placements of stones, and liberties, gradually moving towards more abstract ideas like territory. As learners become skillful at these basics, more complicated concepts like the ko rule and sacrificing stones are introduced contextually, often as they naturally occur during the actual games. This careful progression ensures that the broader strategic elements of Go enhance, rather than overwhelm, students' learning experiences.

Advanced aspects of Go, like opening theory and endgame strategies, are introduced once students are grounded in the basics. This gradual progression from tactical captures to strategic territory expansion is managed thoughtfully to help learners develop an in-depth understanding of Go. This structured approach not only ensures mastery of the fundamentals but facilitates a seam-

less transition to larger boards. Such a smooth learning experience helps young learners grow self-confidence and maintain interest in the game.

However, Go educational approaches vary among educators. For example, while Teacher E advocates for Atari Go3), due to its efficiency in practicing liberties, atari, and capturing swiftly with a variety of opponents, teachers B and D express reservations. They argue an early focus on Atari Go makes the subsequent teaching of making territory more challenging as the students associate Go with capturing stones as the goal of the game. Therefore, they recommend a teaching focus on territory from the very beginning, thereby embedding the main objective of the game in students' foundational knowledge.

Teaching Essential Concepts

Teaching Go begins with fundamental rules and concepts, including liberties, capturing, and territory building. Yet, even these basics are not always easy to explain and to be comprehended by young learners. Complementing this, Teacher G has compiled an adapted rule set for young learners. The centerpiece, the "population score rule," clarifies scoring by letting them count the number of stones on the board, a concrete task that engages children directly with tangible objects instead of the abstract concept of territory. This approach uses new terms such as "overflow," to teach learners not to fill territory excessively, and let them pass instead. This teaching approach is in line with the Strasbourg Go Rules, also utilized by Honinbo O Meien in Japan, focusing on the number of stones to determine the winner and thus simplifying the endgame (Fenech, 2001). It highlights the international efforts to

3) 'Atari Go', also known as 'Capture Go', is a simplified form of Go where initially the game ends with the first capture of a single stone. As players advance, the rules evolve to winning by capturing a set number of stones. This beginner-friendly variant was popularized by Japanese Yasuda Yasutoshi 9p (Yasuda, 2002, 2004).

make Go more accessible, particularly for children who might find abstract concepts like “territory” challenging.

Similarly, Teacher A has developed five key rules for beginners, which serve as simplified maxims to help newcomers remember essential Go concepts:

1. Prioritize the corners over the sides and center.
2. Avoid playing on the first and second lines early in the game; instead, use the third and fourth lines to make territory.
3. Play loosely (lightly) to enable fast development.
4. Connect your stones if your opponent attacks.
5. Anticipate your opponent’s intentions.

The continuous reinforcement of these basic principles is important as students transition to larger boards, where the game becomes more complex. The maxims are designed to help students improve their Go strength by avoiding common beginner mistakes.

Evaluation Methods

There is no standardized method for evaluating beginner’s Go strength and tracking their progress; however, some teachers have developed their systems over decades. In the case of interviewee B’s students, beginners start at a rank of 50 kyu after learning the basics and can advance to 30 kyu after winning twenty games, which helps them learn the basic concepts. Advancement beyond 30 kyu typically involves winning against more experienced players with handicaps (“test games”). Meanwhile, B also emphasizes that ratings are useful for organizing competitions, motivating students, and as a guideline for setting handicaps. His rating list is a tool for setting up matches that are interesting and challenging for both players and should not be used to judge someone’s value or create rivalry among students.

Teachers D and F begin to rank their students at 30 kyu, but D states that there is an inherent difficulty and uncertainty in evaluating the learners' Go level, particularly between 30 to 15 kyu. A point system that focuses on participation may be used, but it does not precisely reflect Go skills. Certificates for non-technical aspects, like efforts, are awarded but do not represent actual Go strength.

The "up-and-down" system, created by Teacher A for weekly lessons at elementary schools, assigns a starting rank of 10 to each student in their Go class, which is distinct from the traditional kyu ranking. In this system, after each round of play, the winner's rank is increased by one point, and the loser's rank is decreased by one point. Subsequently, players are rematched based on their new ranks, and games are played with full handicap adjustments reflecting these ranks. This method ensures that games remain balanced: winners face a more challenging opponent, while losers receive a higher handicap to support their learning. This continuous adjustment creates a competitive yet equal learning environment that accommodates players of varying skill levels. The key to the success of this system lies in its ability to adapt, not only maintaining equal games but also keeping players interested by providing continuous challenges and opportunities for improvement. However, it does not expand outside the classroom where the kyu/dan level system is common to measure and track a player's Go strength development.

Handicap System

The handicap system for Go games, used among students and between teachers and students, ensures equal games across different board sizes. It starts with beginners receiving a significant handicap when playing against teachers or experienced students on smaller boards. This handicap gradually decreases as they win games which motivates them to improve their level.

While “1 kyu difference equals one handicap stone” is a straightforward rule for the 19x19 board, it does not apply to smaller boards. Therefore, a practical guideline is necessary. A general estimate, recommended by teachers A and B, suggests that one stone on a 9x9 approximates three stones on a 13x13 and nine stones on a 19x19 board. Additionally, Teacher B provides specific rules of thumb:

- 19x19 board: one handicap stone per rank difference.
- 15x15 board: one handicap stone per two-rank difference.
- 13x13 board: one handicap stone per three-rank difference.
- 9x9 board: one handicap stone per nine-rank difference.

Teachers might opt to use tables for more refined handicaps, komi, and reverse komi calculations if needed. In tournaments, even games are used to assess participants’ skills, while classroom games employ handicaps for equitable learning. In essence, the handicap system is tailored to board size and students’ progress, aiming to foster equal and constructive learning rather than precise handicap adjustments.

Small-board Go Tournaments

Small-board tournaments, particularly those utilizing 9x9 and 13x13 boards, are an essential yet often underrepresented aspect of Go education. Teacher E succinctly captures the advantages of small-board tournaments, noting their value in providing novices with a unique entry point: “I think they are very, very good for beginners because beginners usually don’t have this opportunity. So it shows them that they are a part of this community and they are important because from 9x9 boards you can only grow. It’s clear that you will become a part of the competing world of bigger boards. (…) in the

beginning, it's also important to know that there is someplace in that community for you also." The significance of small-board tournaments lies not only in teaching the game but also in fostering a sense of belonging within the Go community.

Teachers have suggested structuring tournaments with multiple sections divided by board size or player level, encompassing 9x9, 13x13, and 19x19 sections. This approach allows players to compete within their comfort zone while still challenging them to grow. Instructor A shares how large school tournaments involve both teachers and more experienced students as referees, accommodating different skill levels and allowing a large number of participants. Teacher H adds, "The good thing is we finish the [13x13] tournaments quite fast. In a day, we can do so many groups. So many parents don't want to have competitions like two, or three days or so. They want to have a day, within one day to end everything," emphasizing the efficiency and family-friendly nature of these events.

The pace and intensity of small-board Go tournaments offer a compelling competitive experience that is both thrilling and educational. They allow for rapid games and multiple rounds, providing immediate feedback on tactical and strategic decisions, essential for players' development. The inclusive atmosphere is key to building a Go community where every player feels valued. Moreover, the recording of tournament results, such as by the European Go Database, which includes all tournament players starting from 30 kyu, marks the progress of beginners, reinforcing their sense of achievement and their place in the Go community.

Practicing Go Concepts

In Go education, the practice of theory learned in the classroom takes on a dynamic and interactive form. The interviewed teachers employ an array

of techniques to solidify the understanding and application of Go concepts. They challenge students with problems adapted to small board sizes, that focus on local positions without overwhelming learners with the complexity of whole boards. For instance, resources such as the "Big Problem Book" allow students to physically place stones and sequences on paper, which simulates game scenarios and supports an interactive learning experience.

Another teacher recommends collaborative problem-solving, where students gather to analyze specific situations and learn from each other's insights during group discussions. This method helps them internalize the multifaceted nature of Go, including complex situations that arise during their games. Moreover, discovery learning plays a significant role, with teachers encouraging students to independently explore solutions to specific scenarios like ko situations and life-and-death positions as they naturally arise in practice games, rather than directly teaching answers.

Teachers proactively address common beginner mistakes and reinforce strategic thinking by creating exercises that reinforce fundamental Go principles, such as playing loosely and connecting stones only when necessary. They set up situations in games to teach particular techniques, ensuring that students grasp the implications of their moves during actual games.

The interviewees also incorporate apps such as Tsumego Pro and EasyGo to present a range of problems, from beginner to advanced levels, aligning with the students' growing understanding of Go concepts. These apps provide varied contexts for practice, allowing students to refine their skills in specific areas relevant to their learning stage.

However, practice methods need to be adapted to the unique requirements of small-board learning. The respondents creatively utilize both partial and full-board problems to teach essential Go concepts, from the fundamental aspects of capturing stones to more complex endgame strategies. This approach

ensures that students can apply their knowledge practically, reinforcing their learning through engaging and hands-on methods.

Another vital aspect of Go education is reflective learning through game reviews and feedback. Teachers often comment during practice games or use photos to analyze positions post-game, providing key insights to students. This approach allows students to understand the implications of their moves and examine different possibilities than the actual game. The focus is not only on winning but also on learning from each game. This reflective practice ensures that students continually improve their skills and develop a comprehensive understanding of the game.

Overall, practice in Go education is about more than repetition; it is an experience designed to engage students actively and foster deep understanding. Through these practice methods, students not only enjoy the process of learning Go but also build a solid foundation for advanced play.

Customized Teaching Methods

The interviewed Go educators emphasize the importance of adapting teaching methods to accommodate the individual learning styles, abilities, and paces of each student. This approach, ranging from one-on-one instruction to differentiated teaching in mixed-level classrooms, ensures that all learners remain engaged and understand the concepts being taught. Teacher E particularly cautions against a common educational pitfall: overloading beginners with too many concepts in a single session, which can lead to confusion rather than clarity.

In mixed-level classrooms, Teacher D adopts a strategic approach, allowing less experienced players to tackle simple questions first, thereby ensuring they are not overshadowed by more advanced learners. This method not only helps in managing diverse skill levels within a class but also in customizing

the complexity of questions according to individual student's understanding. Similarly, participant B encourages teachers new to small-board teaching to experiment and assess the effectiveness and enjoyment levels of using small boards in their teaching. If this method proves beneficial for both educators and learners, he recommends continuing its use; otherwise, reverting to more familiar methods may be preferable.

Additionally, Teacher L stresses the accelerated learning curve for adults. He suggests that while adults should begin learning on smaller boards, such as 13x13, they often progress to larger boards more quickly than children, as soon as they grasp the concept of "territory" and can complete a game. These insights from experienced educators illustrate the importance of flexibility and responsiveness in teaching methods to ensure that learning Go is both effective and enjoyable for students of all levels and age groups.

Effective Classroom Management

Managing a Go classroom involves balancing various skill levels, maintaining student engagement, and responding to classroom dynamics. Teachers implement flexible strategies to accommodate learners' preferences and moods, such as allowing them to choose their board sizes or opponents. This adaptability extends to the use of age-appropriate materials as adult learners may require different teaching approaches compared to young learners.

In order to address the differing needs of students, teachers use creative activities like classroom team games and interactive discussions to keep lessons captivating. Educators often find themselves modifying their approaches based on students' responsiveness and engagement levels. They also divide students into groups by level to provide instruction that aligns with each student's learning pace and to make sure that everyone, regardless of their skill

level, feels included and valued.

Especially when skill levels differ significantly, it is important to create a supportive atmosphere. Instructors balance their guidance to prevent discouragement among novices and maintain a constructive learning environment. Teachers rely on their intuition and experience to adjust lesson pacing and content when time is limited and skill levels vary. This way, every student gets the necessary support to find joy and success in a Go classroom.

Engaging and Motivating Students

When teaching young learners, maintaining motivation and engagement plays a decisive role in Go education. Teachers employ various strategies to captivate their students' interest. Teacher D adopts an interactive approach, using timers and background sounds to enliven problem-solving sessions. He diligently records classroom activities and consistently updates his personal teaching activity database to ensure their effectiveness and appeal. Moreover, he actively engages students in learning activities by using a digital "fortune wheel" to select problem solvers, infusing lessons with fun and anticipation.

Teacher E utilizes storytelling to spark young learners' interest, which she finds particularly effective on the 9x9 board where the game's simplicity invites more direct and compelling stories. Separately, animations and interactive games act as educational tools that stimulate curiosity and introduce challenges. Online platforms provide a space for beginners to achieve victories in games and problem-solving quests, that encourage continuous dedication. Reward systems and customized classroom activities help every student feel acknowledged and valued, thereby contributing to an inclusive and encouraging learning space. These methods, along with the teachers' inventiveness and flexibility, create a learning environment that encourages

students to appreciate Go despite its challenging nature.

Educational Materials

The selection and creation of materials are critical for effective Go education, and the interviewed Go teachers are continually seeking innovative ways to enhance the learning experience, ensuring that Go is taught not only as a game but also as a visually engaging and mentally stimulating activity. Using diverse Go educational materials helps cater to different ages, learning styles, and cognitive abilities. Teachers recognize the importance of age-appropriate materials, e.g. high school students often requiring a different approach than younger children. Animations and gamified activities are particularly engaging for younger children, as they help to hold their attention and make learning more interactive.

The scarcity of existing teaching materials has led educators B and M to create their own problems and even publish books, aiming to fill the gap in resources for smaller boards. Creativity in materials includes unique Go boards shaped like cats or their home country to spark interest and offer a distinctive learning experience. The respondents recommend diverse materials, including colorful and attractive tools, to address various needs, such as hyperactivity or attention issues. They also emphasize visual elements in educational materials due to their strong impact on learning. Furthermore, two teachers mention that their private Go libraries provide excellent sources for both teachers and students, providing professional game records, as well as both new and old books to enrich the educational experience and offer eager students materials for self-study.

Instructional Go materials are also chosen for their adaptability to different board sizes. Websites like “Go Child,” animated lectures, and a variety of self-made problems contribute to a more engaging and less intimidating

learning process. The use of Go apps, like Tsumego Pro and EasyGo, provides a range of problems and allows for self-paced learning and immediate feedback, making the experience interactive and rewarding. While the majority of problems are partial-board problems, full-board problems on small boards, such as 7x7 or 9x9, are useful for practicing endgame scenarios and counting, which are essential for beginners to learn how to conclude games and decide outcomes.

However, teachers also report limitations, for instance, some apps start at a level too advanced for most beginners. There is a need for more basic-level problems, with interviewee A proposing an open database for teachers and students to contribute to Go problems.

Teacher's Role

Go teachers play a pivotal role in shaping young learners' experience that emphasizes joy, etiquette, and cultural appreciation over competitive success. Their philosophy centers on igniting a passion for Go, with a focus on making playing games itself a rewarding and enjoyable experience. Completing a game is celebrated as a milestone to foster a sense of achievement and emphasize the importance of process and progress in contrast to the outcome of the game.

A significant aspect of their teaching strategy is introducing basic Go etiquette early on, which serves to counter the inherently competitive nature of the game. This establishes a foundation for students to build not only tactical and strategic understanding but also respect for the opponent and the rich historical and cultural background of Go.

In managing mixed-ability classrooms, educators aim to maintain a positive atmosphere, where lessons are customized to the diverse needs and capabilities of students. They strive to reduce rivalry, introduce fundamental con-

cepts thoughtfully, and offer support that helps students learn from defeats and setbacks to cultivate resilience. Teachers prepare their lessons by creating problems and educational materials that are appropriate to the features of smaller boards. Their guidance is deliberate, preventing students from learning advanced concepts too soon. This helps students fully understand before moving to larger boards. In summary, Go educators take on multiple roles—they are mentors, guides, and thoughtful strategists. Their approach not only shapes students' attitudes toward Go but also helps build their personality.

Parents' Perspective

Parental perceptions and active community involvement are central to the success of Go education, especially in regions where Go is less known. The parents' mixed reactions to their small-board education range from concerns about small boards hindering progress to appreciation for their facilitative role in learning. Several steps can be taken to improve the parents' perceptions. First of all, outreach initiatives, such as local festivals to introduce Go to parents and their children and using social media platforms like YouTube for promotion, help reach a wider audience. It is also important to involve parents in the Go community to sustain their interest in Go. If Go education extends beyond the classroom, parents can learn the game and join Go events together with their children. Some parents praise the 9x9 boards for allowing them to learn from their children. Innovative initiatives like parent-child Pair Go tournaments not only sharpen the child's skills but also solidify familial bonds through shared goals and achievements.

While feedback from parents on small boards is overwhelmingly positive, highlighting the ease of joint play at home, some parents encounter challenges in understanding the game from their children's explanations. This gap has prompted teachers to offer separate lessons for parents, ensuring they

can support their child's learning path. Casual interactions after classes provide parents with brief, practical Go insights, enabling them to play Go as a family activity at home. The positive atmosphere created by these teaching methods has inspired some parents to invest in Go boards and stones, further nurturing a supporting learning environment at home. In a unique role reversal, children often become the teachers, guiding their parents, after which Go educators happily receive positive feedback. Family Go sessions enhance more than just skills; they cultivate a communal hobby that could lead to joint tournament participation, thus uniting families through the game.

The motivational aspect of Go education is not limited to the classroom or home; it extends into the holidays. Participant M shares, "During summer breaks, I even organized Go camps at the school (…) Parents really appreciated our efforts. We held interviews to evaluate the children's commitment. Some kids didn't keep playing, but of course, I've been continuously doing this for over four years." Participant M's initiative in organizing Go camps during vacations demonstrates their dedication to building a lively Go community, including both students and their families.

4. Future Development in Go Education

When being asked about future directions to enhance Go education on small boards, Go teachers have articulated a series of interrelated aspirations, plans, and suggestions that reflect a vision for more engaging, accessible, and integrated learning experiences.

Central to this vision is the development of a comprehensive Go-learning app. This digital tool is expected to use the ubiquity of smartphones and tablets among children to make learning Go more accessible, engaging, and in line with contemporary educational tools. The app would not only serve

as a learning platform but could also integrate into school systems, enabling teachers, regardless of their Go strength, to facilitate learning. The app's potential is manifold: it could provide monitoring and assessment tools for teachers, allow students to create and share Go problems, and offer personalized problem sets to cater to individual learning levels. This would encourage independent practice and play, essential for Go skill development in both school and home environments.

Beyond the digital space, there is an ambition to cultivate an active Go community through local Go festivals that include small Go boards. These events would transcend the typical tournament structure, infusing Go competitions with a festive atmosphere that could promote a stronger sense of community.

Furthermore, teachers wish for more materials suitable for smaller Go boards and beginner learners. This includes books, videos, puzzles, and materials that are easily translatable and adaptable to various cultural contexts to ensure a wide-reaching impact. The educational landscape is further envisioned to include specialized resources for different learner groups, from children to the elderly, and for those with disabilities.

The infrastructure for learning Go is also required to be expanded, with teachers demanding a richer variety of equipment for use across teaching venues. Affordable and attractive playing equipment that students can take home is seen as essential, as it would enable them to continuously practice and reinforce Go knowledge learned in the classroom.

Teachers also express the need for a more systematic approach to Go education, with strategies and guidelines customized to different board sizes to help teachers deliver more effective instruction. This systematic approach is coupled with a desire for a stronger institutional framework, which would include a network of Go teachers to share best practices, organize gatherings,

and foster collective research endeavors.

In terms of promotion and perception, the interviewees acknowledge that Go must change its image as a game primarily for older people—by using small Go boards more widely, the game can be repositioned as an accessible pastime suitable and beneficial for all ages. The role of Go organizations like the Korea Baduk Federation (KBF) and international cooperation is emphasized in realizing these developments. Support from such institutions could lead to the creation of effective teaching apps, the professional development of competent teachers through structured training, and the promotion of small-board Go through research and community-building initiatives.

Finally, there is a collective willingness among the interviewees to contribute to these developments. Their enthusiasm and readiness to support and participate in initiatives that enhance Go education in general and on small boards are evident. This sentiment demonstrates their dedication to their profession and the growth of the Go community.

V. Discussion & Conclusion

This study has focused on the use of small boards in Go education to simplify the game for beginners and reduce its perceived difficulty. Through analyzing in-depth interviews with 13 Go teachers, we found benefits and challenges, as well as practical implications for future developments in Go education, as outlined below. This final part discusses the main findings, limitations, and future studies.

1. Discussion

First, teaching on small Go boards benefits beginners by simplifying the game and thus lowering learners' psychological barriers. For instance, due to fewer possibilities, small Go boards free beginners from having to learn advanced opening theories and standard sequences. Instead, they can focus more on local skills such as capturing techniques, territory, close combats, and the endgame. From the teachers' perspective, small Go boards make it easier to organize their curriculum as they need to cover fewer fundamental techniques.

Second, with small Go boards, there is more room for making Go fun, casual, and speedy. This suggests a key strategy for popularizing the game in countries like Korea where Go is highly regarded for its benefits but also seen as difficult, time-consuming, and static (TNO Korea, 2024). If educators and promoters use small boards as the introductory medium and create more opportunities to learn Go in a short and easy manner the above barriers could be overcome.

Third, small Go boards provide learners with a clearer and more trackable path to progress. Transitioning from one board size to the next symbolizes improvement in Go, and motivates beginners through a more tangible sense of achievement. Each board size introduces a new environment, helping learners expand their knowledge. They learn to adapt to unknown elements regardless of their skill level.

Fourth, teaching methods differ significantly between the standard Go board and small Go boards, making them incompatible. In other words, teaching some knowledge, such as opening patterns and strategies that require long-term and wholeboard perspectives, is limited on small boards. Although some Go teachers argue that these skills are not essential for begin-

ners, the question remains as to when these skills should best be taught in the absence of a standardized curriculum. The transition from small Go boards to the standard 19x19 board could be challenging because learners might struggle with concepts not covered on smaller boards. Faced with a lack of teaching materials and guidelines for using small boards, Go instructors have emphasized the need for institutional efforts to develop a systematized curriculum and materials that can be effectively implemented in their classrooms.

Fifth, the acceptance of small Go boards as an instructional medium to introduce Go to beginners differs greatly. In regions where small boards are not seen commonly, efforts are needed to make it more visible, such as tournaments with small-board sections, or professional players providing simultaneous games on small boards. Similarly, greater coverage of small board Go events in the media would also help make it a norm.

Sixth, while small Go boards enable beginners to understand fundamental techniques more easily, Chee and Wong (2017) have warned that excessive gamification or oversimplification could lead learners to prioritize hedonistic feelings over deeper educational benefits. In such an environment, it may be difficult for them to gain intrinsic benefits of learning Go such as patience and attitudinal development.

Overall, teaching Go on small boards is perceived positively by the experienced Go teachers we interviewed. This teaching method is considered to be a step forward from that of the standard 19x19 board, which is thought to be too vast and overwhelming for many beginners (Gallup Korea, 2016; TNO Korea, 2024). It also shows that Go has the potential to provide a more enjoyable learning experience to beginners and enhance its flexibility depending on learners' skills and preferences. Although the benefits are recognized by Go teachers, institutionalization—such as materials adapted to small-sized board teaching, digital learning tools, teacher training, tournaments, and offi-

cial rules is yet to make significant progress.

2. Limitations and Future Studies

While this qualitative research has examined the potential of a less common Go teaching method, there are more areas to be investigated in the future. First, the interviews were conducted with experienced Go teachers to analyze their instructional methods and insights. However, due to this, this approach may not fully reflect the experiences of Go teachers with a shorter teaching duration. Hence, quantitative research methods could provide more generalized findings on both the benefits and challenges of using small Go boards.

This research was conducted on Go teachers who have been teaching on small boards but did not include those who refuse to use them. Studying this group is outside the scope of this research. Nevertheless, their reasons for not using small Go boards might contribute to uncovering more dimensions of the topic, as can be seen in the case of Go teachers who refuse to use AI Go technologies in their classrooms (Trinks & Oh, 2023).

The purpose of the study is to observe the experiences of skilled Go teachers from various parts of the international Go community, resulting in a lack of focus on cultural differences among their nationalities. For instance, instructors teach at Go academies, schools, or community centers. As learning environments and instructors' preferences for Go teaching differ based on cultural aspects (Trinks, 2010), further meaningful outcomes or particular patterns might be identified if future research focuses on country-specific or comparative studies.

Finally, since this research primarily targets Go teachers, students' perspectives and experiences have not been sufficiently reflected. To gain a more

comprehensive understanding of Go education on small boards, conducting studies on learners is recommended to further expand the research area.

3. Conclusion

We began the research by questioning the discrepancy between the game's appeal to Go enthusiasts and the learning curve required to reach the level where players truly start to enjoy it. Analyzing the respondents' insights has shown that teaching Go on small boards makes it easier for beginners to learn fundamental concepts and basic techniques. Promoting this educational method could help narrow the perception gap between Go players' enthusiasm and the stereotype among non-Go players that the game is inherently difficult to learn. It might also help prevent early drop-outs.

Our study highlights the potential of small Go boards as an effective tool for introducing beginners to the game of Go. It makes the game more accessible and less intimidating, thereby attracting a wider audience and potentially increasing its popularity. This approach benefits students in terms of achievement and enjoyment and also brings personal fulfillment to teachers, thereby improving the overall teaching and learning environment.

In addition to the benefits, we have also investigated various challenges. A notable issue is the general lack of awareness and interest in small-board Go. Increasing publicity through professionals' exhibition games on small boards, or offering more small-board Go education programs, could help small boards gain more acceptance as credible Go tools. Additionally, the focus on immediate tactical play on small boards might limit the development of broader strategic thinking required for advanced play on the full-sized 19x19 board. Another challenge lies in the transition from small to larger boards.

In practical terms, there is a consensus among the interviewed educa-

tors that beginners, particularly children, should start learning Go on small boards. This approach allows for a more interactive and adaptable learning experience. However, the transition from small to larger boards varies and is influenced by factors such as age and learning pace. Therefore, a curriculum for small-board Go education should be progressively designed, introducing fundamental concepts in a sequence that ensures a comprehensive understanding of the game.

When discussing the future of Go education, respondents emphasized the importance of digital integration and community engagement. Educators envision the development of a comprehensive Go-learning app, designed to make learning more accessible and engaging, especially for the younger generation adept with digital technology. This vision seeks to make Go a more accessible and rich pursuit for learners of all ages and backgrounds, thereby improving its appeal and promotion worldwide. Beyond digital solutions, there is an ambition to cultivate an active Go community through local Go festivals and tournaments with small-board sections.

Additionally, there is a demand for a richer variety of educational resources designed for smaller boards and beginners. These include books, lecture videos, puzzles, and materials that can be adapted to various cultural contexts, and languages. A more systematic approach to Go education is recommended, with strategies and guidelines customized to different board sizes. This approach should be supported by a stronger institutional framework, possibly including a network of Go teachers to share best practices and promote joint research. Effective communication between Go teachers and organizations can be seen as key to promoting this method.

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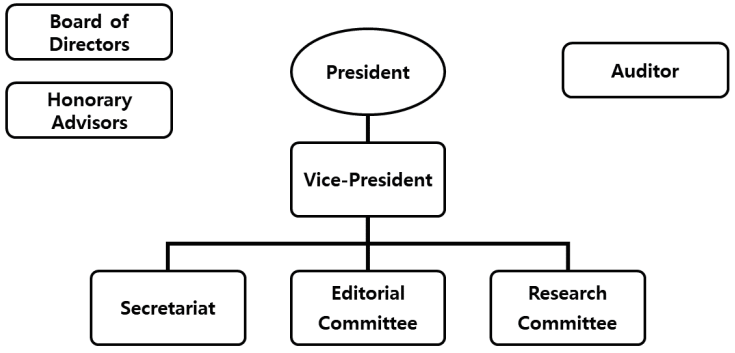

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