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Keynote Speech

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**Dare to Transform:
Fostering the Talent in Each Child**

主題演講

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**勇於轉型：
培育每個孩子的才能**

DARE TO TRANSFORM:

Fostering the Talent in Each Child

Allen M. Huang

Recent innovations in technology and the years of the pandemic have highlighted the importance of preparing young individuals for their future in a new way. We must continue to reflect on and transform the educational process based on the latest research on talent and skill development. Having spent numerous years working in the education sector in Taiwan and the United States, I am eager to impart my insights and knowledge to advocate for improved education for the next generation.

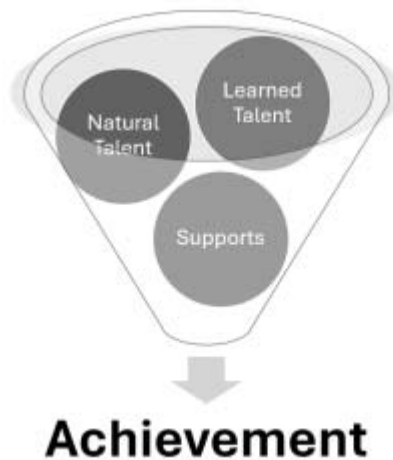
For this presentation, I will address four themes in fostering talent in all children: 1) uncovering a child's unique talent, 2) fostering a child's desire to learn, and 3) embracing the principle that "it takes a whole village to raise a child." Using these themes, we must strive to implement targeted strategies ensuring that every child receives personalized guidance and encouragement tailored to their needs and potential. Lastly, this presentation includes an overview of challenges and opportunities for charting pathways to new heights for all learners in Taiwan's educational system.

Defining Talent

There are multiple definitions of talent which illustrate the complexity of this concept. In response to diverse definitions, I aim to present a reconceptualized model of talent, which synthesizes the

existing literature to offer a more comprehensive understanding. Talent is comprised of two separate components: natural talents and learned talents, both of which are important to individual achievement. A third component, support, is necessary to bring talents to fruition. Figure 1 describes how the interrelated components of talent can be transformed into achievement.

Figure 1 From Talent to Success



Each individual is born with a unique constellation of natural talent across various domains. For instance, a child who creates intricate and imaginative drawings or sculptures may possess an innate talent for visual arts. Likewise, a child who easily learns to play musical instruments or creates original songs may have a natural talent for music. This broader perspective, supported by Gardner (1983) and Goleman (1995), emphasizes that natural talent should be defined not just by traditional academic performance but by recognizing and valuing a diverse range of abilities.

In addition to natural talent, learned talent is indispensable. Learned talent encompasses a passion for one's interests, strong interpersonal skills, a positive attitude toward oneself and others, self-discipline, resilience, perseverance, and a determination to achieve (Duckworth, 2015; Dweck, 2006; Grant, 2023; Robson, 2022). Talents are built and improved over time through everyday experiences with people and the world around us. As children face different situations and challenges, they learn how to handle social interactions, manage their feelings, and keep going when things get tough. Success comes from blending natural talent with learned talent and the right support.

Vignette #1

Michael Jordan, a five-time MVP player, suffered multiple rejections such as being cut from his high school varsity team. With encouragement from his mother and his coach, he remained committed to basketball and practiced relentlessly to refine his skills. The following year, he was rewarded when he made the varsity team. Afterwards, Michael earned a spot on the team at the University of North Carolina and was selected by the Chicago Bulls who went on to win six NBA championships. His story exemplifies the power of the combination of natural and learned talents plus support in achieving extraordinary success.

Uncovering A Child's Unique Natural Talents

There is a widely shared vision of talent that is strongly associated with school achievement, but this narrow view overlooks the diverse ways in which children can excel. Some natural talents are readily

apparent. Others are hidden and require discovery and development.

At home, the parent is the first and most important teacher, guiding children through their earliest experiences. When parents create a safe and supportive environment where children feel free to explore and express their interests without fear of judgment or failure; therefore, children are more likely to develop confidence and pursue their passions (Engel, 2015). Parents are in a prime position to observe their child's behaviors closely through daily interactions. These observations should be objective, accurate, and take place across various settings and environments. By paying attention to their child's natural inclinations and unique temperamental characteristics, parents can identify emerging interests and aspirations. This thorough understanding enables parents to provide targeted encouragement and resources that align with their child's unique talents.

Vignette #2

Nobuyuki Tsujii was born blind due to microphthalmia. His mother discovered his musical interest and talent at the age of 2 when she noticed his fascination with music. She observed him frequently playing with a toy piano, attempting to replicate the melodies he heard around him. Recognizing Nobuyuki had a keen ear and natural ability to reproduce music, she provided opportunities for him to explore and develop his musical skills. Nobuyuki's mother's role in recognizing and nurturing his abilities was vital, allowing him to leverage his strengths and achieve success as a renowned pianist. (Rosen, 2014)

Vignette #3

Leslie was a good student throughout high school and was determined to get into medical school. She applied to an Ivy League university and majored in Biology for her undergraduate degree. In the first year, Leslie had difficulty with her general education classes as well as courses in her major. After talking with her parents, she decided to transfer to a local university and to “start over.” However, she continued to struggle in her major classes and unfortunately, her academic achievements were still not competitive enough to gain admission to medical school. Leslie was crushed and her parents tried desperately to help her with an alternative professional plan. In their review of her transcript, they discovered that she received high marks in her psychology courses. Therefore, they asked her to consider applying for a master’s degree in clinical psychology. Leslie was resistant to the idea, but she agreed to this “detour” while she re-applied for medical school. She began to excel in her coursework and was offered scholarships and a prestigious internship that allowed her to secure an admission spot for a doctoral program in clinical psychology. Leslie’s parents were able to provide guidance at critical turning points, setting her on a path to a better professional future.

Teachers and other education related professionals must also work diligently to recognize and nurture the talents of children. Their observations in a structured learning environment provide valuable insights into each child's abilities and potential. This perspective can reveal strengths, weaknesses, and interests that may not be apparent at home.

Several strategies can help teachers identify and nurture hidden talents in their students. Feldhusen (1996) suggested that teachers should be alert to the signs of students' strengths, interests, aptitudes, and learning styles in all areas, such as academic, artistic, and interpersonal domains. Structuring learning activities in music, art, creative writing, and/or social interactions may highlight strengths that may not be evident in typical academic assignments. Recognizing and praising students' talents can enhance their self-esteem, confidence, and motivation (Schunk, 1991). Through extracurricular activities, advanced placement courses, and specialized programs, teachers can provide avenues for students to pursue their interests and hone their skills.

Parents and teachers should carefully observe, realize, and accept each child's natural talents to set realistic expectations through each stage of development (Robson, 2022). Waters (2017) further advocated that "Attention on the negative helps child survive. Attention on the positive helps child thrive." Despite this insight, there is unfortunately a tendency for parents and teachers to use a deficit model to remediate a child's weaknesses (e.g., cram schools). Thus, it is equally important that parents and teachers are patient and avoid imposing their own traditional notions of success, which can result in missing the opportunity to uncover a child's unique talents or unintentionally stifling a child's unique abilities.

Fostering the Child's Desire to Learn

The desire to learn is a multifaceted process deeply rooted in the interplay of curiosity, motivation, and effort (Robson, 2022), all of which are nurtured through interactions with people and the

environment. Curiosity sparks the child's desire to explore and ask questions (Engle, 2015), while children's motivation fuels the drive to pursue their interests (Ryan & Deci, 2000). Friedman (2007) observed that the interplay of curiosity and motivation can be more influential than intelligence in achieving success. Effort is the final element that turns curiosity and motivation into tangible accomplishments.

Curiosity sets the stage for learning. This idea is supported by Chouinard's (2007) research, which highlights how children's questions are a fundamental expression of their curiosity to learn about things they have yet to experience. Her study found that children from 14 months to five years of age asked an average of 107 questions per hour. This remarkable frequency demonstrates how curiosity plays in the learning process, allowing children to delve into both concrete and abstract concepts beyond their immediate experiences. However, Engel (2015) found that questioning and therefore, curiosity, declines sharply once children start school, with the youngest students in elementary school asking five or less questions in a two-hour period, and fifth graders sometimes going entire periods without asking any questions at all.

Creating an environment where questions are encouraged and valued is of the utmost importance. At home, parents should have open-ended conversations and provide opportunities for exploration as ways for children to pursue their curiosity. Simple activities like reading, exploring nature, and doing creative projects together can inspire a love of discovery and drive children to immerse themselves deeply in various subjects. Engel (2015) reported that although curiosity has not been a priority in the educational system, teachers can cultivate curiosity

in the classroom by designing lessons that are inquirybased and the student centered. Additionally, both parents and teachers should model curiosity themselves by demonstrating a love for learning and showing enthusiasm for discovering new information.

Motivation follows curiosity and drives a child's determination to improve understanding and reach educational goals. There are two types of motivation, intrinsic and extrinsic, each serving a different purpose in the learning process. Grant (2023) stated that for those who are genuinely interested, or possess intrinsic motivation, in a subject will have higher achievement. Conversely, extrinsic motivation, driven by rewards such as stickers or awards, usually only works in the short term. While external rewards can initially capture student interest, they often steer focus away from the internal worth of learning (Kohn, 1993).

This does not mean that parents and teachers should completely eliminate external incentives. Initially, such rewards can be useful for generating interest and engagement. However, the goal is to shift children from relying on these external rewards to developing intrinsic motivation with adequate resources and support (Ferlazzo, 2023; Bourton et al., 2006; Wehe et al., 2015; Ryan & Deci, 2017). To avoid dependence on external rewards, parents and teachers should direct their efforts into creating a positive and engaging learning environment and recognizing effort and documenting progress, rather than just outcomes. They can also help children learn resilience and perseverance through practical experiences in the home, school, and community (Kamins & Dweck, 1999; Robins & Pals, 2002).

While curiosity and motivation initiate the learning process, it is

a deliberate effort led by the child that transforms these qualities into tangible results. Effort is the amount of time and energy that students dedicate in reaching their goals (Carbonaro, 2005). The depth and quality of children's accomplishments are directly impacted by time they spend on their learning task. The focus should be on the quality of time spent, which is determined by how efficiently it is used, rather than the amount of time (Ericsson et al., 1993). Parents can arrange short, focused study sessions to promote learning efficiency. This approach is more effective than extended periods of disengaged or inattentive work. High-quality effort involves actively engaging with the subject matter, striving for understanding rather than relying solely on rote memorization (Hattie & Yates, 2014; Pintrich, 2004). In school, teachers can provide feedback that highlights effort and persistence. This method promotes a mindset of growth, motivating students to see challenges as important chances for development (Dweck, 2006). Sustained, meaningful engagement with learning materials is crucial for students to develop deeper knowledge and advanced skills (Duckworth & Seligman, 2005; Ericsson et al., 2007).

Vignette #4

José Hernández spent much of his early years working in the fields with his migrant family. He dreamt of becoming an astronaut after watching the Apollo 17 mission on TV. Despite inconsistent schooling and learning English in middle school, José's aspirations never changed. His dedication was noticed by his second-grade teacher, who saw his potential and enthusiasm. She played a crucial role by advocating for his family to stabilize their situation and settle in Stockton, California.

This stability enabled him to benefit from consistent educational support and resources, which were instrumental in his pursuit of his space exploration dream. In 2004, José was finally admitted into NASA's Astronaut Candidate Training Program after facing 12 years of rejections. He completed his training and journeyed into space on the STS 128 shuttle mission in 2009. His success in achieving this goal highlights his resilience and determination

As the saying goes, "Talent sets the floor, but character determines the ceiling" (Grant, 2023, p. 203). A common misconception is that natural ability alone leads to success. In reality, while natural talents are an important starting point, it is the synergy of curiosity, motivation, and effort that truly determines how far these talents can develop. This combination transforms these qualities from static gifts into dynamic forces, capable of being cultivated and expanded to achieve the highest possible accomplishments.

It Takes a Village to Raise a Child

Children grow within complex, interconnected systems that shape their development. The African proverb, "It takes a village to raise a child," reminds us that children can only achieve their full potential if the responsibility is shared among parents, schools, and communities.

At the heart of this village is the family, which provides the foundational environment crucial for a child's success (Reupert et al., 2022). The home is where the hidden curriculum begins—the informal lessons, values, and social expectations that children learn outside of the formal academic curriculum, often unconsciously (The Glossary of Educational Reform, 2015). The famous proverb, ‘言教不如身教,’

reminds us of that teaching through modeling is far more powerful than teaching with words. This hidden curriculum, absorbed in the early years, lays the groundwork for a child's future growth and influences their ability to thrive in the broader community.

Families and schools should form strong partnerships to provide consistent encouragement and resources in both settings (Moon & Brighton, 2008). Teachers and parents need to regularly share important details about a child's progress with each other. Building upon the fundamental skills acquired at home, the school should further develop students' language abilities in listening, speaking, reading, and writing. This expansion of knowledge strengthens their foundation and improves their critical thinking and communication skills necessary for ongoing academic and personal development. Students can gain valuable skills through the school's hidden curriculum, which also significantly promotes social and emotional learning through daily interactions (Maynard et al., 2022). Thus, it is highly recommended for schools to integrate both academic content and social-emotional skills, or emotional intelligence (Goleman, 1995) to prepare students for success in all areas of life.

While home and school are frequently researched in the literature on student learning, the role of the community is often overlooked. The community serves as a rich resource that parents and teachers can access for projects, tasks, and assignments and connecting children to real-world experiences. Community-Engaged Learning is designed to expand students' practical experiences beyond the home and the classroom (Kuh, 2008). This area has been one of intense interest in the last decade

and institutions such as the University of Minnesota established the Center of Community-Engaged Learning to meet this demand. Wyman (2017) offers several strategies for leveraging community resources effectively: inviting professionals or experts to speak to students or participate in their projects, organizing shadowing opportunities for students to observe their dream professions, and hosting workshops led by professionals to teach new skills. Furthermore, using the community as a classroom—through field trips, visits to nature centers, or museum tours—and accessing community equipment, space, and personnel can greatly enhance the learning experience.

Vignette #5

Chiang Ching-liang (江 璟 亮) or Logan is a Taiwanese child prodigy who was recognized as a MENSA member at age 7. He was admitted to NYU with a double major in Neuroscience and music at age 13. His mother, a music teacher, recognized her son's unique natural talents very early and successfully utilized resources from various levels including family, schools, universities, and community to provide Logan with timely support. She homeschooled Logan; however, she appealed to the local elementary school to allow him to attend school for elective classes (e.g., physical education, art, music) and participating in social events and other outdoor activities only. Logan was a voracious reader and exhibited an insatiable thirst for knowledge, so friends of the family loaned him books on diverse subjects, including American literature, history, science, and mathematics. Logan and his mother are deeply grateful for the extensive support and guidance provided by numerous volunteer mentors and experts from communities and local universities.

He also received a substantial donation from two private endowment organizations to fund his attendance at NYU, reflecting the strong community support for his education. Logan is a true-life story about taking a village to educate a child.

Supporting children's success involves the collective efforts of individuals across home, school, and community settings, with each system contributing uniquely to their development. However, traditional approaches are often siloed, potentially hindering children's progress and learning. By promoting collaboration among families, schools, community organizations, and agencies, we can establish a more cohesive and efficient system of support so that children can access resources and guidance needed to thrive.

Charting Pathways to New Heights

Taiwan has had a robust and quality educational system since the early 1960s. However, we must transform our mindsets and approaches to create new paths and reach new heights. In our pursuit of unlocking each child's potential and advancing educational outcomes, I would like to offer three recommendations:

1. **Cultivating Talent Earlier.** Early childhood education offers a supportive environment to jumpstart the development of a child's talents. At this formative stage, children's natural curiosity can be readily harnessed. An environment of exploration can stimulate innate interests and set the stage for future talent development. Early childhood education builds a solid base in language, literacy, and problem-solving, which paves the way

for the growth of more advanced skills in the future.

In his book, *All I Really Need to Know I Learned in Kindergarten* (1986), Robert Fulghum describes the importance of early lessons like fairness, responsibility, and balance in life. Research by Chetty and colleagues (2011) reinforced this by showing that 11,571 children who attended kindergarten in 79 schools developed emotional intelligence qualities like self-discipline, determination, and strong interpersonal skills. These qualities proved to be more significant predictors of future success at age 27, including academic achievement, social and emotional well-being, long-term earnings, and overall health.

UNESCO (2023) reported that 46 countries provide free and compulsory kindergarten for all five-year-old children. I propose that Taiwan should implement a similar policy to invest in the future of our children. Offering high quality kindergarten programs to every child, regardless of their social or economic circumstances, fosters equity and inclusion. These children will grow to make positive and meaningful impacts on both their communities and our nation

2. Provide Multiple Postsecondary Options. Since the late 1990s, there has been a proliferation of new higher education institutions in Taiwan coupled with a dwindling student population over time. Institutions vie with one another to enroll enough students to remain viable. The Department of Education has brought stakeholders to work together on strategies to mitigate the negative impacts of this persistent crisis in higher education. The task force was also charged

with pursuing the long-term sustainability and excellence of Taiwan's higher education system. Despite some progress, additional reform may be required to ensure that colleges and universities align with evolving market needs and national goals. Traditional degree granting programs are the main route for advancement of the current higher education system in Taiwan. In many instances, a degree is not an assurance of competence. Therefore, we need to consider non-degree postsecondary education options to accommodate the diverse interests and talents of individuals. For example, community colleges are embedded as a part of the higher education system in the United States. Post-secondary students can select from a range of job-training certificate programs based at the local community college. This allows individuals to begin or change to a different career pathway. Community colleges can also provide students with an opportunity to be enrolled in a traditional first two-year general educational program (associate degree) for future seamless transition to a four-year degree granting institution. This flexibility allows individuals to pursue their interests and continue their growth in ways that align with their unique talents. Finally, the community colleges have quality control measures in place for program completion. Moreover, integrating training programs offered by the Labor or other departments with the educational system can also streamline the path to career readiness. These efforts would foster a more dynamic educational environment, benefiting both students and institutions alike.

3. Mental Health. There is a mental health crisis impacting children worldwide (Abrams, 2023) with alarming increases in anxiety and depression (Barica et al., 2021). Mental health often carries a stigma (Mukulo et al., 2010), causing many to avoid discussing it due to discomfort. This issue is also evident in Taiwan (Cheung, 2018). However, neglecting students' mental health can have significant repercussions because it negatively impacts their academic performance and leads to more severe problems in the future (Agnafors et al., 2021).

To effectively address and prevent mental health challenges among children in Taiwan, a three-step approach can be effectively implemented in school settings (Kilgus et al., 2015). First, early screening enables parents and educators to identify mental health signs promptly, allowing them to address concerns before they begin or worsen. Second, providing educational resources focused on prevention is essential in empowering students, teachers, and families with the necessary tools to handle stress, cultivate resilience, and enhance emotional health. Last, offering specific intervention and counseling resources to students in need, guaranteeing they get the proper care and guidance to conquer their obstacles.

Talent is a precious gift that holds the potential to transform lives, communities, and the world at large. Without proper guidance and support, talent may go unrecognized or underutilized, depriving individuals of opportunities for growth and success. Let us champion the power of talent in each child and harness it to make a lasting positive impact on each and every child. My hope is that in this conference, we

can come together to stimulate new research, implement innovative ideas, and collaborate with one another in order to capitalize the talent of each individual learner for future growth.

勇於改變：培養每個孩子的才賦

黃茂樹教授

最近的科技創新和前幾年的疫情凸顯了以新方式為年輕人的未來做好準備的重要性。我們必須根據才賦和技能發展的最新研究，不斷反思和變革教育過程。我在台灣和美國的教育界工作多年，渴望傳授我的見解和知識，以倡導改善下一代的教育。

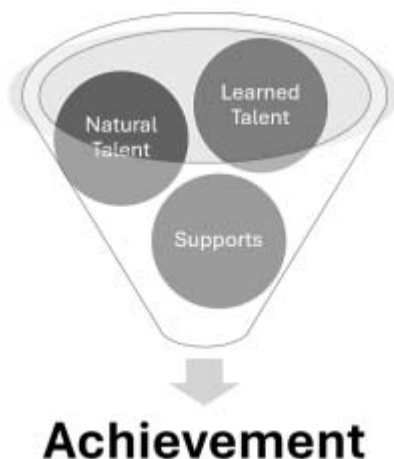
本次演講我將討論培養所有孩子的才能的四個主題：1) 發掘孩子的獨特才賦，2) 培養孩子的學習意願，3) 秉承「養育一個孩子需舉全村之力」的原則」。運用這些主題，我們必須努力實施針對性策略，確保每個孩子都能得到適合其需求和潛力的個人指導和鼓勵。最後，本演講概述了台灣教育體制中所有學習者通往新巔峰的挑戰和機會。

定義才賦 (Talent)

才賦的多種定義，說明了這個概念的複雜性。針對不同的定義，我的目標是提出一個重新概念化的才賦模型，該模型綜合現有文獻以提供更全面的理解。才賦由兩個獨立的部分組成：先天天賦和習得的才能，兩者對個人成就都很重要。第三個組成部分是相關支持，它是才賦發揮作用所必需的。圖 1 描述了才賦相互關聯的組成部分如何轉化為成就。

圖 1 從才賦到成功

Natural talent 先天天賦
Learned talent 習得的才能
Supports 相關支持
achievement 成就



每個人生來就具有跨不同領域的獨特才賦。例如，一個能夠創作複雜且富有想像力的繪畫或雕塑的孩子可能擁有與生俱來的視覺藝術天賦。同樣，一個能夠輕鬆學習演奏樂器或創作原創歌曲的孩子可能具有天生的音樂天賦。這種更廣泛的觀點得到了 Gardner (1983) 和 Goleman (1995) 的支持，強調才賦不僅應該由傳統的學業成績來定義，還應該透過承認和重視各種能力來定義。

除了先天的天賦之外，習得的才能也是不可或缺的。習得的才能包括對自己興趣的熱情、強大的人際交往能力、對自己和他人的積極態度、自律、韌性、毅力和實現目標的決心 (Duckworth, 2015; Dweck, 2006; Grant, 2023; Robson, 2022)。隨著時間的推移，才能透過與周圍人和世界的日常經驗而建立和改善。當孩子面臨

不同的情況和挑戰時，他們會學習如何處理社交互動、管理自己的感受，並在遇到困難時繼續前進。成功來自於將先天天賦與習得的才能並與適當支持結合。

情境 1

連續五屆 MVP 球員 Michael Jordan 曾多次被拒絕，例如被高中校隊除名。在母親和教練的鼓勵下，他繼續致力於籃球運動並堅持不懈地練習以提高自己的技能。第二年，他入選校隊並獲得獎勵。之後，他在北卡羅來納大學獲得一席之地，並被芝加哥公牛隊選中，該隊隨後贏得了六次 NBA 冠軍。他的故事體現了天賦和習得的才能以及支持相結合所帶來巨大成功的力量。

發現孩子獨特的才賦

人們普遍認為才賦與學校成績密切相關，但這種狹隘的觀點忽略了孩子們能夠取得優異成績的多種方式。有些才賦是顯而易見的。其他的則是隱藏的，需要發現和開發。

在家裡，父母是第一位也是最重要的老師，引導孩子度過他們最早的經驗。當父母創造一個安全和支持性的環境，讓孩子自由探索和表達自己的興趣，而不用擔心被論斷或失敗時；因此，孩子更有可能建立信心並追求自己的熱情（Engel, 2015）。父母處於透過日常互動密切觀察孩子行為的首要位置。這些觀察應該是客觀、準確的，並且是在不同的背景和環境中進行的。透過觀察孩子的自然傾向和獨特的氣質特徵，父母可以識別新出現的興趣和願望。這種透徹的理解使父母能夠提供符合孩子獨特才能的有針對性的鼓勵和資源。

情境 2

辻井伸行之因小眼球症而先天失明。他的母親在他兩歲時發現了他對音樂的迷戀，並發現了他的音樂興趣和天賦。她觀察到他經常彈奏玩具鋼琴，試圖複製他周圍聽到的旋律。她意識到辻井伸行擁有敏銳的耳朵和再現音樂的天生能力，她為他提供了探索和發展音樂技能的機會。伸行的母親在認識和培養他的能力方面發揮了至關重要的作用，使他能夠發揮自己的優勢並取得成功，成為著名鋼琴家（Rosen，2014）。

情境 3

Leslie 在整個高中階段都是一個好學生，並決心進入醫學院。她申請了一所常春藤聯盟大學，並主修生物學獲得學士學位。第一年，Leslie 在通識教育課程和專業課程上都遇到了困難。與父母商量後，她決定轉學到當地一所大學，「重新開始」。然而，她在專業課仍繼續掙扎，且不幸的是，她的學業成績仍然不足以進入醫學院。Leslie 崩潰了，她的父母努力試圖幫她制定替代職業規劃方案。在檢視她的成績單時，他們發現她的心理學課程獲得了高分。因此，他們要她考慮申請臨床心理學碩士學位。Leslie 對這個想法很抵觸，但她同意在重新申請醫學院時走這條「彎路」。她開始在課堂作業中表現出色，並獲得了獎學金和享有盛譽的實習機會，這使她獲錄取臨床心理學博士課程。Leslie 的父母能在關鍵轉折點提供指導，讓她走上通往更美好職業未來的道路。

教師和其他教育相關專業人員也必須努力工作，認識和培養兒童的才能。他們在結構化學習環境中的觀察為每個孩子的能力和潛力提供了寶貴的見解。這種視角顯示的優勢、劣勢和興趣可

能是在家中不易察覺的。

有幾種策略可以幫助教師識別和培養學生的隱藏天賦。Feldhusen (1996) 建議教師應該留意學生在學術、藝術和人際領域等各領域的優勢、興趣、才能和學習風格的跡象。教師安排音樂、藝術、創意寫作和 / 或社交互動方面的學習活動可能會凸顯學生在典型學術作業中並不明顯的優勢。認可和讚揚學生的才能可以增強他們的自尊、自信和動力 (Schunk, 1991)。透過課外活動、先修課程和專業課程，教師可以為學生提供追求興趣和磨練技能的途徑。

家長和老師應該仔細觀察、認識並接納每個孩子的才賦，在每個發展階段設定務實的期望 (Robson, 2022)。Waters (2017) 進一步主張「關注孩子不好的方面有助於他們生存。關注孩子好的方面有助於他們的成長。儘管有這種見解，但不幸的是，家長和老師傾向於使用不足模式來彌補孩子的弱點（例如補習班）。因此，家長和老師同樣重要的是要有耐心，避免強加他們自己的傳統成功觀念，這可能會導致錯失發現孩子獨特才賦的機會或無意中扼殺孩子的獨特能力。

培養孩子的學習意願

學習意願是一個多面向的過程，深植於好奇心、動機和努力的互動 (Robson, 2022)，所有這些都是透過與人和環境的互動來培養的。好奇心激發了孩子探索和提問的意願 (Engle, 2015)，而孩子的動機則激發了追求自己興趣的動力 (Ryan & Deci, 2000)。Friedman (2007) 觀察到，好奇心和動機的交互作用比智力對成功的影響更大。努力是將好奇心和動力轉化為實際成

就的最後一個因素。

好奇心為學習奠定了基礎。這一觀點得到了 Chouinard (2007) 研究的支持，該研究強調了兒童的問題是他們好奇心的基本表達，他們想了解他們尚未經歷過的事物。她的研究發現，14 個月至 5 歲的兒童平均每小時提出 107 個問題。這種顯著的頻率展示了好奇心在學習過程中的作用，讓孩子們能夠深入研究超越他們直接經驗的具體和抽象概念。然而，Engel (2015) 發現，一旦孩子們開始上學，提問和好奇心就會急劇下降，小學最小的學生在兩小時內提出五個或更少的問題，而五年級學生有時整個學期都不會提出任何問題。

創造一個鼓勵和重視提問的環境至關重要。在家裡，父母應該進行開放式對話，並提供探索的機會，作為孩子追求好奇心的方式。閱讀、探索大自然和一起做創意項目等簡單的活動可以激發孩子們對發現的熱愛，並促使孩子們深入沉浸在各種學科中。Engel (2015) 報告提到，儘管好奇心並不是教育系統中的首要考量，但教師可以透過設計基於探究和以學生為中心的課程來培養課堂上的好奇心。父母和老師應該以身作則，表現出對學習的熱愛和對發現新資訊的熱情，成為展現好奇心的榜樣。

動機伴隨著好奇心，推動孩子提高理解力和實現教育目標的決心。動機有兩種：內在動機和外在動機，每種動機在學習過程中都有不同的目的。格蘭特 (Grant, 2023) 指出，對於那些真正對某一學科感興趣或具有內在動機的人來說，將會取得更高的成就。相反，由貼紙或獎項等獎勵驅動的外在動機通常只能在短期內發揮作用。雖然外在獎勵最初可以吸引學生的興趣，但它們常常使學生注意力偏離學習的內在價值 (Kohn, 1993)。

這並不意味著家長和老師應該完全消除外在激勵。最初，此類獎勵有助於激發興趣和參與。然而，我們的目標是讓孩子從依賴這些外在獎勵轉向透過充足的資源和支持發展內在動機（Ferlazzo, 2023; Bourton et al., 2006; Wehe et al., 2015; Ryan & Deci, 2017）。為了避免依賴外部獎勵，家長和老師應該努力創造一個積極、有吸引力的學習環境，認可努力並記錄進步，而不僅僅是結果。它們還可以幫助孩子透過家庭、學校和社區的實踐經驗來學習韌性和毅力（Kamins & Dweck, 1999; Robins & Pals, 2002）。

雖然好奇心和動機啟動了學習過程，但只有孩子的刻意努力才能將這些特質轉化為實際的成果。努力是學生為實現目標而投入的時間和精力（Carbonaro, 2005）。兒童成就的深度和品質直接受到他們在學習任務上花費的時間的影響。重點應該放在所花費的時間的品質上，這取決於時間的使用效率，而不是時間的數量（Ericsson et al., 1993）。家長可以安排簡短、集中的學習課程，以提高學習效率。這種方法比長時間不投入或注意力不集中的工作更有效。高品質的努力包括積極參與主題、努力理解而不是僅僅依靠死記硬背（Hattie & Yates, 2014; Pintrich, 2004）。在學校，老師可以提供強調努力和堅持的回饋。這種方法促進成長心態，激勵學生將挑戰視為發展的重要機會（Dweck, 2006）。持續、有意義地參與學習材料對於學生發展更深入的知識和高階技能至關重要（Duckworth & Seligman, 2005; Ericsson et al., 2007）。

情境 4

José Hernández 早年大部分時間都與他的移民家庭一起在田裡工作。在電視上觀看阿波羅 17 號任務後，他夢想成為一名太

空人。儘管中學時的學校教育和英語學習不穩定，但 José 的願望從未改變。他的投入精神吸引了二年級老師的注意，老師看到了他的潛力和熱情。她在鼓勵他的家人在加州斯托克頓安頓與定居上發揮了至關重要的角色。這種安定性使他能夠受益於持續的教育支持和資源，有助於他追求太空探索夢想。2004 年，José 在經歷了 12 年的拒絕後，終於被 NASA 的太空人候選人培訓計畫錄取，在 2009 年完成了訓練並搭乘 STS 128 太空梭進入太空。

俗話說，「才賦決定起步，人格決定高度」(Grant, 2023, p. 203)。一個常見的誤解是，只有天生能力才能帶來成功。事實上，雖然天賦是一個重要的起點，但真正決定這些才賦能發展到什麼程度的是好奇心、動力和努力的協同作用。這種結合將這些特質從靜態的天賦轉化為動態的力量，能夠被培養和擴展以實現最高的成就。

養育一個孩子需舉全村之力

兒童在複雜、相互關聯的系統中成長，這些系統塑造了他們的發展。非洲諺語「養育一個孩子需舉全村之力」提醒我們，只有家長、學校和社區共同分擔責任，孩子們才能充分發揮潛能。

這個村莊的核心是家庭，它為孩子的成功提供了至關重要的基礎環境 (Reupert et al., 2022)。家庭是潛在課程開始的地方—孩子們在正式學術課程之外通常無意識地學習的非正式課程、價值觀和社會期望 (The Glossary of Educational Reform, 2015)。「言教不如身教」這句名言提醒我們，身教比言教更有力量。這種早期吸收的潛在課程為孩子未來的成長奠定了基礎，並影響他們在更廣泛的社區中茁壯成長的能力。

家庭和學校應該建立強有力的夥伴關係，在這兩種環境中提供一致的鼓勵和資源（Moon & Brighton, 2008）。老師和家長需要定期相互分享孩子進步的重要細節。學校應在學生在家中掌握基本技能的基礎上，進一步培養學生聽、說、讀、寫的語言能力。這種知識的擴展鞏固了他們的基礎，提高了他們持續學術和個人發展所必需的批判性思維和溝通技巧。學生可以透過學校的潛在課程獲得寶貴的技能，這也透過日常互動顯著促進社交和情感學習（Maynard et al., 2022）。因此，強烈建議學校將學術內容和社交情緒技能或情緒智商結合（Goleman, 1995），為學生在生活的各個領域取得成功做好準備。

雖然關於學生學習的文獻經常研究家庭和學校，但社區的角色常常被忽略。該社區是家長和教師可以訪問的豐富資源，以完成方案、任務和作業，並將孩子與現實世界的體驗聯繫起來。社區參與學習旨在擴展學生在家庭和課堂之外的實踐經驗（Kuh, 2008）。這個領域在過去十年中一直受到人們的強烈關注，如明尼蘇達大學等機構也建立了社區參與學習中心來滿足這一需求。Wyman（2017）提出了幾種有效利用社區資源的策略：邀請專業人士或專家與學生交談或參與他們的項目，為學生組織觀摩機會以觀察他們夢想的職業，以及舉辦由專業人士主持的研討會來教授新技能。此外，透過實地考察、參觀自然中心或博物館參觀，將社區作為課堂，並使用社區設備、空間和人員，可以大大增強學習體驗。

情境 5

江璟亮（Logan）是台灣神童，7 歲時被認定為門薩會員（高智商同好組織）。13 歲時，他考入紐約大學，主修神經科學和音

樂。他的母親是一名音樂老師，她很早就發現了兒子獨特的天賦，並成功利用家庭、學校、大學和社區等各個層面的資源為 Logan 提供及時的支援。她在家教育 Logan；但她請求當地小學允許他去學校上選修課（例如體育、藝術、音樂），參加社交活動和其他戶外活動。Logan 是一位貪心的閱讀者，對知識表現出永不滿足的渴望，因此家人的朋友借給他各種學科的書籍，包括美國文學、歷史、科學和數學。Logan 和他的母親非常感謝來自社區和當地大學的眾多志工導師和專家提供的廣泛支持和指導。他還收到了兩家私人捐贈組織的巨額捐款，用於資助他在紐約大學就讀，這反映了社區對他教育的大力支持。Logan 是一個關於「養育一個孩子需舉全村之力」的真實故事。

支持兒童的成功需要家庭、學校和社區環境中個人的集體努力，每個系統都對他們的發展做出獨特的貢獻。然而，傳統方法往往是孤立的，可能阻礙兒童的進步和學習。透過促進家庭、學校、社區組織和機構之間的合作，我們可以建立一個更有凝聚力和更有效率的支持系統，使兒童能夠獲得成長所需的資源和指導。

指明通往新高峰的道路

自 20 世紀 60 年代初以來，台灣就擁有健全且優質的教育體系。但我們必須轉變觀念、轉變方式，開闢新道路、達到新高峰。為了釋放每個孩子的潛能並提高教育成果，我想提出三點建議：

1. 提前培養才賦。幼兒教育提供了一個支持性的環境，以促進兒童才能的發展。在這個成長階段，孩子天生的好奇心很容易被利用。探索的環境可以激發與生俱來的興趣，為

未來的才賦發展奠定基礎。幼兒教育為語言、讀寫和問題解決奠定了堅實的基礎，為未來發展更高階的技能創造條件。

Robert Fulghum 在他的著作《我在幼兒園學到的所有我真正需要知道的一切》(All I Really Need to Know I Learned in Kindergarten)(1986) 中描述了公平、責任和生活平衡等早期課程的重要性。Chetty 及其同事 (2011) 的研究證實了這一點，該研究展現，79 所學校的 11,571 名幼兒園兒童發展了自律、決心和強大的人際交往能力等情商品質。事實證明，這些特質是預測未來他們在 27 歲是否成功的更重要因素，這裡所謂的成功包括學業成就、社交和情緒健康、長期收入和整體健康。

聯合國教科文組織 (UNESCO, 2023) 報告指出，46 個國家為所有五歲兒童提供免費義務幼稚園教育。我建議台灣也應該實施類似政策，投資我們孩子的未來。為每個孩子提供高品質的幼稚園課程，無論其社會或經濟狀況如何，都可以促進公平和包容。這些孩子將成長為他們的社區和我們的國家產生積極和有意義的影響。

2. 提供多種高等教育選擇。自 1990 年代末期以來，台灣新的高等教育機構不斷湧現，但學生人數卻逐漸減少。各院校競相招收足夠的學生以維持生存。教育部召集利害關係人成立工作小組共同制定策略，以減輕高等教育中這場持續危機的負面影響。該小組也承擔追求台灣高等教育體系的長期永續性和卓越性的目標。儘管取得了一些進展，但可能需要進行更多的改革，以確保學院和大學符合持續變化

的市場需求和國家目標。

傳統的學位課程是台灣現行高等教育體系發展的主要途徑。但在許多情況下，學位並不能保證能力。因此，我們需要考慮非學位類高等教育課程的選擇，以適應個人的不同興趣和才能。例如，社區大學作為美國高等教育系統的一部分。大專生可以選讀當地社區大學的一系列職業培訓證書課程。這允許個人開始或改變原有的職業道路。社區大學還可以為學生提供參加傳統的前兩年一般教育課程（副學士學位）的機會，以便他們將來可以無縫過渡到四年制學位授予機構就讀。這種靈活性使個人能夠追求自己的興趣，並以符合其獨特才能的方式繼續成長。最後，社區大學制定了完成課程的品質保證措施。此外，將勞工部或其他政府部門提供的培訓計劃與教育系統相結合也可以簡化職業準備之路。這些努力將創造一個更有活力的教育環境，使學生和高教機構都受益。

3. 心理健康。心理健康危機正影響著全世界的兒童（Abrams, 2023），焦慮和憂鬱的人數驚人增加（Barica ET AL., 2021）。心理健康常伴隨恥辱感（Mukulo et al., 2010），導致許多人因不舒服而避免討論它。這個問題在台灣也很明顯（Cheung, 2018）。然而，忽視學生的心理健康可能會產生重大影響，因為這會對他們的學業成績產生負面影響，並導致未來出現更嚴重的問題（Agnafors et al., 2021）。

為了有效解決和預防臺灣兒童的心理健​​康問題，可以在學校環境中有效實施三級預防策略（Kilgus et al., 2015）。

首先，早期篩檢使家長和教育工作者能夠及時識別心理健康跡象，使他們能夠在問題出現或惡化之前解決問題。其次，提供以預防為重點的教育資源對於賦予學生、教師和家庭必要的工具來應對壓力、培養適應力和增強情緒健康至關重要。最後，為有需要的學生提供針對性的介入和諮商資源，確保他們得到適當的照顧和指導來克服障礙。

才賦是一份寶貴的禮物，具有改變生活、社區甚至整個世界的潛力。如果沒有適當的指導和支持，才賦可能得不到認可或未被充分利用，從而剝奪個人成長和成功的機會。讓我們捍衛每個孩子的才賦力量，並利用它對每個孩子產生持久的正面影響。我希望在這次研討會上，我們能夠共同激發新的研究，實施創新的想法，相互合作，以便充分發揮每個學習者的才能，實現未來的成長。

