2023

Exploring an Indian K-12 School's Experience of Culturally Adapting Multiple Intelligences Theory

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

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MS, Walden University, 2013

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Psychology

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Abstract

Many government-run K-12 schools in India struggle to serve their diverse student bodies in a culturally responsive manner that draws from the nation's rich cultural heritage. Academic programs based on Gardner's multiple intelligences (MI) theory have been utilized internationally to enhance learning, but the implementation has not been explored in a school curriculum based on Indian culture. The purpose of this qualitative case study, which was grounded in MI and Ladson-Billing's culturally responsive pedagogy (CRP), was to explore the methods and experiences of an Indian K-12 school that culturally adapted MI theory to include yogic principles of the Indian culture. A cross-case analysis consisting of interviews with 12 teachers and nine administrators, observations of 12 classrooms, and a review of 17 documents was conducted. Two themes (culturally adapted MI, and MI/multiple natures [MN] assessment) described how participating teachers assessed students' learning styles based on MI and yogic principles of the mind. Three themes (culturally adapted MI supported by yogic practices, implementation through activity-based learning, and student MI clubs) described how they implemented culturally adapted MI theory in the classroom. Future research is recommended to examine educators' culturally meaningful practices for developing students' MI and MN in other school contexts. This study may bring about positive social change by creating awareness of how the leaders of one school adapted MI to include yogic principles of the Indian culture, which in turn may allow others to enact similar methods of adapting MI principles to benefit students in discovering and nurturing their innate strengths within the specific cultural context of their schools.

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Dedication

On a very rare occasion, someone can suddenly come into your life and change it completely. And that is exactly what happened to me the first day I met my guru, Sri Satyanarayana Dasa Babaji. In the blink of an eye, on January 23, 2015, my life began to transform from a place of darkness and confusion to a place of golden light and divine love. I dedicate this work to Babaji, who has selflessly spent his life tirelessly teaching those who are fortunate enough to come into his sublime association. Before I met Babaji, I was sad, lost, and confused about love and life. Out of infinite compassion, Babaji took the time to share with me the ancient secrets of the Vedas that have changed my entire life. There are no words that I could write to express my gratitude to this saint. The only thing I can do to honor him is to live my life according to the principles of divine love that he has so graciously taught me.

Acknowledgments

First and foremost, I would like to thank my committee, Dr. Heretick and Dr. Verdinelli, two angels who have uplifted me in my life. I am very grateful for the countless hours that Dr. Heretick spent reading my dissertation drafts, sharing her personal stories to inspire me, and providing so much support and positivity. I also feel very fortunate for Dr. Verdinelli's qualitative methodology expertise and for her genuine enthusiasm and interest in my research subject matter, which inspired me to ask deeper questions and to more thoroughly explain my findings. Second, I would like to thank Sri Satyanarayana Dasa Babaji for inspiring me to pursue this PhD and for encouraging me to persevere when I faced adversity. Only through knowing him have I become strong and clear in my goal in life, and this has enabled me to carry on despite the obstacles on my path. Third, I would like to acknowledge the helpful guidance found in *The Dissertation Warrior: The Ultimate Guide to Being the Kind of Person Who Finishes a Doctoral Dissertation or Thesis* by Dr. Guy E. White, which I relied on like a bible, to guide my dissertation process. Fourth, and finally, I would like to thank my parents. I am ever grateful to my mother, who has been lovingly cheering me on since the day I started my PhD. I am touched by her unwavering kindness and patience as she quietly waited for over three years for me to complete my PhD so I could return from India to the United States and see her again. And a big thanks to my father, who put the seed of hard work and discipline in me as a young girl. I did not appreciate his tough-love approach back then, but I get it now. Dad, I wish you were still here on this earth so I could thank you and so you could see the fruits of your labor in making me the person that I am today.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Government-run kindergarten–Grade 12 (K-12) schools in India struggle in two major ways, according to researchers: (a) serving all students (Yagnamurthy, 2017) and (b) drawing from the country's rich cultural heritage (Khuntia & Barik, 2019). India had over 1 billion people, 1.5 million K-12 schools, 9.7 million schoolteachers, and 265 million students (Government of India, 2019–20). Schools struggle to serve all students across such a diverse range of socioeconomic backgrounds, as only 50% of eligible K-12 students attend school, on average (Government of India, 2019–20). The low enrollment rate of eligible K-12 students is largely due to poverty (Nadar, 2018); 21% of the population was below the national poverty line (Rao et al., 2021).

Many children do not have the luxury of going to school, as they have to stay home and help manage the household or family business instead of attending school (Rao et al., 2021). Students who do attend school encounter additional challenges. For example, many students living in poverty suffer from malnourishment, which hinders their ability to focus and take in information (Nadar, 2018). To compound matters, many schools are not fully equipped to support students in an optimal learning environment (Government of India, 2019–20). For example, not all schools had electricity (83.4%) or a library (84%); less than half had computers (38.5%) or internet access (22.3%) (Government of India, 2019–20).

Not only is the physical environment less than ideal, but the pedagogical approach is narrow, as students are taught in a teacher-centered manner that focuses on rote

memorization in the standard five core subject areas: language, mathematics, environmental studies, biology, and social sciences (Committee of Central Advisory Board of Education, 2005; National Council of Educational Research & Training [NCERT], n.d.). In a report from the mid-2000s, the Committee of Central Advisory Board of Education (2005), a governmental agency, stated, "our school education relies almost exclusively on predetermined sets of competencies to be acquired through rote memorization, thereby denying our children opportunities to exercise their innate thinking capabilities and their creativity" (p. 3). Indian school officials heavily focus on preparing students for competitive exams, and many parents invest in coaching classes for their children to prepare for these exams (Khuntia & Barik, 2019; Nadar, 2018). The Indian education system is not personalized for different students' learning styles, and this one-size fits all approach does not address the needs of different types of learners, for example, visual versus auditory learners (Nadar, 2018).

The second way in which government-run Indian K-12 schools struggle, according to some researchers, is by not drawing from their rich Indian cultural heritage (Khuntia & Barik, 2019). Even though recent research studies show that yogic practices increase positive feelings of a calm and relaxed mood and decrease negative, stress-induced feelings in children (Eggleston, 2015; Mukherjee, 2019; Rashedi et al., 2019; Stapp & Wolff, 2019), these elements of daily Indian life and culture have not been included as subjects in the curriculum (Sinha & Kumari, 2021). In his analysis of challenges within the Indian education system, Nadar (2018) stated that English is valued

over intellect (p. 88). In its report, the Committee of Central Advisory Board of Education (2005) noted concerns "about the declining awareness among our children about their cultural backgrounds" (p. 3). The focus on intellect is in sharp contrast to the traditional Indian cultural measurement, which emphasized character formation (Sinha & Kumari, 2021).

Character formation, which was the foundation of traditional Indian education, focuses on three main items: (a) the relationship between learner and teacher, (b) individualized learning, and (c) the involvement of parents and community (Sinha & Kumari, 2021, p. 47). Instruction in this paradigm requires the teacher to be an astute observer of the student's learning style, noticing the different ways in which each student thinks and learns (Bilbao et al., 2021). More specifically, a learning style is what a person understands from a physiological, cognitive, or affective perspective (Bilbao et al., 2021; Karatas & Ibrahim, 2021). Unfortunately, students' learning styles go unnoticed for a multitude of reasons, such as the heavy focus on rote memorization and cramming for exams (Nadar, 2018). Another reason is that many teachers teach according to their learning style, instead of teaching to accommodate the student's learning style (Mohana et al., 2008).

Still, teachers can use a variety of pedagogical approaches to target student learning styles. Although in the minority, some advocates in the Indian educational arena have proposed student-centered learning (Nadar, 2018). Culture-based education (CBE) is one such approach to student-centered learning (Singh, 2014). Culturally responsive

pedagogy (CRP) is a form of CBE that is uniquely positioned to support student-centered learning in Indian K-12 schools because it incorporates the student's cultural background into learning (Grant, 2017). CRP is an approach to teaching that includes students' cultural backgrounds as a guide for creating learning experiences in the classroom (Ladson-Billings, 1995). In this study, I examined one Indian K-12 school that not only has taken a student-centered approach but also has incorporated its traditional cultural background into the curriculum.

In this chapter, I provide an overview of the study. The chapter begins with the background of the study and the problem and purpose statements. The research questions and theoretical framework are then presented, followed by a discussion of the nature of the study; definitions of terms specific to this study; and a discussion of the assumptions, scope and delimitations, limitations, and significance of this study.

Background

The National Curriculum Framework (NCF) advises Indian K-12 schools to create a curriculum that encourages and supports children to learn in a manner that is meaningful to their life and relevant to their personal experiences, interests, and unique nature (NCERT, n.d.). However, students in government-run K–12 schools in India are not being taught according to their learning needs, research shows (Iyer & Counihan, 2018; Nadar, 2018). Instead, children are being instructed per a narrow pedagogical approach that is focused on teaching logistic and linguistic skills, ignoring how well children are learning (Iyer & Counihan, 2018).

In contrast, CRP focuses on students' learning needs (Ladson-Billings, 2021). CRP is an approach to student-centered teaching that emphasizes the importance of creating lessons that incorporate students' cultural values (Ladson-Billings, 1995). Howard Gardner, a Harvard psychologist, presented a pioneering idea in the 1980s that the role of teachers is to assess and support each child's unique nature (Gardner, 2011; Wilson, 2018). Gardner (2011) framed students' learning needs in terms of their "intelligences." Gardner also proposed that it is not true that there is only one standard type of intelligence, commonly known as IQ. Instead, there is a diverse range of intelligences, coined as *multiple intelligences* (MI; Gardner, 2011; see also Armstrong, 2018; Mehiri, 2020). Gardner argued that because students each have a unique mix of intelligences (Armstrong, 2018), it made sense to create classrooms and teaching strategies to support these varying intelligences (Mehiri, 2020; Shearer, 2020). Gardner proposed that teachers should get to know the specific intelligences of each of their students and then should present the material in ways that supported the students' various intelligences (see also Shearer, 2020). This way of learning about students has challenged some teachers and inspired other teachers to learn new student-focused teaching tools and strategies (Armstrong, 2018; Tamilselvi & Geetha, 2015).

Although the notion that each learner has a unique essence that needs to be served is deeply embedded in Indian culture (Sinha & Kumari, 2021), this idea is often lost in the government-run Indian K-12 education system (Nadar, 2018). The practice of culturally adapting instruction is not commonplace in India (Committee of Central

Advisory Board of Education, 2005). Many Indians have moved toward rejecting their own culture to adopt a Western, one-size-fits-all, culturally insensitive approach (Nadar, 2018). Although Indian government authorities have advised K-12 schools to create a curriculum that encourages and supports children to learn in a manner that is meaningful to their life and relevant to their personal experiences, interests and unique nature, they have found the implementation of this concept in the classroom to be difficult (NCERT, n.d.). Researchers in the educational field are calling for research on how to create such learning experiences (Brown & Crippen, 2016; Byrnes et al., 2018; Jia & Nasri, 2019). Some barriers to the implementation of CRP in the classroom range from a teacher's lack of understanding of what CRP truly is to a focus on implementing school policy instead of on implementing CRP (Evans et al., 2020).

Furthermore, in modern-day India, the primary pedagogical approach remains authoritative and rote (Committee of Central Advisory Board of Education, 2005; Tamilselvi & Geetha, 2015), India has a rich cultural heritage of pedagogy and the philosophy of the mind (Malhotra & Dasa, 2020). In ancient times, pedagogy involved students learning from gurus in a *gurukula* (guru's family home); the guru's focus was on character formation (Feuerstein, 2013; Sinha & Kumari, 2021). Therefore, the curriculum had a strong emphasis on subjects such as the development of self-control, moral education, and discipline and included practices such as yoga and meditation (Sinha & Kumari, 2021). All teachings were connected to the child's unique nature and the larger

natural forces in life and were not taught as independent subjects that required memorization of abstract concepts (Lad, 2021).

In other contexts like the United States, educators have used CRP to increase academic success by incorporating the student's ethnic identity into their learning (Bennett et al., 2018). Recent research indicates that validating a student's culture and racial/ethnic identification contributes to their academic success (Gunn et al., 2021). Gay and Chen (2020) described caring as the first and most important characteristic a culturally responsive teacher must possess. Caring teachers are sensitive to students' cultural backgrounds and create lesson plans and activities that relate to their culture (Gay & Chen, 2020). However, concerns regarding CRP often arise because it is poorly understood and consequently, it is poorly implemented in the classroom (Evans et al., 2020; Massum et al., 2015). For example, having a celebration or festival that is based on the student's culture is viewed as a superficial, one-off act and not in line with the depth and breadth of making CRP the foundation of all lessons and classroom experiences (Evans et al., 2020).

Problem Statement

The social problem identified was that for teachers to support student learning styles in Indian schools, they need to learn how to best culturally adapt instruction to the learning styles of a diverse range of students. What researchers already know about this problem is that often, teachers are not taught about CRP or how to implement it (Moore et al., 2021). The result is that teachers may misappropriate cultural values, meaning that

implement these values in a way that does not preserve what they represent and instead modify them to match conventional norms (Evans et al., 2020). Karatas and Oral (2021) researched teachers' experiences with offering CRT and found that teachers felt apprehensive to implement CRT in their classrooms, primarily due to the lack of education on how to implement it (see also Karatas & Ibrahim, 2021). Paksoy (2017) found a similar outcome, noting that English teachers in Turkey did not feel equipped to implement CRT in their classrooms due to inadequate training (Zorba, 2020). Therefore, the primary concern for future research relates to gaining a better understanding of how educators learn about and understand CRP and how they implement CRP in their classrooms.

Although researchers have investigated educators' experiences with understanding and implementing CRP to some extent, they have not examined the use of CRP in the context of Indian K-12 schools, according to my review of the literature. More specifically, even though MI theory has been implemented in K-12 schools worldwide (Gardner, 2011), it is not known if the theory has been adapted to other cultural-specific theories, in this case, yogic principles from India, which could enhance the effects of pedagogy when used as part of a MI approach. Therefore, researchers have recommended that further research be conducted on the effective implementation of CRP, the cultural aspects of MI theory, and the incorporation in individual education contexts of CRP with yogic principles (Rangoonaden & Mueller, 2017; Zorba, 2020). The specific research problem that was addressed in this study was how MI theory was culturally

adapted to incorporate the yogic principles of the Indian culture and the experiences of implementing this in the classroom in the Indian context.

Purpose of the Study

The purpose of this qualitative case study was to explore one private Indian K-12 school's experience of culturally adapting multiple intelligences theory to include yogic principles of the Indian culture into the curriculum and teaching.

Nature of the Study

To address the research questions in this qualitative study, I conducted a single case study with multiple sources of data: interviews (with administrators and teachers), classroom observations, and document review. Comparison of data from different data sources provided rich, in-depth information about themes or patterns discovered (see Willig, 2013; Yin, 2017). More broadly, triangulation of data sources improved the understanding of the participants' experiences of adapting MI theory to Indian culture by adding yogic principles. I selected the case study design because it provided a means of more fully understanding the unique aspects of the study phenomenon (see Saldana, 2011; Willig, 2013).

Research Questions

The primary research question of this study was, What is one private Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture in the curriculum and teaching? The two sub questions that were used to address the research problem were as follows:

SQ1. How do teachers assess students' learning styles based on MI and yogic principles of the mind?

SQ2. How do teachers implement culturally adapted MI theory in the classroom?

Theoretical Framework

The theories and concepts that grounded this study included Gardner's (2011) MI theory (2011) and Ladson-Billings's (1992) CRP. Gardner proposed that individuals all learn differently and that each student has one or more predominant learning styles out of the following eight types: linguistic, logical-mathematical, spatial, musical, naturalist, bodily-kinesthetic, interpersonal, and intrapersonal. CRP advocates that classroom curriculum should be created based on the affirmation of students' cultural backgrounds and cultural identities, thereby increasing students' success in schools (Ladson-Billings, 1995).

There are several logical connections between the theoretical framework and the nature of the study. First, MI theory relates to the research purpose because the K-12 school in my study was purposefully built and established based upon MI theory. When the school was created, the founders specifically named MI (Gardner, 2011) as one of the main guiding frameworks through which students would be taught. Second, the concept of CRP is related to the nature of the study because it suggests that classroom curriculum should be based on students' cultural frames of reference (Ladson-Billings, 1995; Ragoonaden & Mueller, 2017), which is what the leaders of the Indian K-12 school in my study did by adapting MI theory to include yogic principles of the Indian culture. Finally,

yogic principles relate to the research purpose because teachings from the classic yogic text the Bhagavad Gita (Easwaran, 2009) are infused throughout the culturally adapted MI curricula at the Indian K-12 school in the target study.

Definitions

Culturally responsive: A collaborative relationship between a student's home culture and culture at school (Ladson-Billings, 1995).

Learning style: A student's preferred way of learning (Karatas & Ibrahim, 2021).

Multiple intelligences: Gardner's (2011) theory is that there are multiple types of intellectual abilities or ways to process information.

Private Indian K-12 schools: Schools that are not run by the Indian government, but are still regulated by it (Ambast et al., 2017).

Yogic principles: The view that every person is a unique combination of the material elements of nature and through yogic practices, can balance and ultimately transcend their mind and body (Feuerstein, 2013).

Assumptions

In this study, I assumed that the responses of the participants were truthful and representative of their classroom practice. As a resident of India for many years, I have observed that in the Indian culture, maintaining family honor is often more important than telling the truth because if the truth puts one in a bad light, it brings others down. Therefore, teachers in the study sometimes might not have told the truth if it had the

potential to put them, their families, work colleagues, or superiors in a bad light. Hence, I engaged both in interviews and classroom observation to mitigate this risk.

Scope and Delimitations

I sought to interview eight to 12 teachers at one Indian K-12 school that employed culturally adapted MI theory. One delimitation of the study was researcher bias (see Willig, 2013). I understood that my background shaped how I viewed the research data. Therefore, I sought to be upfront about my personal experiences and background (Willig, 2013). My background included some experience with the concept of MI in that I had taken an MI assessment one time in the past. As a result, I knew both my strong and my weak intelligences. However, I did not have any teaching experience using MI.

Significance

This study furthers understanding of teachers' experiences of implementing MI theory adapted with culturally relevant yogic principles at one K-12 school in India. This knowledge may be beneficial to leaders at other schools in India and abroad. The significance of this study is that it may inspire other school leaders to explore the possibility of using MI in innovative ways that are adapted to their unique cultural practices and principles. It could also give teachers an idea of what is required of them in terms of time and training to implement these principles in their classrooms. Researchers and school administrators may benefit through an increased understanding of the experience of culturally adapting MI theory, the process of implementing it in the classroom, and the potential benefits of doing so.

This study could be beneficial to future researchers in two ways. First, this study yielded knowledge about the practices of teachers who had successfully implemented CRP. Rangoonaden and Mueller (2017) recommended that future researchers analyze the practices of teachers who are successful in implementing CRP and the specific impact of these practices. Second, Zorba (2020) recommended that future research on CRP should have as its focus teachers' specific CRP practices in the classroom and be evaluated via a case study with data triangulation of the live classroom observation, course curriculum, and syllabi (Zorba, 2020). To examine CRP practices, I used multiple sources of data, which included classroom observation, course curriculum and syllabus evaluation, and interviews.

Summary

In this chapter, I presented the background of the problem, the problem and purpose statements, key definitions, and the significance of this study. Chapter 2 includes a literature review of the key constructs of this study. In Chapter 3, I discuss the research method.

Chapter 2: Literature Review

Introduction

Government-run K-12 schools in India struggle in two major ways: (a) serving all students (Yagnamurthy, 2017) and (b) drawing from the country's rich cultural heritage (Khuntia & Barik, 2019). The general problem was that students in government-run K-12 schools in India are being instructed through a narrow pedagogical approach, but not according to their individual learning needs (Khuntia & Barik, 2019; NCERT, n.d.). The specific problem was that teachers do not how to best culturally adapt instruction to the learning needs of a diverse range of students (Brown & Crippen, 2016; Byrnes et al., 2018; Jia & Nasri, 2019). This knowledge is necessary for teachers to meet student learning needs in Indian schools. The purpose of this qualitative case study was to explore one Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture.

In the following literature review, I examine constructs associated with the study phenomenon. First, yogic principles of the mind were explored. The literature shows that yogic and ayurvedic practices increase positive feelings and decrease negative feelings in children (Jacobs, 2019; Pattabhiram & Deekshitulu, 2017; Roy, 2020; Sinha & Kumari, 2021). Researchers in this field have found that yogic principles supported children in their learning (Dabas & Singh, 2016; NCERT, n.d.). Second, private Indian K-12 schools were explored. The literature shows that government authorities advise K-12 schools to create a curriculum that encourages and supports children to learn in a manner that is

meaningful to their life and relevant to their personal experiences, interests, and unique nature (Khuntia & Barik, 2019). Experts have called for research on teaching children in a way that honors their interests and nature (NCERT, n.d.). Third, CRP was explored. The literature shows that to maximize student learning, it is important to create lessons that incorporate students' own culture and associated values (Ladson-Billings, 1995). There is a movement to understand and create such learning experiences (Brown & Crippen, 2016; Byrnes et al., 2018; Jia & Nasri, 2019; Ladson-Billings, 1995). I will begin this chapter by discussing the literature search strategy and conceptual framework employed in this study. A review of the literature related to the key concepts of this study follows.

Literature Search Strategy

The main databases and search engines that I explored were Thoreau Multi-Database Search, ERIC, Elsevier, Google Scholar, PsycINFO, ProQuest Central, Springer Link, SAGE Journals, and Dissertations and Theses at Walden Library. The keywords used were *multiple intelligences*, *learning styles*, *student-centered learning*, *learner-centered education*, *constructivism*, *individualized education*, *learner autonomy*, *problem-based learning*, *Howard Gardner*, *instructional design*, *cognition*, *cognitive science*, *learning theory*, *self-determination theory*, *motivation theory*, *self-efficacy*, *intrinsic motivation*, *cultural adaptation*, *ethnocentric*, *culturally relevant education*, *Vygotsky*, *cognition*, *sociocultural education*, *culture-centered pedagogy*, *culturally responsive pedagogy*, *yogic philosophy*, *yogic principles*, *yoga history*, *Vasant Lad*,

David Frawley, *Samkhya Karika*, *Charak Samhita*, *Ayurveda*, *dosha*, *Ayurvedic mind type*, *buddhi*, *ahankara*, *chitta*, *manas*, *three guns*, *sattva*, *rajas*, *tamas*, *Bhagavad Gita*, *Krishna*, *vata*, *pitta*, and *kapha*. Searching these keywords individually and in combination generated numerous relevant studies in the results. Furthermore, the results of the searches introduced new keywords to search such as *Dweck*, *Piaget*, *Dewey*, *UDL*, *Gloria Ladson-Billings*, *Swami Vivekananda*, *constructivist pedagogy*, *culturally responsive curriculum*, *indigenous knowledge*, *indigenous knowledge systems*, *Paramahansa Yogananda*, and *Iyengar*. These searches generated more specific results, with pertinent information needed to fill in the history and legal sections of the literature review.

I also searched official Indian government websites for information on the laws and history of K-12 schools in India. The websites I searched were NCERT, the Government of India's Ministry of Education, and the Government of India's Legislative Department. The key phrases that I searched for were *the Right to Education Act*, *the right to free and compulsory education*, *the right of children to a classroom*, *the right of students to teacher ratios*, and *the right to a trained teacher*. A total of 79% of the cited sources were recent journal articles published from 2017 to 2021. The remaining 21% of cited sources were either from classical books or older foundational articles that were required to document the history or introduction of a theory or concept.

Conceptual Framework

The conceptual framework adopted for this study is composed of two theories: Howard Gardner's multiple intelligences theory (Gardner, 2011) and Gloria Ladson-Billings' (1992) culturally responsive pedagogy (CRP). Pedagogy is the term used to describe an instructional method (Werth & Williams, 2021). One recent research study highlighted a style of pedagogy or instruction called, "Open Pedagogy," in which a teacher engages students to be "co-creators of knowledge" (Werth & Williams, 2021, p. 35). Gardner first introduced his theory in his groundbreaking 1983 book, *Frames of Mind*, to expand the traditional view of IQ, which was narrowly focused on just logical or linguistic intelligence (Gardner, 2011). Gardner proposed that students think and learn in many ways, and there is a wide variety of intelligences that are all equally valid. Gardner proposes eight different types of intelligences (Gardner, 2011; see Figure 1):

1. Visual-Spatial – people who are good at visual and spatial judgment, such as reading a map, graph, or chart.
2. Linguistic – people who are good at using words to express themselves, such as writers or teachers.
3. Logical – people who are good at reasoning, problem-solving, and numbers, such as mathematicians, engineers, or accountants.
4. Bodily – people who are good at using their bodies to express themselves, such as dancers, or athletes.

5. Musical – people who are good at recognizing patterns, and rhythms in music, such as musicians, singers, or conductors.

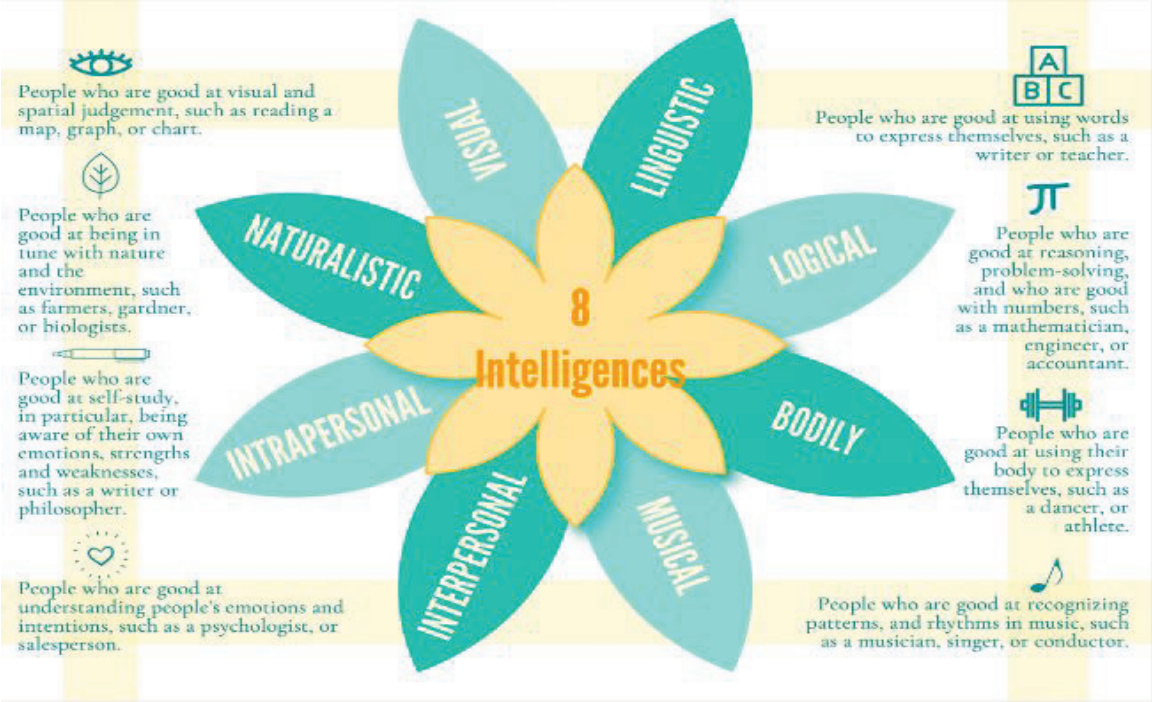
6. Interpersonal – people who are good at understanding people's emotions and intentions, such as psychologists, or salesmen.

7. Intrapersonal – people who are good at self-study, in particular, being aware of their own emotions, strengths, and weaknesses, such as writers or philosophers.

8. Naturalistic – people who are good at being in tune with nature and the environment, such as farmers, gardeners, or biologists.

Figure 1

Illustration of Gardner's Eight Types of Intelligence



Note. *Original image created by Jessica Richmond and adapted from Gardner's (2011) theory.*

The second part of the conceptual framework of this study, culturally responsive pedagogy (CRP), is an approach that incorporates students' cultural experiences and values throughout their learning (Ladson-Billings, 1995). The main premise of CRP is that culture is the foundation of how learning occurs (Ladson-Billings, 1992). A culturally responsive teacher increases students' likelihood of success by designing lesson plans according to their cultural backgrounds and frames of reference (Ladson-Billings, 1995; Lai, 2012). Therefore, the concept of CRP was used as a lens to view how

one private Indian K-12 school's teachers created a classroom curriculum based on students' cultural frames of reference (Ragoonaden & Mueller, 2017).

Gloria Ladson-Billings, a professor at the University of Wisconsin-Madison, proposed a new theoretical perspective in 1995, which she termed "culturally relevant pedagogy, in her seminal work, *Toward a Theory of Culturally Relevant Pedagogy*. Her motive was to educate teachers so they could be prepared to teach African American students by understanding and incorporating their culture into the classroom, to improve their academic success. This is in sharp contrast to the typical teaching approach of minimizing the student's culture, as teachers have historically been trained to teach according to the school values, not the student's cultural values (Ladson-Billings, 1995).

Literature Related to Key Variables and/or Concepts

Origins of the Science of Pedagogy

Before exploring CRP, the following describes the origins of the science of pedagogy. Because this study addressed intelligence through the lens of CRP, the following description was used to provide a focus on views of childhood intelligence over the years.

Piaget's Conception of Children's Cognitive Development Stages

Between the years of 1921-1925, French psychologist Jean Piaget wrote his first five books based on his research in child psychology (Piaget, 1952). From 1925 onward, Piaget began to study his own three children and published his research on them in three books related to child logic, introducing novel ideas such as object constancy. Piaget

created a theory of cognitive development that purports that intelligence is based on the combination of an inborn potential and its interaction with the surrounding environment. Piaget's theory states that the stages of children's cognitive development are universal, meaning that all children go through each stage roughly over the same years of life More specifically, Piaget divides children's cognitive development into four stages of growth (Piaget, 1952, Stevens-Fullbrook, 2020; Wilson, 2018):

Sensory Motor (0-2 years) – the child experiences the world through their body and their senses and has egocentric thinking.

Pre-Operational (2-6 years) – the child does not understand concrete logic and still cannot see things from another person's perspective.

Concrete Operational (7-12 years) – the child is no longer egocentric and can use logic to think and talk about things.

Formal Operational (12-16 years) – the child can think abstractly and their problem-solving skills increase.

Each stage of growth includes specific mental patterns, or "schemas," that the child develops to understand how the world works. Therefore, the role of the teacher is to guide the students through the cognitive stages and provide activities and classroom materials to support the students through their cognitive learning experiences (Stevens-Fullbrook, 2020).

Dewey's Experiential Learning Theory

In the 1930s, educator and psychologist John Dewey introduced the concept of reflective thinking as learning from experience (Dewey, 1997). Reflective thinking is a key component of experiential learning in the classroom (Walker et al., 2020). Experiential learning is an active learning process that engages the student, for example, in a simulation, case study, or project, that prompts them to learn by doing. Dewey defined experiences as, "the sum of interactions between living human beings and their natural social environment," (Dreon, 2019, p. 19). The outcome of experiential learning is that the student constructs knowledge not by listening to a teacher's lecture, but through their interaction with the environment (Walker et al., 2020).

In Dewey's article, My Pedagogic Creed (1897), he asserted that children learn through their filters, meaning that they interpret things through their unique lens, or nature (Dewey, 2013). He also explains that the teachers must know the psychology of each child, which consists of their capacities, habits, and interests, to support, and not stunt the growth of their unique nature (Dewey, 2013). In his class book, *How We Think*, Dewey (1987) advised that no teacher should ever assume that a child is dull or hopeless, or stupid just because the child does not feel excited about a lesson. Dewey explained that the very same irresponsive student might respond in a very lively manner if presented with a subject of interest. Dewey urges the reader to consider that all students have something that engages them and to which they naturally have a quick, smart response (Dewey, 1987).

Dewey also highlighted the importance of knowing the social structure that the child is coming from, including their family, community, and culture (Dewey, 2013). Dewey explained that one problem with education is that the subjects are taught objectively and out of social context. He advised that a child's social activities should be at the core of all teachings, be it science, language, history, or geography. He explained how students can learn better when the material is taught in a larger social context (Dreon, 2019). Additionally, Dewey said that teachers should not teach the subject without relating it to social interactions (Dreon, 2019). Dewey's view of the classroom was that it was a small society within the larger society (Armstrong, 2018, p. 28). Therefore, the role of the teacher is to continually be an astute observer of each child's interests and engage them in social learning activities (Walker et al., 2020). Dewey created self-paced learning materials that were the precursor to Gardner's multiple intelligences theory (Armstrong, 2018).

Gardner's Multiple Intelligences Theory

In 1983, Harvard Psychologist Howard Gardner proposed a novel idea that there is not only one standard type of intelligence (known as IQ) but instead there are multiple types of intelligences (Gardner, 2011). In contrast to popularly held beliefs at the time, he released his book stating that intelligence was not just measured by a person's ability to crunch numbers or read and write (Mehiri, 2020; Wilson, 2018). Gardner explained that intelligence expanded way beyond logical or linguistic abilities into a full spectrum of capacities (Armstrong, 2018; Mehiri, 2020). Each of the original seven intelligences that

Gardner introduced in his 1983 book, *Frames of Mind*, is briefly defined below (Gardner, 2011; Wilson, 2018):

- Linguistic – the ability to use words effectively
- Logistic/Mathematical – the ability for reasoning or manipulating numbers
- Spatial – the ability to visualize abstract things
- Bodily-Kinesthetic – the ability to use one's body skillfully
- Musical – the ability to hear different sounds, and recognize their tone, pitch, and rhythm
- Interpersonal – the ability to be attuned to other people's feelings
- Intrapersonal – the ability to be attuned to one's feelings

Gardner (2011) argued that since students each have a unique mix of intelligences, it only made sense to create classrooms and teaching strategies to support these varying intelligences (Mehiri, 2020; Shearer, 2020). Gardner proposed the way to do so was for the teachers to get to know the specific intelligences of each of their students and then present the material in ways that supported the student's various intelligences (Shearer, 2020). He also warned educators that they should not compare students' intelligences, or rank one type of intelligence over the other one, as all intelligences are unique and powerful in their own right (Tamilselvi & Geetha, 2015; Wilson, 2018). Consistent with some current educational movements, according to the multiple intelligences approach, the best way for a teacher to assess a child's intelligence is by observing them – their behaviors and their misbehaviors, both of which are

indicators of how the child would like to be taught (Armstrong, 2018; Gardner, 2011; Tamilselvi & Geetha, 2015; Wilson, 2018). One way for teachers to get to know each of their student's unique natures is to keep an observational journal, noting down each child's specific behaviors, and misbehaviors, as well as how they like to spend their free time. This way of learning about students has challenged some teachers and inspired others to learn new teaching tools and strategies (Armstrong, 2018; Tamilselvi & Geetha, 2015). In sum, according to Gardner (2011), the role of teachers is to assess and support each child's unique nature.

Dweck's Mindset Framework

Gardner's (2011) concept of supporting the growth of multiple intelligences in students is complementary to Dweck's (2006) idea of fostering the growth mindset. Both theorists believe that a student's intelligence, skills, and abilities can be developed with hard work and persistence (Armstrong, 2018). In 2006, Stanford professor Carol Dweck introduced her theory of intelligence, in her book, *Mindset: The New Psychology of Success*, by presenting the concept of the "mindset framework." Dweck defined two types of mindsets related to how a person views intelligence: fixed and growth. A fixed mindset is one in which the person believes that intelligence is innate, fixed, and cannot change. A growth mindset is one in which the person believes that intelligence is not fixed and that intelligence can increase with hard work and effort (Dweck, 2006; Rubin et al., 2019; Yeager & Dweck, 2020).

Dweck (2006) claimed that students with a fixed mindset tend to have a fear of failure and are focused on the outcomes of their work, such as their grades, instead of being focused on the learning process. Students with a fixed mindset also tend to blame external circumstances for their failure. Another quality of students with a fixed mindset is that they give up when faced with challenges because they think that things should come naturally to them and that they should not have to put in hard work (Dweck, 2006; Rubin et al., 2019; Yeager & Dweck, 2020).

In contrast, students with a growth mindset work hard and are motivated to learn. They love learning and challenges (Dweck, 2006; Yeager & Dweck, 2020). Growth mindset students work harder when faced with challenges by taking responsibility for their failures and exerting ever more effort to learn difficult concepts (Gunderson et al., 2018). Not surprisingly, research has shown that middle school students who had a growth mindset were motivated to learn and demonstrated improvement in academic achievement (Rubin et al., 2019).

Dweck purported that not only students but also their teachers' beliefs about intelligence impact a student's motivation to learn (Rubin et al., 2019). Dweck encourages teachers to embrace a growth mindset so that they can facilitate, and not hinder, their student's mindset about learning (Gunderson et al., 2018). Dweck explains that the role of the teacher is that they should understand that all of their students have different natures, and therefore will differ in what they are interested in and also in what

they can achieve. Therefore, teachers should give students feedback in a non-judgmental, nurturing way that encourages them to grow within their capabilities (Rubin et al., 2019).

Universal Design in Learning

The goal of Universal Design in Learning (UDL), a major trend in modern education today, is to "design educational experiences that allow all students to match their unique ways of learning to varied modes of engagement, information representation, and expression of learning" (Boysen, 2021, p. 1). UDL was developed in the 1990s at Harvard University by David Rose at the Center for Applied Special Technology (CAST) (Brillante & Nemeth, 2017). The basic premise of UDL is to reduce the obstacles to children's learning, such as cultural, language, environmental, or physical barriers (Mrachko & Vostal, 2020). Even though UDL was originally designed to support K-12 students with disabilities, it is a framework that is now starting to be used for general K-12 students (Boysen, 2021). Mrachko and Vostal (2020) state that UDL is used within the Every Student Succeeds Act of 2015 to provide an approach for all learners to the curriculum.

Some of the concepts that are commonly discussed in UDL are that children learn best when they can relate to the material, such as customized materials to the child's culture, traditions, celebrations, or language (Brillante & Nemeth, 2017). Teachers using the UDL approach to education focus on proactively setting up the classroom and teaching materials, and then continuing to adapt them as necessary, to consistently meet a wide range of varying students' needs. In short, education should support the various

ways in which students learn. The UDL framework consists of three core principles in which the teacher should provide various modes of each one to support and enhance the student's learning experience (Boysen, 2021):

- Representation – presenting the information to the students in multiple formats so students who learn or process in different ways can all have an equal opportunity to learn.
- Action/Expression – students should be given multiple options on how to express the information they have learned. By giving the child choices on what fits best with their abilities, they are not forced to express themselves in a way that they are not able to. Instead, they can choose the mode of expression in which they feel the most confident and competent.
- Modes of Engagement – offering students multiple modes of engagement that motivates their learning, giving them confidence that they can progress and succeed in achieving their goals.

The role of the teacher using the UDL framework is to engage students while meeting their needs as diverse learners (Boysen, 2021).

Culturally Responsive Pedagogy

This section describes culturally responsive pedagogy (CRP). CRP is a pedagogy that creates opportunities for all students, regardless of their backgrounds (Ladson-Billings, 2021, p. 354). The terms "learning styles" and "teaching styles" were concepts being explored before Ladson-Billings created CRP (Karatas & Ibrahim, 2021).

Learning Styles Versus Teaching Styles

In the 1980s, educators began accepting the idea that students have different learning styles (Bilbao et al., 2021; Saito, 2020). A learning style is what a person understands through their unique lens of three perspectives: physiological, cognitive, and affective (Bilbao et al., 2021; Karatas & Ibrahim, 2021). Learning style is also affected by genetics, experience, and the environment (Bilbao et al., 2021). In 1984, Psychologist David Kolb introduced his theory of four unique learning styles, which are:

1. Concrete Experience – learning through direct experience
2. Reflective Observation – learning by analyzing the experience after it is over
3. Abstract Conceptualization – learning by making sense of the experience and planning for how it will inform future actions
4. Active Experimentation – learning by testing out a plan of action (Kayes, 2005; Kolb & Kolb, 2017).

Kolb's Learning Styles turned into Kolb's Learning Style Inventory (KLSI) and spread globally due to its ease of application in a wide range of cultures (Kolb & Kolb, 2017). KLSI not only helped educators to understand their student's unique and diverse learning styles, but also KLSI helped teachers to understand their learning styles. This is an important step in understanding how to become a culturally responsive teacher, as research shows that traditional styles of teaching would not be successful in culturally diverse classrooms (Zorba, 2020).

Often teachers' teaching styles are determined by their preferred learning style, which may or may not match up with the student's learning style (Mohana et al., 2008). However, CRP is not based on the teacher's cultural background; it is based on the student's cultural background. What students want to learn is often different from what the teacher is trying to teach (Grant, 2017). Furthermore, it is not only what the teachers teach that is crucial in student learning, but whether and how the teachers teach it to accommodate the student's learning style (Zorba, 2020). A recent quantitative research study among in-service teachers in Turkey reported that the length of time that the teacher had been teaching was not related to the teacher's readiness to be a Culturally Responsive teacher, highlighting the need for specific culturally responsive training for all teachers (Zorba, 2020). CRP purports that culture is the foundation of how learning occurs. Ladson-Billings (1995), the researcher who developed CRP, contributed to the movement by educating teachers on the importance of teaching students in a way that incorporates their culture into the lessons.

Definition of Culturally Responsive Pedagogy

CRP incorporates various students' cultural values and recognizes the importance of students' cultural backgrounds and experiences in teaching (Ladson-Billings, 1995). Ladson-Billings highlights the use of the word "Responsive" in CRP, in that it is not only that a culturally responsive teacher should incorporate the student's culture in the classroom, but also that the teachings should be based on an interactive, dynamic relationship between student and teacher. In short, a culturally responsive teacher through

a dynamic interaction with the students matches the classroom teachings, sometimes lesson plans, and sometimes spontaneous teachings, according to their students' cultural backgrounds (Ladson-Billings, 1995).

Brief History of Culturally Responsive Pedagogy

In the 1980s, the beginning of what is now CRP took form. In the early 1980s, Mohatt and Erikson coined the terms "cultural congruence" and "cultural responsiveness" to describe a pedagogical approach to making classes more relevant to students' everyday lives (Grant, 2017). In 1992, Gloria Ladson-Billings introduced, "culturally relevant teaching," a framework for integrating students' culture into the school curriculum (Lai, 2012, p. 18). The term evolved over the years into the current framework, in which some main contributors to the field of CRP will be discussed.

Bennett (2018), a scholar in culturally responsive teaching, found that when a student's ethnic identity is incorporated into their learning, it often contributes to their academic success (Bennett et al., 2018). Bennett advocates for teachers to go beyond the superficial show-and-tell types of cultural art activities, like crafts and foods, and instead encourage students to explore the deeper parts of their culture. Bennett et al. (2018) outlined five frameworks identified through synthesizing research as the foundation for culturally responsive teaching: (1) Culturally Responsive classroom community, (2) Engaging the family, (3) Literature that addresses social justice, (4) Multicultural literature, and (5) Classrooms that include Culturally Responsive materials in print. Research on culturally responsive education and art classes discovered a relationship

between culturally responsive art classes and academic success (Lai, 2012; Zorba, 2020). Recent research confirms that when students' cultures are validated, this identification with their race/ethnicity contributes to their academic success (Gunn et al., 2021). It is for this reason that not only art classes, but all classes, course texts, resources, teacher training, planning, and syllabi should be designed to reflect a CRP mindset (Evans et al., 2020).

In 2010, Geneva Gay defined the term "culturally responsive teaching" as "using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them. It teaches to and through the strengths of these students" (Lai, 2012, p. 18). Ten years later, in 2020, Gay explained that a classroom is considered a CRP classroom when not only the lessons but also the planning and design of the whole student experience, are based on the student's culture as the foundation (Chen & Gay, 2020). Gay and Chen (2020) also identified caring, which they described as being sensitive to students' cultural backgrounds and creating lesson plans and activities that relate to their culture, as the first and most important characteristic the culturally responsive teacher must possess.

Current Concerns About Culturally Responsive Pedagogy

One main concern with CRP is the lack of uniform research standard principles related to CRP (Sleeter, 2011). In particular, while CRP research certainly needs to be grounded in the specific context in which it is being studied (Ladson-Billings, 1995), it also needs to apply a certain universal set of principles to it, so that researchers and

educators can all learn from each other (Sleeter, 2011). Concerns regarding CRP often arise because it is poorly understood and, consequently, it is poorly implemented in the classroom (Evans et al., 2020; Massum et al., 2015). For example, having a celebration or festival that is based on the student's culture is a superficial one-off act, and not in line with the depth and breadth of making CRP the foundation of all lessons and classroom experiences (Evans et al., 2020). Ladson-Billings (1995) urges that teachers should be educated on the function of culture in education.

To compound matters, even those teachers who have good intentions for implementing CRP in their classroom, still often fall short because their focus is more on meeting policy or reform requirements than on the appropriate implementation of CRP (Evans et al., 2020; Jia & Nasri, 2019). CRP involves customization of the curriculum to the unique culture in which it is being taught (Evans et al., 2020). Oftentimes, however, while teachers feel pressure to use culturally responsive materials, they seek ready-made lessons and pre-packaged curricula that are in sharp contrast to the concept of CRP. The issue may be that teachers are not taught about CRP or how to implement it (Moore et al., 2021). The result is that the cultural values are misappropriated, meaning that they are implemented in a way that does not preserve what they represent; they are modified to match conventional norms (Evans et al., 2020). Hence, the primary concerns of researchers related to CRP include (1) Educator understanding of CRP, (2) Educator implementation of CRP, and (3) Educator training related to CRP.

Yogic Principles of the Mind and Applications

To explore CRP within an Indian context, it is important to understand the cultural/historical ethos carried by Indian students and teachers to the classroom. Each of these spiritual/philosophical concepts will be outlined in the following sections. Yoga is one of the six Darshanas or Hindu schools of philosophical knowledge. The other five Darshanas are Samkhya, Nyaya, Vaisheshika, Mimamsa, and Vedanta (Feuerstein, 2013). The history of yoga is vast, including many branches with a diverse range of approaches. Therefore, before discussing the yogic foundations of the body and mind, a brief overview of the historical origins of yogic principles is presented.

Historical Origins of Yoga

According to scholar Georg Feuerstein (2013), the Sanskrit term, "yoga," is not easy to define partly because, "Yoga refers to the enormous body of spiritual values, attitudes, precepts, and techniques that have been developed in India over at least five millennia and that may be regarded as the very foundation of the ancient Indian civilization," (Feuerstein, 2013, p. 7). One of the commonly accepted definitions of yoga is that it is a state of ecstasy or samadhi, in which one experiences self-transcendence or the union of the individual self with the supreme self. However, different yogic schools have different understandings about the individual self and its ability to unite with the supreme self. For example, according to Vedanta philosophy, the individual self is alienated from the transcendental or supreme self, which is the root cause of all suffering (Feuerstein, 2013).

In contrast, the main scripture of the Classical Yoga period (100 B.C.E. – 500 C.E.), Patanjali's Yoga-Sutra, does not subscribe to this pre-Classical concept of the individual self that unites with the supreme self. Patanjali succinctly defines yoga as, *citta-vritti-nirodha*, "the restriction of the whirls of consciousness" (Feuerstein, 2013, p. 4). In short, according to Patanjali, yoga means to focus attention on one object, while restricting the attention from all other objects. When the yoga practitioner can achieve this, one experiences, "the pure awareness that abides eternally beyond the senses and the mind," (Feuerstein, 2013. p. 4). That means that the person is enlightened, which is a state of consciousness in which they do not experience any suffering.

The Bhagavad Gita, the most popular book on yoga, has a broader view on the definition of yoga, as defined by Sri Krishna. He describes yoga as when one, "does not cling to the sense-objects or deeds and has renounced all desires," and when one, "has controlled the mind and is established in the self," (Feuerstein, 2013, p. 9). Despite the various definitions and prescriptions related to yoga, they all are different ways to transcend the self, and a wide range of actions, thoughts, and feelings that only lead to suffering (Feuerstein, 2013).

The varying definitions of yoga highlight the need for a teacher, or guru, who can help the spiritual seeker to gain clarity and direction on the path of yoga. Therefore, another important aspect related to the historical origins of yoga is that learning it properly requires having a master, or guru. The guru-disciple relationship dates back to 4500-2500 B.C.E. The guru is the "living embodiment of Truth that is indicated in sacred

texts" (Feuerstein, 2013, p.12). As the scriptural authority, and being God-realized, the guru empowers the disciple, with spiritual knowledge, impelling them to go beyond their identification with their ahamkara (ego) and body and to realize their true Self. For this deep learning and self-transformation to occur the guru-kula system was in place. The guru-kula system was a model of education in which a young boy would leave his birth family and live with the guru and his family. The guru would teach his disciple about the spiritual principles of life until he reached adulthood. The more emotionally open and vulnerable the student was to the teacher, the more the teacher could fill him with his spiritual wisdom. Over these years, the disciple would follow strict rules, living a disciplined life of practicing spiritual rituals, and celibacy. The student would also serve the guru, and the process of service itself would also help to purify the disciple and change his identity from the self-centered ego to the humble servant of the guru. The benefit of living in such proximity to the guru and being in frequent association with him is that the student began to absorb the guru's mood and this psychospiritual link, combined with learning, service, and daily spiritual practices, ultimately enabled the student to transcend his ego and become God-realized (Feuerstein, 2013).

Jnana-yoga is yet another path of yoga, one in which practitioners seek enlightenment through spiritual knowledge. This knowledge enables one to contemplate and realize the difference between the material nature and the spiritual Self, differentiating between the real and the unreal. While jnana-yoga practitioners use knowledge to transform their minds as their means to self-realization, Hatha yoga

practitioners focus on transmuting their bodies to achieve self-transcendence. In both of these non-dualistic paths, the ultimate goal is to merge completely into the divine (Feuerstein, 2013).

Karma yoga is another widely followed path, which entails focusing the mind on the action being performed as a way to ultimately become liberated. In contrast, Bhakti yoga uses emotions to purify and transcend the self. In the 16th century, Jiva Goswami, the foremost authority on bhakti-yoga, wrote the classic Sandarbhas which describe in detail, the process and goal of bhakti yoga. Unlike practitioners on the path of hatha yoga and jnana yoga, practitioners on the path of bhakti yoga have the dualistic view of absolute reality, of the lover and the beloved. Bhakti yoga practitioners do not see the ultimate reality as all one. They do not see the divine as an energy, but instead as a person, Lord Krishna himself. Therefore, the spiritual practices of bhakti yoga consist of love, surrender, service, and devotion to God. The basic premise is that as love for God increases, the practitioner's ego-centric personality breaks down. His mind, senses, and entire being become full of love for God. Feuerstein (2013) states that bhakti yoga has a unique role to play in the history of yoga because it offered an alternative path that was from the heart, and full of emotion, as compared to the other paths of yoga whose practices were all in the head and therefore dry. The widespread popularity of the classic, Bhagavad Gita, transformed bhakti yoga from a spiritual path to a cultural movement, known as the bhakti-marga, or the way of devotion to God, that spread across India between 200 B.C.E and 800 C.E. One of the most pioneering teachers of bhakti yoga was

Ramanuja, who popularized a system in which devotion to God was the goal of all spiritual practices, and the easiest to follow (Feuerstein, 2013).

Samkhya. During the Classical Age (c. 350 C.E.), the *Samkhya-Karika* of Ishvara Krishna was composed. The second chapter of the Bhagavad Gita is named Samkhya yoga, which is one of the six schools of Indian thought (Feuerstein, 2013). The founder of Samkhya is the great sage Kapila, who gave Samkhya sutras. However, at present, the most popular classical work of Samkhya is *Samkhya-Karika* of Ishvara Krishna. Ishvara Krishna has summarized the whole system of Samkhya in 72 verses, called, "karikas" (Feuerstein, 2013). According to Gaudapada, the oldest commentator on *Samkhya-Karika* of Ishvara Krishna, the *Samkhya-Karika* describes two major principles, prakruti (material matter) and purusha (self, pure consciousness, or soul) (Chaudhari et al., 2019). Purusha is immutable, and sentient and undergoes the experience of happiness and suffering. Prakriti on the other hand, transforms, is insentient, and devoid of any experience. Prakruti has 24 divisions. The very first verse of *Samkhya-Karika* says that the purpose of the Samkhya yoga system is to make one free from three types of suffering, which are: internal, external, and divine. Everyone faces these three types of suffering, and the suffering comes to an end if one understands the Samkhya philosophy. The twenty-five principles of Samkhya are summarized in the third verse of *Samkhya-Karika*. One of the most important principles of Samkhya is sat-karya-vada. According to sat-karya-vada, what is non-existent cannot be produced and whatever comes into existence already existed in its causal form. Unlike non-dualistic Vedanta, Samkhya

(*Samkhya-Karika*) believes in the plurality of the souls because of the diversity of birth and death and the three gunas. According to Gaudapada, the author of the oldest-known commentary (believed to be in the early 7th century C.E) of *Samkhya Karika*, once a purusha (soul) understands the prakruti (material matter), then the prakruti turns away from the purusha and thus purusha becomes free from bondage (Mainkar & Gauḍapāda, 2004).

Another important contribution of Samkhya school is the three gunas of prakruti, sattva (goodness, pleasure, illumination), rajas (passion, pain, activity), and tamas (delusion, dullness) (Mainkar & Gauḍapāda, 2004). According to Feuerstein (2013), based on *Samkhya Karika*, the three gunas are in a state of balance in transcendental nature. The first product that evolves from the three gunas is called mahat, which is a very subtle luminous material that appears to have intelligence, and so, therefore, is termed "buddhi," translated to mean higher mind. Therefore, buddhi gives higher reasoning, wisdom, and intuition. Discernment is the main function of buddhi.

Ahamkara, the sense of "I," emerges out of mahat, or buddhi. Ahamkara is known as the ego function, in that ahamkara gives a person a sense of individuality or identity. Ahamkara gives one the sense that they are distinct from all other objects. Therefore, ahamkara is described as a false sense of identity.

From ahamkara, manas emerges (Feuerstein, 2013). Manas, the lower mind, involves activities related to the five cognitive senses and the five working senses. Manas itself is also considered an internal sense and is referred to as the sixth sense. The five

cognitive senses include: hearing, seeing, tasting, touching, and smelling. The five working senses are speech, reproductive organs, excretory organs, and the limbs responsible for movement (hands and legs). Manas is the sensory input processor that takes in information from the outside world through the five senses and then relays the information to the higher processing center, buddhi. Because manas is connected to the most material part of the mind-body complex, the five senses, a person's desires for sense pleasures can ultimately cause them to make unhealthy choices, which result in great suffering. Therefore, manas can be the source of one's suffering or one's liberation (Feuerstein, 2013).

Citta is the conscious mind at the individual level. Citta is distinct from cit. Cit is pure awareness, pure consciousness, that is eternal and is beyond all the thoughts and turmoil of the individual mind. Feuerstein (2013) described citta as, "ordinary consciousness, with its turbulence of thoughts and emotions," (p.319). Citta is more commonly known as awareness, the heart, or the mind. In the system of Classical Yoga philosophy, citta is comprised of buddhi, ahankara, and manas.

Bhagavad Gita. The Bhagavad Gita, a holy scripture, emerged during this Pre-Classical age in India, between 1,000 – 100 B.C.E. Samkhya principles such as the three gunas of the mind, and prakriti and purusha, are explained in the Bhagavad Gita (Feuerstein, 2013; Pattabhiram & Deekshitulu, 2017). The Bhagavad Gita was compiled by Vyasa, as a part of the ancient Indian epic, The Mahabharata (Feuerstein, 2013; Takahashi, 2019). The Bhagavad Gita explains the secrets of life, such as how to

overcome suffering (Dasa, 2015; Easwaran, 2009; Pattabhiram & Deekshitulu, 2017). The Bhagavad Gita is written in the form of a dialog between Sri Krishna and his student, Arjuna, who is crippled by anxiety, panic, and despair when faced with a major moral dilemma (Mukundananda, 2020; Pattabhiram & Deekshitulu, 2017). Krishna explains to Arjuna the nature of his suffering and then instructs him on how to become free from suffering (Kachar, 2020). Krishna's teachings include ayurvedic and yogic concepts that give detailed descriptions of the three gunas of the mind, and the three bodily constitutions (Dasa, 2015; Feuerstein, 2013; Pattabhiram & Deekshitulu, 2017). Krishna advises Arjuna that his mind can be his worst enemy or his best friend, and then he teaches Arjuna how to make his mind his friend (Dasa, 2015; Simpson, 2020). The Bhagavad Gita includes specific practices on how to uplift the mind, and how not to be degraded by the mind, making it a very practical book for modern-day life (Mukundananda, 2021).

Ayurveda and Yoga in India. Ayurveda, the science of life, is the traditional medicine system of India. *The Sushruta-Samhita,* a medical reference text which details the eight branches of Ayurvedic medicine, is also a well-known ancient Ayurvedic text (Feuerstein, 2013). Both Classical Samkhya (*Samkhya-Karika* of Ishvara Krishna) and the Bhagavad Gita also inform the Ayurvedic conceptual frameworks. The most authoritative and exhaustive Ayurvedic text is the *Charaka Samhita,* written approximately 5,000 years ago by Charaka (Sharma, 2010). The knowledge contained in the *Charaka Samhita* is considered of divine origin (Lad, 2021). The Charaka Samhita

describes in detail how to assess and bring into balance a person's mental and physical constitution, which is based on the five elements of the cosmos: earth, water, fire, air, and ether (Datar, 2020). The earliest Ayurvedic scriptural work is the Atharva-Veda, which originally was 100,000 verses detailing anatomy and both curative and preventative medicine. Unfortunately, much of the original content in this Ayurvedic text did not survive until the present time (Feuerstein, 2013).

Despite the loss of important Ayurvedic texts from the past, Ayurveda continued to flourish for thousands of years in India (Chaudhari et al., 2019). Ayurvedic doctors relied on the timeless teachings from the *Caraka Samhita* to treat their patients (Lad, 2021). For spiritual knowledge, Indians found comfort in *The Bhagavad Gita*, the most well-known and influential Hindu text (Feuerstein, 2013) that illuminated practical advice on how to be happy by applying ayurvedic and yogic concepts to uplift a person (Mukundananda, 2021). For yogic philosophy and practices, Indians followed their yoga teachers who followed their teachers in an unbroken chain of guru-to-disciple succession, called a *parampara*, that dates back thousands of years (Feuerstein, 2013).

Transition to Contemporary Interest in Yoga. Just before the turn of the century, yoga made its way onto the western frontier. In 1893, Swami Vivekananda traveled from India to Chicago and gave an influential speech on yoga at the World Parliament of Religion (Vivekananda, 2013). In 1920, Paramahansa Yogananda arrived in the United States and quickly attracted a large following seeking his yogic teachings (Yogananda, 2018). After visiting India in 1937, psychiatrist Carl Jung wrote about the

debt that modern psychology owes to the yogic philosophy; and a quote from the Indian classic, The Bhagavad Gita, was found sketched on a page of Jung's journal (Ananthanarayanan, 2020).

With increasing regularity, waves of yogic teachers continued to arrive in America (Kachar, 2020). In 1956, B.K.S. Iyengar came to the USA and gave several yoga lectures and demonstrations that impressed the audience with his physical stamina and flexibility (Iyengar, 2006). In 1957, Sivananda arrived in the USA and drew a large crowd of students who liked to practice his hatha yoga style (Kachar, 2020). Sivananda established yoga centers in the USA and Europe, where students gather each year to study Sivananda yoga (Bryant, 2009; Jain, 2012). In the 1960s, Yogi Amrit Desai arrived in Philadelphia, and within a few years, he had developed a large and loyal following for his Kripalu yoga style (Desai, 1985). Famous authors like Henry David Thoreau and Ralph Waldo Emerson were inspired by the teachings of the Bhagavad Gita, and some of their writings are based on their realizations of this Indian classic (Kachar, 2020). By the 1970s, pioneers like Vasant Lad arrived in the United States and introduced Ayurvedic concepts to the west (Lad, 2021). He taught simple Ayurvedic principles, such as the uniqueness of an individual's body and mind type, stressing the importance of understanding one's unique constitution, or mind-body type, and how to live a balanced life (Lad, 2021; Svoboda, 1998).

Today, Ayurveda and Yoga are popular in the western world with their natural approach and time-tested treatments and practices for modern-day problems (Datar,

2020; Frawley, 1997; Lad, 2021; Malhotra & Dasa, 2020). Out of all the Indian classic texts, the Bhagavad Gita and the Yoga Sutras are the most popular books in the Western world (Feuerstein, 2013). Furthermore, the physical yoga asanas are the most popular part of yoga, with students enjoying the benefits of their fit and trim yoga bodies, in comparison to the meditative or introspective aspect of yoga, which is less popular (Datar, 2020). Not only that, research reports that school children who did yoga felt less fatigued and experienced an overall decrease in negative feelings such as anger, depression, and anxiety, and they also experienced an increase in self-esteem and self-regulation (Sinha & Kumari, 2021). One study concluded that when children practiced yoga, in particular, mindfulness-based interventions, their cognitive performance increased (Sinha & Kumari, 2021). Recent research is also beginning to show the power of the meditative practices of yoga, with one such study pointing to the effect of mantra meditation on neurocognitive outcomes (Pandit, 2020). Another recent study highlighted the benefits of yoga for young children, which included positive effects on them physically, mentally, and socially (Stapp & Wolff, 2019). David Frawley (1997), a preeminent Vedic scholar of modern times, states in his book, *Ayurveda and the Mind,* that Ayurveda and yoga are seen as sister sciences in that they complement each other. Yoga brings to Ayurveda the spiritual component and Ayurveda brings to yoga the physical component (Feuerstein, 2013).

Ayurvedic Principles of the Mind and Applications

Three Doshas of the Body

Ayurveda also has a precise system for analyzing the body (Feuerstein, 2013). Ayurveda, commonly known as the science of self-healing, provides a framework for each individual to understand their prakruti, or unique nature (Chaudhari et al., 2019; Lad, 2021). A person's constitution, or prakruti, is the tendency of their body-mind complex to react in a certain set of ways (Chaudhari et al., 2019; Datar, 2020; Lad, 2021). The basic premise is that by knowing one's prakruti, a person can give the mind-body complex precisely what it needs, nurturing it with specific types of food, exercise, work, and relationships to maintain ultimate physical and mental well-being (Lad, 2021; Prasad, 2020). To do so, a person needs to know their body type or dosha.

According to Ayurveda, a person's body is made up of a unique proportion of each of the five elements of nature: ether, air, fire, water, and earth (Feuerstein, 2013; Lad, 2021) These five elements combine to create three doshas, which are the biological humors of the body: vata, pitta, and kapha (Chaudhari et al., 2019; Datar, 2020; Prasad, 2020). The three doshas govern all functioning from the bodily level to the mental level (Frawley, 1997; Lad, 2021). The doshas can get out of balance, such as with seasonal changes (Feuerstein, 2013). When the doshas are in balance, they give energy and life to the body and when they are out of balance, they can cause the body's demise (Lad, 2021; Prasad, 2020). Lad (2021), one of the pioneering Ayurvedic doctors to bring Ayurveda to the United States in the 1970s, explains that illness does not just suddenly appear one

day, even though it might seem like that (Chaudhari et al., 2019; Lad, 2021). According to Ayurvedic principles, there is a direct cause-and-effect relationship (Lad, 2021).

The vata dosha is the air element and is associated with the nervous system, thereby governing all movements, both sensory and motor, in the body (Feuerstein, 2013; Lad, 2021). Vata types are light in bodily structure, often having prominent veins, and are naturally on the thin side (Frawley, 1997; Lad, 2021). The pitta dosha is the fire element, is associated with the liver and bile, and is often described as that which transforms, or digests things (Frawley, 1997; Lad, 2021; Prasad, 2020). Pitta governs all biochemical activities (Feuerstein, 2013). Pitta types are fiery in nature and intense (Frawley, 1997; Lad, 2021). The kapha dosha is the earth element, and is associated with phlegm, fat tissue, and bones (Feuerstein, 2013) and is described as that which binds, or holds things together. Kapha types are slow and steady, with an affinity for family and harmonious relationships (Frawley, 1997; Lad, 2021).

Three Gunas of the Mind

The three gunas of the mind occur in Ayurvedic philosophy. However, their explanation does not originate from this body of knowledge. Both of the classics, The Bhagavad Gita and *Samkhya Karika* of Ishvara Krishna, introduce the concepts of the three gunas (energies or forces) of the mind. Each person's mind is made up of a combination of these three gunas: sattva (joy), rajas (joylessness), and tamas (dejection). These gunas are in constant flux and take turns overpowering each other and being the dominant guna affecting the mind (Feuerstein, 2013). Satyanarayana Dasa, preeminent

Vaishnava scholar and translator, and commentator of the Bhagavad Gita describe the three gunas as follows: sattva is the source of purity; rajas is the source of passion; and tamas is the source of ignorance (Dasa, 2015). The description of sattva, rajas, and tamas in *Samkya-Karika* of Ishvara Krishna is similar to that in the Bhagavad Gita.

In Bhagavad Gita [18.30-32], Krishna divides intelligence into the three gunas. He describes sattvic intelligence as that which can discriminate between what is the right thing to do and what should be avoided, what actions create fear and what actions create courage, and between that which will bring bondage and that which will bring liberation. Krishna describes rajasic intelligence as that which misunderstands what is right and what is wrong. Tamasic intelligence is explained as a person in total ignorance because they think that the wrong thing is the right thing to do (Dasa, 2015).

Depending on the unique proportion of the three gunas that a person possesses, will determine their psychological disposition, or personality (Lad, 2021; Pattabhiram & Deekshitulu, 2017; Roy, 2020; Sinha & Kumari, 2021). The basic premise is that once a person knows their predominant guna, then they can use different yogic and ayurvedic techniques to guide their mind into the mode of sattva (Jacobs, 2019; Lad, 2021; Roy, 2020; Sinha & Kumari, 2021). Therefore, Ayurveda highlights the practicality and relevance of each person learning about the characteristics of the gunas of sattva, rajas, and tamas (Frawley, 1997; Lad, 2021).

Modern-day research confirms this ancient yogic concept. For example, as reviewed by Sinha and Kumari (2021), in a study of school children in India, researchers

found that regular practice of yoga at school increased their sattvic qualities and reduced their rajasic and tamasic qualities. A different study reported that a regular practice of yoga among school children not only reduced negative feelings such as feeling angry, scared, or sad, but also increased their positive feelings of happiness and joy. Finally, a separate study among school children who regularly practiced yoga showed that they experienced an increase in their resilience, self-reliance, and a feeling of a sense of purpose in their life (Sinha & Kumari, 2021).

The following section will give an overview of Indian K-12 schools, some of which incorporate yogic principles of the mind in their curriculum, and others that make yogic principles of the mind their very foundation. One specific yogic principle that runs steadily through the fabric of Indian values and schools is that they see each child as a dynamic, unique force of nature that should be nurtured (Sinha & Kumari, 2021). More specifically, it is the educator's job to help the child to reach their full potential by encouraging the child's interests, and relating their classroom experiences to their nature and the larger society. This is in sharp contrast to the one-size-fits-all, top-down approach of trying to control or program the child's nature and behaviors (NCERT, n.d.).

Education in Indian Schools

The history of schooling in India is as old as time immemorial. For thousands of years, students learned from gurus (Sinha & Kumari, 2021; NCERT, n.d.). Students ages 5-18 lived with the guru and his wife and learned about a variety of subjects, from household duties to human relations to math to religion (Malhotra & Dasa, 2020). All

teachings were tied back to the child's unique nature, and the larger natural forces in life, and were not taught as independent subjects that required memorization of abstract concepts (Lad, 2021). Post-independence, Gandhi sharpened the focus of education to be on a child's character formation (NCERT, n.d.). Not only did Gandhi believe in nurturing children's innate potential, but he also believed in honoring the culture in which the students live. In 1964, the Kothari commission, formally known as, India's National Education Commission, ushered in a new era of schooling in India by setting national guidelines for education (NCERT, n.d.).

Organization of K-12 Schools in India

The following provides a contemporary overview of Indian K-12 schools. The K-12 school system in India is organized into three levels: pre-primary, primary, and secondary education.

Pre-primary. Pre-primary education in India, also known as "pre-school," serves children ages 2-6 years old (Iyer & Counihan, 2018). The different levels of pre-primary education are Nursery school (ages 2-4 years old), Pre-Kindergarten (ages 4-5 years old), and senior kindergarten (ages 5-6 years old) (Iyer & Counihan, 2018). The purpose of pre-primary education is to provide the foundation for children's skills, such as self-help and social skills. Pre-primary education also aims to help children to express their talents, and gain knowledge and abilities that will prepare them to be mentally, physically, and emotionally confident when they enter elementary school (Rao et al., 2021).

Primary Education. Primary education in India, also referred to as elementary school, serves children ages 6-14 years old (Janardhan et al., 2021; Lafleur & Srivastava, 2019). India's government run-schools employ 4 million teachers and include 1.4 million schools across 635 school districts (Iyer & Counihan, 2018). According to Iyer and Counihan (2018), these schools are tuition-free under the 2009 Right of Children to Free and Compulsory Education Act (RTE). However, due to numerous factors such as high student-to-teacher ratios, lack of teacher training, low teacher motivation, high teacher absenteeism, and infrastructure issues, the quality of primary education remains low. One quality improvement measure used in the Indian school systems is input and output-based standards. Activities such as improving the school infrastructure or regulating the working hours for teachers fall into the category of an input, whereas an output might include measuring how well children can learn, understand, and perform in various subject areas. One criticism of the RTE Act is that the focus is on improving input-based standards, creating a physically safe school, and ignoring the output-based standards (Chandra et al., 2017; Iyer & Counihan, 2018).

Secondary Education. The government of India has made significant financial investments to create more schools, classrooms, teachers, and science labs to provide higher quality education at the secondary education level (Pareek, 2019). Secondary education in India serves children ages 12-18 years old (Lafleur & Srivastava, 2019; Yagnamurthy, 2017). One special feature of Indian secondary education is that the government of India, as a part of the NCF, promoted ancient Indian practices, such as

yoga, as a part of secondary education (National Education Policy 2020, n.d.; NCERT, n.d.). However, a large percentage of Indian students never got the opportunity to experience secondary education because according to the National Sample Survey, only 12.8 percent of male students and 9.6 percent of female students in India completed their secondary education (Bandyopadhyay, 2017).

K-12 Private Schools in India. Private schools in India are independently owned, fee-paying schools where families in India send their children if they can afford it (Kumar, 2018). However, because of the 2009 Right to Education Act, not all students in private schools are from families who can afford the tuition. The 2009 Right to Education Act mandates that at least 25% of students attending private schools in India must come from social or economically disadvantaged families (Iyer & Counihan, 2018; Lafleur & Srivastava, 2019). Students at private schools benefit from classes taught in English and enjoy a wide range of extracurricular activities as well as a lower student-to-teacher ratio (Iyer & Counihan, 2018).

Policies Governing Contemporary Indian K-12 Schools

The National Council of Educational Research and Training (NCERT) is the governing body of all Indian K-12 schools. It has the primary responsibility of preparing the NCF and providing oversight and enforcement of educational policies (NCERT, n.d.; Yagnamurthy, 2017). The most significant policies governing contemporary Indian K-12 schools include the Indian Constitution, the findings of the Education Kothari Commission, the 93rd Amendment, and the Right to Education Act of 2009.

Article 45 of the Indian Constitution

Article 45 of the Indian Constitution, also known as the 86th amendment, outlines two provisions (Kumar & Sharma, 2021):

- Free and compulsory education for all children through age 14 years old.
- Early childhood care and education for children below age six years old.

Despite this article's inclusion in the Indian constitution, not all children received such an education, often due to poverty, as approximately 21% of India's population is below the international poverty line and the common practice among poor Indian families to send the son to school and not the daughter (Rao et al., 2021).

Article 46 of the Indian Constitution

Article 46 states that the weaker populations should be protected from injustices and from being exploited, such as children from disadvantaged groups such as girls, Dalits (the lowest cast in India known as the untouchables), and the poverty-stricken, who kept their children from going to school so that they could use them for labor (Kumar & Sharma, 2021).

Education Kothari Commission of 1964-1966

In 1964, the Kothari Education Commission produced a report to revolutionize education, seeing education as the method by which India can transform socially, culturally, and economically. The commission provided four recommendations (NCERT, n.d.; Tilak, 2007):

- First, the commission defined the compulsory areas of education as science, math, and work experience.
- Second, the commission suggested that diverse communities integrate to reduce the tension between them.
- Third, the commission suggested that attitudes and perceptions should be in line with modern views on science in technology.
- Finally, the commission suggested that character formulation be central to education.

While some reforms in education occurred, a major overhaul was not realized until the early 2000s (NCERT, n.d.).

93rd Amendment of 2002

With the passing of the 93rd Amendment, the Indian constitution made a serious effort to guarantee education as a fundamental right for every single Indian child for the first eight years of elementary school (India Ministry of Law and Justice, n.d.). However, it did not guarantee extended education.

Right to Education Act of 2009

In 2009, the Right of Children to Free and Compulsory Education Act was signed into law by the Indian parliament (Lafleur & Srivastava, 2019, p. 1). Every Indian child aged 6 to 14 years old was granted the right to free, required education until they completed elementary school (Iyer & Counihan, 2018, p. 367). Outlined in The Right to Education Act are the duties of the government, which include providing the

infrastructure of the school building, teaching staff, and learning tools (Iyer & Counihan, 2018). In the classroom, the government also would monitor each child's school admission and attendance and ensure high-quality education and teacher training that meets the government-specified standards (Kumar & Sharma, 2021).

The norms and standards of the school are clearly outlined by the government to protect the rights of children in the classroom, such as the requirement of a School Management Committee. As noted by the India Legislative Department (n.d.), this Committee includes teachers, parents, and other authority figures. A special point is made that at least 50% of the School Management Committee members must be women and parents of disadvantaged children. The members' duties are to monitor the school's work and create a plan to develop and improve the school. Legal and research concerns related to the education of children are largely focused upon the following areas: the right of children to a classroom, teacher/student ratios, the right to a trained teacher, and curriculum and pedagogy.

The Right of Children to a Classroom. The Right to Education Act sets minimum standards for the classroom (Iyer & Counihan, 2018). More specifically, the National Commission for Protection of Child Rights Act, 2005, is charged with examining cases and complaints in which a child's right to free and compulsory education is in question and then taking the necessary steps to remedy the issue (India Legislative Department, n.d.). For example, in schools where there are over 100 students enrolled, there must be at least one full-time head teacher appointed. Minimum standards

outline separate toilets for boys and girls, safe and adequate drinking water, and a lunch provided for every child. A library, a playground, toys, games, sports equipment, and a boundary wall around the school are required (NCERT, n.d.).

The Right of Students to Specific Student–Teacher Ratios. The minimum student-teacher ratios are outlined herein by the Right to Education Act (Iyer & Counihan, 2018). For the first to fifth grade, the standard is that there should be two teachers for classrooms with 60 children or less, three teachers for classrooms with 61-90 children, four teachers for classrooms with between 91 and 120 children, five teachers for the classroom with between 121 and 200 students and five plus students for classrooms with more than 150 students. For sixth to eighth graders, there should be at least one teacher for every 35 students, and at least one teacher for each of the following three subject areas: Science and Math, Social Studies, and Languages (India Legislative Department, n.d.)

The Right to a Trained Teacher. The Right to Education Act also mandates that teachers are appropriately trained and that they have certain academic and professional qualifications (Iyer & Counihan, 2018). In 2011, under the 2009 Right to Education Act, the National Council for Teacher Education set a minimum guideline that the teacher must pass the Teacher Eligibility Test (TET) to be eligible as a teacher at any of the Indian elementary schools (National Education Policy 2020, n.d.). The TET not only has multiple choice questions but also requires the teachers to write a paper that demonstrates their understanding of child development and pedagogy, language, math, and

environmental studies. A score of 60% or higher is required to pass the TET exam, and teachers are required to take the exam at least once per year. Those teachers who fail the TET can try again. There is no maximum number of attempts to take the TET exam. When the teachers pass the TET exam, they are awarded a TET certificate that includes their name, date of award, registration number, the scores they obtained, and which class levels they are allowed to teach. In addition, teachers are required to take teacher education courses (National Education Policy 2020, n.d.). However, critics point to the fact that the focus of teacher reform is too heavily on the qualities of the traditional teacher, and not on non-traditional teacher qualities, which some studies have shown positively affect student performance (Kumar & Wiseman, 2021).

Curriculum Pedagogy

NCERT formed the NCF in 2005 to create syllabi to help children to realize their potential. The NCF syllabus's foreword specifically states that children's nature is to learn. K-12 students are taught in five core subject areas: language, mathematics, environmental studies, biology, and social sciences (NCERT, n.d.). Although these subject areas are standard, it is how the subjects are taught that is of particular importance. The NCF emphasizes in the syllabus how the students learn, including hands-on and project-based learning experiences, both of which give students meaningful contexts within which to learn the concepts. The focus is on the process of problem-solving, not on rote learning, and on honoring the student’s voice, making learning fun,

joyful, and a creative process of knowledge construction for every child (Kumar & Wiseman, 2021).

The NCF recommends that elementary language classes be taught practically by encouraging the child to express language verbally through stories or poetry. In teaching mathematics, the NCF inspires teachers with a new syllabus that gives elementary students many opportunities for practical, hands-on experiences in which they can measure and weigh objects. For the Environmental Studies subject, the NCF syllabus outlines six themes that relate to the child's life: family, friends, food, shelter, water, and suggested activities for each theme (NCERT, n.d.).

However, the NCF's vision often is not implemented successfully at the practical level. Reports are common of school administrators being unclear of the NCF requirements at the curriculum level, and therefore implementing the theory in an inconsistent way that confuses teachers (Yagnamurthy, 2017).

Educators' Knowledge and Practice of Culturally Responsive Pedagogy

Understanding of Culturally Responsive Pedagogy

Zorba (2020) cited Gay's (2000) study in which she defined CRT as "using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (p. 43). Using a mixed-methods design, Zorba recruited 415 English teachers as participants in the quantitative part of the study and 12 participants in the qualitative part of the study. The goal was to understand Turkish in-service English teachers' perceived

personal and professional readiness to teach in a culturally responsive manner. Quantitative results indicated that there were significant differences between teachers' readiness to teach in a Culturally Responsive manner versus their professional readiness. For example, teachers reported high personal readiness in the survey as indicated by their high mean scores on criteria such as: (1) they would not allow any discrimination in their classroom (On a 5-point scale, M = 4.78 out of a possible 5.0) and (2) they were able to take students to own culture into consideration when teaching (M = 4.49). However, teachers' professional readiness mean scores were much lower, as indicated by the majority of mean scores ranging from 2.34 – 2.81. For example, the mean score was only 2.81 on the question about professors raising their awareness of cultural diversity in the elective courses that the teachers took in their undergraduate classes. The qualitative results showed that teachers did not know how to develop a CRT knowledge base, nor how to build a learning community or use culturally appropriate assessment tools for students (Zorba, 2020).

In summary, the results of Zorba's (2020) study revealed: (1) Teachers were personally ready to be CRT teachers in that they were open to different cultures; (2) Teachers were not professionally ready to be CRT teachers because they did not have the training that would give them the knowledge and skills, nor did they have the professional experience required; and, (3) Due to lack of adequate professional training, teachers had a superficial understanding of CRT.

In addition to Zorba's study, other research also shows that educator understanding of CRP and their interest and ability to implement it are related. For example, Karatas and Oral (2021) researched teachers' experiences with offering CRT and found that teachers felt apprehensive to implement CRT in their classrooms, primarily due to the lack of education on how to implement it. Paksoy's (2017) study in Turkey also found that English teachers did not feel equipped to implement CRT in their classrooms due to inadequate training on how to do so.

Implementation of Culturally Responsive Pedagogy

Some educators are using creative ways in which to implement CRP, such as applying the concepts from the field of mindfulness meditation. "Contemplative pedagogy" requires the teacher to be mindful of the student's interests, needs, and backgrounds so they can help the students make a personal connection to what is being taught (Byrnes et al., 2018). For example, pre-service teachers in West Virginia have used mindful inquiry practices to help them to focus on the narratives they may be applying to their students, thus enabling them to be more open-minded about other people's perspectives (Byrnes et al., 2018).

While some educators have experienced successful implementation of CRP, others have faced barriers. The results of a qualitative research study among eight elementary teachers who were new to implementing CRP in their classes identified four perceived barriers to implementing CRP: (1) lack of time, (2) lack of culturally relevant

materials, (3) lack of knowledge, and (4) lack of confidence in teaching social justice concepts to young children (Freire & Valdez, 2017).

For the first perceived barrier to implementing CRP, lack of time, one teacher explained that with large class sizes of 50 students, she did not have the time to learn about each student's background and to build relationships with them, which was required for CRP implementation. Another teacher shared that she did not have the time to make an instructional plan in which she could incorporate CRP, and so instead she would just do small token efforts, such as having some ethnic food in the classroom one day, or a fun festival that highlights their culture (Freire & Valdez, 2017).

The second perceived barrier to implementing CRP, the lack of culturally relevant materials, is defined as a curriculum that relates to the student's culture and experiences (Freire & Valdez, 2017, p. 62). More specifically, teachers pointed to sparse content in the school library that was in other languages, such as Spanish. Additionally, teachers said that it was difficult to find books that represented the children's culture. Teachers also explained that the library books were outdated and in poor condition, making them unattractive to catch their student's interest. One teacher explained how it cost her a lot of time and money to design her own culturally relevant materials because she could not find any existing materials (Freire & Valdez, 2017).

The third perceived barrier to implementing CRP was a lack of knowledge on how to implement it (Freire & Valdez, 2017). This barrier has been noted elsewhere (e.g., Massum et al., 2015). More specifically, Freire and Valdez's (2017) noted six areas in

which teachers believed they had lack of knowledge to implement CRP: (1), not having enough training in their teacher education courses, (2) being unfamiliar with culturally relevant materials, (3) challenges with making cultural connections to math and science subjects, (4) not knowing how to handle sociopolitical issues, (5) not knowing about student's cultures, and (6) not knowing the varying types of Spanish language. The lack of knowledge in these areas caused these teachers to feel fearful and lack confidence.

The inappropriateness of social justice as a topic to teach children was the fourth, and final perceived barrier that came out of teacher interviews (Freire & Valdez, 2017). Teachers explained that children cannot understand these social justice concepts, and discussing them with the children could emotionally hurt them, by making them feel sad, victimized, or hateful when they learn about social injustices.

Training Related to Culturally Related Pedagogy

It is necessary to teach teachers the concepts and skills required to be culturally responsive teachers (Massum et al., 2015). For example, the state of Massachusetts, they have created culturally responsive teacher preparation programs (Donahue-Keegan et al., 2019). In a study of 128 primary school teachers in Malaysia who participated in a workshop on multicultural competence, it was found that through the teacher training at the workshop, teachers were able to increase their understanding of multicultural competence. In the post-workshop training survey, 99.2 % of the teachers agreed that the workshop had increased their knowledge of the strategies, specific activities, lessons, and

teaching materials that they could use to teach in a multicultural classroom (Massum et al., 2015).

Trying to operationalize CRP, one study identified 12 teaching actions that are related to CRP and organized them into three main categories: (a) high academic expectations with appropriate support such as scaffolding; (b) cultural competence reflected in reshaping curriculum, building on students' funds of knowledge, and establishing relationships with students and their homes; and (c) cultivating students' critical consciousness regarding power relations (Sleeter, 2011, p. 18). Another study identified five main characteristics of culturally responsive teaching that teachers must learn, which are: (1) knowing cultural diversity, (2) creating a curriculum that addresses cultural diversity, (3) caring and building learning communities, (4) communicating with ethnically diverse students, and (5) teaching lessons by incorporating ethnic diversity (Massum et al., 2015).

Another study examined a culturally responsive professional development program for high school life science teachers, to understand how the program impacted the science teacher's professional growth (Brown & Crippen, 2016). Over six months, teachers were engaged in six different types of activities to promote their learning and growth, such as re-writing lesson plans into culturally responsive science units to align them with students' interests and learning needs. The teachers integrated the students' cultural backgrounds into the curriculum. The results of the study indicated the following: (1) teachers were somewhat but not completely successful in designing

culturally responsive science lesson plans, (2) teachers were adept at using the template for integrating student information into science instruction, and (3) teachers faced difficulties with learning enough about the student's backgrounds to make the lesson plans completely relevant to them. These findings suggested that teachers need ways in which they can elicit more thorough information about their student's culture, in particular, their communities, homes, and family traditions (Brown & Crippen, 2016).

Gap in the Literature

After considering the points in this review, the question of application and experiences with CRT within the Indian culture became even more relevant. It was not a topic that had received much attention to date. Therefore, for my study, the key focus related to CRP was attention to the addition of yogic cultural principles and practices with Western multiple intelligences theory within private K-12 schools in India.

Yogic Principles

Regarding yogic principles, researchers are requesting research into a few areas. The first gap in research relates to studies that can show the effectiveness of yoga, in particular, the benefits of yoga programs for children. As noted by Eggleston (2015), this type of evidence-based research would help to convince skeptical administrators of the benefits of yoga for school children. In addition, there is a lack of research studies on the most effective way to implement a yoga program in schools, such as how many days per week would be required for the yoga to be effective, and for how long should the yoga class last (Eggleston, 2015).

For those schools that already have implemented yoga programs successfully in their classrooms, more research is needed to examine teachers' and parents' perceptions of the effect of yoga on children's behavior (Stapp & Wolff, 2019). A recent study suggested that further research should be conducted on what children's internal experiences are when doing yoga, as well as the internal benefits they experience when doing yoga, such as feeling more compassionate (Rashedi et al., 2019). There is also a call for future research to be conducted on if children are applying the knowledge to their daily lives to make positive behavioral changes both at school and at home (Stapp & Wolff, 2019). A final recommendation for future research is a longitudinal study on the benefits of yoga in school children in four different areas: physical, cognitive, emotional, and personality (Sinha & Kumari, 2021). Future researchers may consider analyzing yoga sessions and normal instructional time via video recordings to examine how children interact with one another.

Private Indian K-12 Schools

Regarding private Indian K-12 schools, researchers are calling for more research in both public and private Indian K-12 schools to explore which types of teacher qualities (traditional vs. non-traditional) impact student learning outcomes and in what ways (Kumar & Wiseman, 2021). Yagnamurthy (2017) has noted other research gaps, such as how the NCF is being implemented in both private and public Indian K-12 schools, as well as K-12 administrators' understandings of the NCF curriculum and assessment practices to better understand where the disconnect is from theory trickling down into

practice. Relatedly, one recommendation for further research is to conduct a longitudinal study based on the annual performance of students, their personal development, and students' contributions to society, all three as indicators of the NCF's effectiveness or lack thereof (Yagnamurthy, 2017).

Culturally Responsive Pedagogy

Regarding CRP, researchers suggest a plethora of future studies. The first such recommendation is that researchers should conduct studies with the sole purpose of clarifying what CRP means because different researchers construe CRP to mean different things that span across a wide range of options (Sleeter, 2011).

Moore et al. (2021) listed other future research recommendations. These include studies that examine which specific teaching practices were taught within pre-service teacher education programs to analyze the impact on teachers' knowledge and abilities of CRP; research that explores the connection between pre-service teachers' awareness of culturally responsive teaching practices and their implementation of such practices and the effect on student learning; and studies exploring pre-service teachers' readiness for culturally responsive teaching.

Another gap in the research is exploring how to best support teachers in the design of culturally responsive science instructional materials (Brown & Crippen, 2016). An entire study dedicated to exploring how teachers have overcome their perceived barriers to CRP is also a recommendation for future research (Freire & Valdez, 2017). Other researchers advocated for future research to analyze the teachers who are

successful in practicing CRP, and the specific impact it made (Ragoonaden & Mueller, 2017). Similarly, another gap in the research points to the need to examine the specific impact of CRP on students' academic achievement (Wah & Nasri, 2019).

Another area for future exploration is to study the differences between types of teachers, such as new versus experienced teachers, teachers who have worked outside of their own culture vs those who have not, academic qualifications, and teachers' beliefs regarding CRP (Kotluk & Kocakaya, 2020). An ethnographic study related to faith-based schooling is recommended as an area for future research in that researchers could explore the lived reality of both students and teachers in religious schools, and try to see if there is a connection between religion at home and school (Dallavis, 2011).

A final recommendation for future research is that qualitative studies should be conducted that examine teachers' CRP competencies and specific practices in the classroom, from live classroom observations to keeping field notes (Zorba, 2020). In qualitative studies, the CRP courses, course curriculum, and syllabi should all be evaluated in detail.

The purpose of this case study was to explore one private Indian K-12 school's experience of culturally adapting multiple intelligences theory to include yogic principles of the Indian culture. The guiding research question of this study was, What is one Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture? Therefore, I interviewed 12 teachers and nine school administrators, regarding their experiences with culturally adapting multiple intelligences theory to

include yogic principles of the Indian culture. The private school that is the bounded system in which this case study took place has been implementing this concept for the last 30 years.

Summary and Conclusions

In summary, the three key concepts discussed in the literature review are (1) Yogic Principles of the Mind, (2) private Indian K-12 Schools, and (3) CRP. The Yogic Principles of the Mind section highlights multiple research studies that confirm ancient yogic concepts, in particular, how regular yoga and ayurveda practices increase positive feelings such as joy and peacefulness and decrease negative feelings such as fear and anger (Jacobs, 2019; Pattabhiram & Deekshitulu, 2017; Roy, 2020; Sinha & Kumari, 2021). The yogic practices supported children to learn in a way that is meaningful to them, which is one of the main recommendations by the NCF (NCERT, n.d.). More specifically, the NCF advised K-12 schools to create a curriculum that encouraged and supported children to learn in a manner that is meaningful to their life, and relevant to their personal experiences, interests, and unique nature (NCERT, n.d.). The theme of teaching a child in a way that honors their interest and nature was prevalent in both the yogic principles of the mind and the Indian K-12 literature reviews. The literature review of CRP echoed a similar idea of student-centered teaching, as it emphasized the importance of creating lessons that incorporate student's culture, needs, interests, personal nature, and prior life experiences (Brown & Crippen, 2016; Byrnes et al., 2018; Jia & Nasri, 2019; Ladson-Billings, 1995).

The following chapter will explore the specifics of the single case study qualitative methodology used for this study. The major sections of this chapter will include the research design and rationale, the role of the researcher, methodology, and trustworthiness. A description of the interview protocol utilized with teachers, administrators, and parents will also be included when exploring this research question.

Chapter 3: Research Method

Introduction

The purpose of this qualitative case study was to explore one private Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture. The central phenomenon was one Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture. I visited one Indian private K-12 school and interviewed administrators and teachers. I also spent time conducting classroom observations and collecting materials such as lesson plans, assessments, and student work samples. The major sections of this chapter include discussion of the research design and rationale, the role of the researcher, methodology, and issues of trustworthiness. The conceptual framework consisted of CRP and MI theory. I used MI theory as the foundation for understanding intelligence in the identified K-12 school. When launching the target school, school leaders adapted CRP to include yogic principles of the Indian culture. Yogic principles relate to the research purpose because teachings from the classic yogic text, the Bhagavad Gita, are infused throughout the culturally adapted MI curricula at the Indian K-12 school.

Research Design and Rationale

The primary research question for this study was, What is one private Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture in the curriculum and teaching? The two subquestions that were used to address the research problem were as follows:

SQ1. How do teachers assess the student's learning styles based on MI and yogic principles of the mind?

SQ2. How do teachers implement culturally adapted MI theory in the classroom? Sample interview questions included "How do you assess students' multiple intelligences?" and "What, if anything, makes it difficult for you to implement multiple intelligences?"

Central Phenomena

The central phenomenon that was explored was teachers' and administrators' experiences with culturally adapting MI theory to include yogic principles of Indian culture at one Indian K-12 private school. For the study's conceptual framework, I used CRP and MI theory. Gardner (2011) proposed that each student learns in a variety of equally valid ways and that each student has one or more predominant learning styles out of the following eight different types of intelligences: linguistic, logical-mathematical, spatial, musical, naturalist, bodily-kinesthetic, interpersonal, and intrapersonal.

CRP advocates that classroom curricula should be created based on students' cultural frames of reference to increase students' success in schools (Ladson-Billings, 1995). The main premise of CRP is that culture is the foundation of how learning occurs (Ladson-Billings, 2021), and consequently, a culturally responsive teacher increases student's likelihood of success by designing lesson plans according to their cultural backgrounds and frames of reference (Jia & Nasri, 2019; Ladson-Billings, 1995; Lai, 2012). I used MI and CRP as a lens to view how one private Indian K-12 school's

teachers created a classroom curriculum based on students' MI and their cultural frames of reference. The study's conceptual framework shaped the nature of the questions that I asked, the data I collected, and the analysis that I performed.

Case Study Approach

I employed a single-case-study approach. A case study is defined by Yin (2017) as research that "investigates a contemporary phenomenon (the 'case') in depth and within its real-world context" (p. 16). Case studies are bounded by time and space, which fit with my study in that I researched one single K-12 school over approximately one week. A case study design was well suited to the specific aims of the research. Patton (2002) explained that case studies are intended to study unique "bounded systems" through a holistic lens that is context sensitive. This study had a narrow focus that enabled me to examine the study phenomenon in depth with rich and descriptive details about this case.

One advantage of employing a case study approach was that a case study did not require a control group, meaning that the behavioral events could unfold naturally in the classroom and could be observed as they would occur without any restrictions. This allowed me to observe things that might not occur if the participants were in a controlled environment. Another advantage of using a case study approach is that it supports the use of open-ended exploratory "how" and "why" research questions, which Yin (2017) asserts are a good match for a case study.

A plausible disadvantage of the case study approach is that it did not look outside of the bounded system. For this particular study, that means it only looked at a snapshot in time, collecting data only from the present moment. Therefore, I could have missed larger themes at play in the school's past that was independent of the words of the interviewees, presented in collected classroom documents, or presented in observation. To this end, another disadvantage is that a single case study relies upon the words and accounts of others (through interviews and observations), which might not give the researcher an accurate view of the past that historical and archival data could provide (Yin, 2017).

Other approaches to this study were considered, such as a phenomenological and a grounded approach. A phenomenological study attempts to understand the lived experiences of individuals in a phenomenon (Patton, 2002). However, the intended focus of this study was to examine just one unit of analysis, more specifically, one K-12 school's collective experience of culturally adapting multiple intelligences theory. Similarly, a grounded theory study could be used to "theorize" about the "logical" and "systematic" pattern of behavior of the school (Patton, 2002, p.490). However, this study was focused on detailing the collective experiences within the bounded system, the school, and culturally adapting multiple intelligences theory. Therefore, this study sought to learn about the case, not theorize about how or why certain experiences occurred. Therefore, the grounded theory approach and the phenomenological approach were not chosen for this study.

Role of the Researcher

In this qualitative research study, the researcher is the primary instrument used for data collection (Patton, 2002). To collect data, I was in the observer role in the classroom and also in the interviewer role. Consequently, the researcher must be a skilled observer and interviewer to pick up on the underlying subtleties in conversation. Furthermore, the researcher's understanding of oneself, one's experiences, the current state of mind, opinions, and biases can significantly affect the quality of the data collected, as well as how the data is interpreted (Patton, 2002). Therefore, it is imperative for the researcher to be aware of and state upfront their experiences related to the current research problem or participants, and how they anticipate they will potentially influence their interpretations in the current research study (Yin, 2017). Stadtlander (2018) highlights the importance of the researcher describing how they will manage any issues that arise concerning their own biases because such biases can skew the interpretation of the data. Therefore, taking into account the above in the role of the researcher, I acted as an interviewer, as well as an observer of myself and the classroom.

As the researcher in this study, I had no prior relationship with the teachers, who were the interview participants in this study. However, I did have a personal relationship with some administrators of the school, which benefits the research in the sense of establishing rapport with the gatekeepers. This in turn enabled me to gain access to the teachers, who were the research participants in this study. However, even though the relationship between myself and the school administrators was not a close personal one,

nor a professional one, I still was aware of the risk of crossing professional ethical boundaries (Yin, 2017). To address this issue, I kept a journal with any emotions that arose throughout the research process as a preventative measure to maintain a higher level of self-awareness, so I did not cross any boundaries (Stadtlander, 2018).

Additionally, of note, I have been a resident of India since 2019, and therefore I am somewhat knowledgeable about how to operate within the cultural norms. I live three hours from the K-12 school in this study, which made it easy to do the research in person. Finally, in full disclosure, I serve as a Vedic Psychotherapist under my spiritual teacher, a respected member of the bhakti yoga community. My spiritual teacher set the vision for this K-12 school 35 years ago which is the site of this research. However, he is no longer involved in its active operation and has not been since its founding.

I was born in the United States and have resided in India since 2019. My education experience before 2019 was in the United States. However, I have been studying Ayurveda, India's natural form of medicine since 2004, and yoga since 2007. I am an Ayurvedic Lifestyle Counselor, having completed my training at the Kripalu School of Ayurveda in the USA in 2006. In my professional life for the last ten years as a Licensed Mental Health Counselor (LMHC) and as and Vedic psychotherapist, I have been incorporating these principles into my practice and have much reverence for their healing powers that I have seen personally in myself and also among my hundreds of clients. Before becoming an LMHC, I was a qualitative market researcher, conducting hundreds of in-depth interviews in the e-learning industry vertical. My formal training in

qualitative research was at Cornell University, where I graduated with a Master of Management degree in Hospitality (MMH) in 2000. Before this, I studied Human Development, with a specialization in Early Childhood Development, and graduated in 1995 with a Bachelor of Science degree from the University of California.

Consequently, given my professional areas of expertise, one limitation of this study is researcher bias (Willig, 2013; Yin, 2017). I understand that my background shapes how I view the research data. Therefore, I have stated my biases upfront, by revealing my own experiences and background (Willig, 2013). In addition to what I have already shared, my background also includes experience with multiple intelligences as I have taken an MI assessment, and I know my predominant intelligences. Additionally, I know the founder and principal of the Indian K-12 school that was studied.

I mitigated bias regarding the education system and participants in India by engaging in member checking, in which I checked my interpretations of the data with participants (Yin, 2017). I also kept a reflexive journal and introspected about any potential biases (Willig, 2013). Finally, I relied upon the peer review of my committee to manage any biases and blind spots (Yin, 2017).

Methodology

As discussed in the research design and rationale section, to address the research questions in this qualitative study, the specific research design included a single case study with multiple sources of data: interviews (with the administrators, and teachers), classroom observations, and document review (Willig, 2013; Yin, 2017). In this section,

the following areas will be discussed related to methodology: participant selection logic, instrumentation, recruitment, data collection, data analysis plan, and trustworthiness.

Participant Selection Logic

The site selected for this research was a private K-12 school. It is based in a suburb of Delhi, India. This school was founded in 1994 and, at the time of the study, had approximately 2,500 students. The student-to-teacher ratio was 25:1. The participants of this study were administrators and teachers of a private K-12 Indian school. Twelve teachers and nine administrators were selected as participants in the study. The final count of participants was 21. I interviewed the teachers and administrators. Field observations took place in the 12 teachers' classrooms.

The participants met the following inclusion criteria:

I. Full-time teacher or administrator at this school;

II. If a teacher, he or she must have been using multiple intelligences theory with the students for five years or more at the school.

Potential participants were excluded if they were teachers who had been using multiple intelligences theory in the classroom with their students for less than five years, or who were part-time teachers (substitute teachers).

In my qualitative research study, I conducted interviews until I reached saturation, meaning until I repeatedly heard the same answers (Stadtlander, 2018, p. 95). The relationship between saturation and sample size is that sample size is determined when the data reaches saturation. Therefore, I continued to research until the responses became

repetitive and there was no new information (Stadtlander, 2018). While the expected number of participants was 10-20, I continued interviewing new participants until saturation was reached, which resulted in me completing 21 interviews in all.

Instrumentation

After obtaining a signed informed consent form, the following data collection instruments were used in this single case study: An interview guide (see Appendix A), observation protocol and grid (see Appendix B), and documentation. The act of the researcher creating their research instruments is common practice for most qualitative studies (Stadtlander, 2018).

Interview Guide

The semi-structured interview guide included some open-ended questions under a few different topic headings, to support the participant in their natural expression of thoughts and ideas, and avoid the researcher becoming too limited and directive in the line of questioning. The interview guide included 17 questions for teachers and 11 sub-questions. For administrators, there were 18 questions and five sub-questions. However, depending on the direction the conversation went, approximately five to seven of the questions were asked in each interview. Each interview started with reviewing ethical considerations such as informed consent, the right to withdraw, and confidentiality with the participant (Willig, 2013). I also asked each participant for permission to record the interview, in addition to taking notes during the interview.

The semi-structured interview guide was developed by gathering concepts and constructs highlighted by the literature during the literature review process. Primarily, out of the concepts that the literature presented, the semi-structured interview guide questions included two categories that were relevant to this study: assessment and implementation. Within these two broad categories, the literature expressed concern regarding practices within the classroom and teacher training and preparation. Therefore, the interview guide included questions regarding these concepts.

Content validity was established by using an expert panel of three people to review my data collection instruments to confirm that they were designed appropriately to explore what I was trying to explore (Stadtlander, 2018). Specifically, this panel included a career educator, a classroom teacher, and an expert on Indian culture. The interview protocol was specifically designed to ascertain the answers to the research questions. The method for the development of the interview protocol was based on Yin (2017) who advised that in qualitative research, there are five levels of questions. In a single case study, Yin (2017) recommended that the researcher should focus on level two type questions, while simultaneously asking the interviewee level one questions. What this meant in practice is that I had to keep in mind at all times the exact type of information that I needed to collect to understand the organization. As my goal of the study was to better understand how one K-12 school has culturally adapted multiple intelligences theory, my research questions focused on asking the participants about how the school has done this. I designed my interview guide to follow these criteria of asking

open-ended conversational questions, such as “how” questions (Yin, 2017). The idea was to word my questions in a way that showed my genuine interest, but also my naïveté about the subject matter, to encourage the participant to open up and share rich, detailed information.

Observation Protocol

Observations are another data collection tool utilized in case studies. Classroom observations were conducted with approximately 10-20 teachers. I informed the participants of my role as the researcher and then observed them in their natural setting in the classroom, to immerse myself in their world to understand their experience (Gaudet & Robert, 2018). I then documented my observations using an observation grid, which included a list of key points to observe to answer the research questions (Gaudet & Robert, 2018). Some examples of what I recorded in the observation grid are verbatim quotes, and detailed descriptions of participants' natural actions and interactions in the classroom (Saldana, 2011). I also noted in the grid what did *not* happen (Patton, 2002). For example, I noted the absence of the teachers teaching in a way that incorporates culturally adapted multiple intelligences theory. Emerging themes and patterns also were recorded in the classroom observation field notes, which gave insight into subtleties that could not be detected from interviews alone (Willig, 2013). This additional data will sometimes support and add depth to what is uncovered in the interview transcripts, or it could bring up new points altogether (Saldana, 2021). The focus of the observation protocol was established by the literature. Primarily, the literature regarding classroom

interactions centered upon: (1) talking about MN, (2) teaching MN, and (3) activities related to MN.

Documentation

According to Yin (2017), documents may confirm what interviews and observations illustrate. Documents provide an interesting angle because they provide information that I may not be able to observe in the classroom or uncover in the interviews (Patton, 2002). I reviewed documents such as teacher training materials, implementation plans, lesson plans, student assessments, and students' work samples. There are five main functions that documents can serve in a qualitative case research study (Gaudet & Robert, 2018), two of which are the reasons that I used documents in my study. First, I used key documents to provide a contextual background to the interviews (Gaudet & Robert, 2018). Second, I used key documents to confirm my research findings from classroom observations and interviews (Yin, 2017). In my field notes, I described each document, my impressions about the document, and how it related to the research question, the interview questions, and the interview responses (Saldana, 2011).

Sufficiency of Data Collection Instruments

Both of the supporting research questions were aligned with the research instruments. SQ1 asked, How do teachers assess the student's learning styles based on MI and yogic principles of the mind? SQ2 asked, How do teachers implement culturally adapted MI theory in the classroom? These questions were answered through the data gathered through the interview guide, observation grid, and collected documents.

Procedures for Recruitment, Participation, and Data Collection

Recruitment

The participants were recruited via a flyer that I created and posted at the K-12 school in the teachers' lunch room, meeting room, and lounge. The instructions on the flyer invited the interested participants to express their interest in the study by replying to my university email address, which was posted on the flyer. After writing the recruitment email, including specific screening criteria, then I emailed it in response to the K-12 school teachers who responded to my flyer. The recruitment email included specific inclusion criteria and further details of the study. The inclusion criteria were that the teachers must have been working in a full-time capacity at the school for at least five years and that they were implementing multiple intelligences in their classroom. Administrators must have been working at the school for five or more years. The participants included 12 school teachers and nine administrators, who responded and volunteered to be in the study, and who fit the inclusion criteria. The total number of participants numbered twenty-one.

The steps that I took in the recruitment process were as follows:

1. Posted the recruitment flyers at the K-12 school

2. Responded by email (including the informed consent) to the K-12 teachers who responded to my flyer

3. Collected the signed informed consent forms from the research participants at the time of the interview.

Interviews were scheduled based on the availability of the parties. The case did not occur and too many interested potential participants contacted me. Therefore, I did not need to inform any potential participants that the study had reached its required limit of maximum interviewees. Consequently, I did not need to put anyone on a waitlist to be contacted if I needed to conduct further interviews.

Data Collection

Participant and data collection in this study took two forms: (1) interviews and (2) classroom observations.

Interviews. I conducted a total of twenty-one interviews over approximately a one-week period in which I was on-site at the K-12 school. The data was collected from live one-on-one interviews of 12 K-12 teachers and nine administrators at the school. The time allotted for each interview was one hour. I audio-recorded each interview, and I also took notes during the interview. Interviews were conducted in a vacant classroom on campus so interview participants were able to concentrate and be free from distractions and other potential constraints. Interviews continued until saturation was reached (Yin, 2017). The participants were made aware of their rights in advance such as that at any time while I was conducting the interview, the participant could terminate the interview by asking to stop it.

Classroom Observations. The second form of data collection was from live observations in a variety of K-12 classrooms. All teachers that participated in the study had their classrooms observed by me. In the case where the teacher does not wish a

classroom observation, another participant will be selected. During the classroom observation, I took notes in the observation grid. Each participating teacher's classroom was observed one time for one class period, which was approximately 30 minutes to one hour. I recorded the data I collected in the observation grid (Appendix B). The teachers were made aware of their rights in advance, such as at any time while I am observing the classroom, the teacher may exit the study by asking me to leave the classroom.

Documents. During the week that I was onsite at the K-12 school, I also collected documents from the teachers, such as student assessments, lesson plans, and assignments. To capture my emotions, insights, and questions over the course of the week at school, I kept a journal.

Post-Interview and Observation. Upon completion of the study, the participants were thanked for their time and given a token gift of some Indian sweets from the local bakery as per Indian custom. After the completion of the interview, I also engaged in member checking by emailing a summary of five themes identified as a result of the interviews to the participants, allowing them to provide any input. This follow-up item was also spelled out in the informed consent form, so everything was clear upfront. All the specific details were listed in the informed consent form so that the participants understood that upon completion of their interview and my classroom observation, their participation would be considered complete. In other words, the response to my email with the themes was optional and not a requirement of participation in the study.

The data was recorded in a variety of ways, which are listed below (Yin, 2017):

- Interviews – audio recording, taking notes on the interview guide
- Classroom observations – taking notes on a classroom observation sheet
- Documents – taking notes on a document sheet

Data Analysis Plan

All of the participants gave their permission to record the interviews. The interviews were audio-recorded and professionally transcribed into verbatim transcripts, with the goal of not missing any subtleties (Willig, 2013). The interview transcripts were analyzed using a computer software program, ATLASti, to code the information into categories (Barbour, 2014). The coding process was iterative, so I refined it over time as I conducted the interviews (Barbour, 2014). At the onset of the coding process, I created an initial coding structure, but as I read each successive verbatim transcript, I added new codes as they arose from the data (Barbour, 2014). I also analyzed the codes and derived patterns and themes from them (Saldana, 2021). As a part of the process of analyzing the codes from the transcripts, I also analyzed the codes from the observational field notes to see if they supported the patterns or themes from the transcripts or if this data told a different story (Saldana, 2021). I coded the documents as they related to the interview questions and classroom observations, to see if they supported these findings (Barbour, 2014).

The sources of data included the school K-12 administrators and teachers, who were recruited using a screening and recruiting guide to ensure participants that fit with the study criteria. For each of the three types of data collected, interviews, classroom

observations, and documents, I identified the connection of the data to one of the research questions, as well as the type of data and the procedure for coding. I handled discrepant cases by reporting the findings that contradicted the themes, thereby increasing the credibility of the research (Yin, 2017). The software that I used for transcript data analysis was ATLASti. However, given that verbatim transcripts were only one part of the data I collected, I also relied on another analytic strategy, in addition to using the software. Out of the four strategies that Yin (2017) proposes for analyzing the qualitative data, I selected the strategy described as "working from the ground up," (Yin, 2017, p. 136). This inductive approach involved going through all the data collected to identify some themes and patterns. Having an analytic strategy at the onset of my case study research was a very good way to prepare for conducting the research, and to use as a guiding principle when analyzing the research (Yin, 2017).

Out of the five analytic techniques that Yin (2017) outlines, my study used the Explanation Building technique. To explain the phenomenon of one K-12 school's cultural adaptation of multiple intelligences theory, I used a narrative format to make casual links that explained why or how this happened. This was an iterative process, in which the narration evolved as I continued to examine the data. I followed the steps of the Explanation Building technique that were:

1. State and explain my initial idea/theory;
2. Compare one source of data (e.g., verbatim transcripts) to my initial statement;
3. Revise the initial statement to incorporate my insights from the data;

4. Compare other data collected from a second source (e.g., observation notes) to the revised statement; and

5. Repeat this process until the final explanation statement incorporated all data and ideas. (Yin, 2017)

Issues of Trustworthiness

The main criteria used to determine the trustworthiness of this study were credibility, transferability, dependability, and confirmability.

Credibility

Triangulation of data, thick descriptions, member checking, reflective journaling, and following specific established data analysis techniques advised by Yin (2017), are some ways in which I established credibility (Shenton, 2004). Member checking is thought by some researchers, such as Guba and Lincoln (2004), to be the most important way to increase the credibility of a study (Shenton, 2004). I implemented member checking by asking participants to review my findings in the form of key themes that I uncovered from the interviews (Shenton, 2004). Triangulating the data is used as a way of examining a finding's consistency (Yin, 2017, p. 241). Therefore, I used multiple sources of data, such as interviews, lesson plans, and classroom observations. Triangulation has numerous benefits, two of which are that it enables a comprehensive understanding of the data, and it also increases the trustworthiness of the data. Additionally, triangulation increases the validity of the data if the results show that the same information is coming from three different sources (Yin, 2017).

Transferability

To increase transferability, I provided a thick description of the context of the research setting (Shenton, 2004). This detailed information about the K-12 school that was the research site will give interested researchers the information required to compare what is described in my report with phenomena in other research studies (Shenton, 2004). In particular, I provided the following contextual information, which is required to identify the boundaries of this study: The number of organizations and participants involved in the study, the data collection methods, as well as the number and duration of data collection sessions, and the length of time from the start of data collection to the end. Finally, I planned to include in my report any types of participants who were screened out of the study, however, no participants were screened out. The goal of sharing this kind of rich, descriptive information was to enable researchers to use this information to determine if the findings could be true for other populations and if the same research methods could be used to conduct future similar studies (Shenton, 2004).

Dependability

One way that I increased the dependability of the study was that I described in much detail the processes that I undertook for the study, which will give future researchers a roadmap to replicate the study. First, I described the research design and implementation. Second, I shared all the details of how I collected the data. Third, I conducted a reflective appraisal to evaluate how effective the inquiry process was (Shenton, 2004).

Confirmability

Confirmability was managed via two main strategies: reflexive journal and audit trail (Shenton, 2004). A reflexive journal was kept with my beliefs and assumptions driving my decisions throughout the research process, which was shared in the final report. I also kept an audit trail in which I recorded my decisions and research procedures (Shenton, 2004, p. 72). In my notes, I kept track of whom I met with, when, and what we discussed (Stadtlander, 2018). My audit trail included a detailed record of my notes about what occurred in my study, and my documentation of the process of how the raw data led to codes, themes, and recommendations (Shenton, 2004).

Ethical Procedures

Avoiding researcher bias is an important component of trustworthiness but is also an important ethical point to consider (Shenton, 2004). As a researcher, my goal was to meet the highest ethical standards in my work, which included being honest, being open to contrary research findings, not plagiarizing, and reporting accurate findings (Yin, 2017). One way that I ensured this is that when analyzing the data, I avoided the pitfall of reporting in a biased way that only shows the positive findings of the research. To address this issue, I reported all of my findings, both positive and negative. I also was cognizant of giving credit to the source, and I adhered to the standards set forth in the *Publication Manual of the American Psychological Association, Seventh Edition*, on how to properly give credit.

Additionally, I followed specific procedures to protect the participants in my case study (see Yin, 2017). I submitted my plan and my proposal to Walden University's Institutional Review Board (IRB) for review, so they could support me in making sure that my study did not place the participants at risk for any harm. In my IRB application, I included the permission letter from the K-12 school administrators to gain access to the research participants for the interviews, classroom observations, and documents. The IRB approved my application (application approval number: 08-22-22-0307832). Before conducting the study, I reviewed the American Counseling Association Code of Ethics, so I was aware of additional potential ethical issues and how to navigate them. The plan that I executed included five key areas.

First, I obtained informed consent from the research participants (Yin, 2017). The informed consent was a form that each participant signed that described the nature of my study, and it delineated that the participant is willingly volunteering to be a part of it (Yin, 2017). The informed consent form was emailed to the K-12 teachers and administrators who responded to my recruitment flyer, along with the details of the interview process. I asked for the signed informed consent form from the participants at the time of the interview. At the time of the interview, I reviewed with each participant the voluntary nature of their participation in this study and reminded them that they could choose to terminate their participation at any time. In summary, I conducted my study in a manner that aligned with the IRB’s requirements of protecting participants by explaining to each participant at the beginning of the interview their right to voluntary,

informed consent, protection of privacy and confidentiality, and their right to withdraw at any time without penalty (Stadtlander, 2018).

Second, I avoided deception (Yin, 2017). At the beginning of the study, when meeting with the participants, I explained to them the purpose of the study, so it was clear to them, such that they did not end up feeling deceived because they had a different idea of the study's purpose.

Third, I protected the participant's privacy and confidentiality (Yin, 2017). To protect participants' anonymity, I was mindful of not revealing any confidential information about the research participants that could potentially harm them, such as their name, or any other identifying details. To protect their identity, for example, I replaced their real names with fictitious names like, "Participant 1."

Fourth, I protected vulnerable populations (children) (Yin, 2017). Even though I conducted research at a K-12 school, I did not interview the children. The children were in the classrooms that I observed; however, I did not interact with the children directly. This is to say that I took caution to protect their rights by not interacting with them as research participants.

Finally, I protected the data. To protect the participants' anonymity, I kept the data on a password-protected, encrypted external hard drive (see Stadtlander, 2018). I will keep the data for 7 years, after which I destroy it, as per Walden University standards (see Stadtlander, 2018).

Summary

In summary, this chapter presented the purpose of this study, the chosen research design, data collection methods and analysis methods, issues of trustworthiness, and ethical considerations. Further, this chapter presented an in-depth interview guide, a classroom observation protocol, and a classroom observation grid. Chapter 4 will present the findings of this study.

Chapter 4: Results

Introduction

The purpose of this qualitative case study was to explore the methods and experiences of teachers of one private Indian K-12 school that is culturally adapting MI theory to include yogic principles of the Indian culture. The primary research question was, What is one private Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture? For this single case study, I analyzed multiple sources of data, including interviews (with administrators and teachers), classroom observations, and document reviews. In this chapter, I describe the results of the data collection and analysis process, present the findings of the study, and address the trustworthiness of the results.

Setting

The target school is in session from July to May. Data collection took place in September, the second month after students returned from summer break. During the COVID-19 pandemic, the school moved to online instruction. However, at the time of data collection, the school was fully back to normal operations, with all classes being held in person, as they were before the pandemic. Due to budget cuts, however, some extracurricular classes such as yoga and also some training, as well as some positions, had been cut. The site selected for this research was a private K-12 school located in a city that is a suburb of Delhi, India. With a population of approximately 2 million people at the time of the study, this city is a large industrial zone known as a manufacturing

hotbed. Its inhabitants work in a plethora of factories in a variety of roles from laborers up the ranks to managers and CEOs. Consequently, the city hosts an economically diverse range of families with some living below the poverty level, as well as some wealthy business tycoons. However, the large majority of people are middle class. Despite that, there are still some areas of the city that are without running water and electricity. In general, this school serves the middle class within the city and provides scholarships for those families who cannot afford the tuition. The physical plant of the school buildings looks similar to those of a school in an urban, middle-class U.S. suburb.

Demographics

This school was founded in 1994 and had approximately 1,500 students at the time of the study. There were about 150 teachers at the school. The teacher-to-student ratio was 1:16. The participants of this study were nine administrators and 12 teachers of a private K-12 Indian school. The participants met the following inclusion criteria: full-time teacher or administrator at this school and, if a teacher, they must have been using MI theory with the students for 5 or more years at the school.

Teachers

All 12 teachers interviewed were women and had been teaching for five to 16 years at the school. The participating teachers taught across a variety of subject areas from English, math, and science to business commerce. These teachers teach across a wide range of grade levels from Grade 2 to Grade 12. Table 1 displays participants' years teaching at the school and grade(s) and subjects taught.

Table 1

Demographics of Teacher Participants

Teacher	No. of years teaching at school	Grade	Subject
1	9	2	Environmental studies
2	12	2	Science
3	16	3	Hindi
4	10	3, 4	Math
5	5	5, 6	English
6	8	6-8	English
7	8	7-9	Chemistry
8	6	8-10	English
9	12	8-12	Computer science
10	16	9-11	Sanskrit
11	11	10-12	History, political science
12	13	10-12	Business commerce

Note. $N = 12$.

Administrators

Three of the administrators interviewed were men, and six were women. Administrator participants had been working at the school on an average 16 years. Table 2 provides a summary of the administrator demographics, which includes their title, gender, years at the school, and a brief description of their role. Four of the administrators interviewed were the founders of the school, which is also noted in Table 2.

Table 2

Demographics of Administrator Participants

Administrator or founder	Gender	No. of years at the school	Title	Role
Founder 1	Male	28	President	Establishes innovative ideas in personal development programs.
Founder 2	Female	28	Director	Helps the president to design the school's overall mission, values, and strategic goals.
Founder 3	Male	28	Ayurvedic doctor	Provides Ayurvedic consultations Produces content for Ayurvedic tv show.
Founder 4	Female	28	Guidance counselor	Meets with students individually who need extra support and educates them about their MI/MN.
Administrator 1	Female	22	Head of academic excellence	Mentors and guides faculty to support better mentoring of students.
Administrator 2	Female	21	Head of human resources	Provides teacher training on innovative teaching practices and creates learning materials.
Administrator 3	Female	19	Head of learning and development	Ensures proper training and development programs are carried out.
Administrator 4	Male	15	Head of sales and marketing	Presents unique concepts such as MI/MN at various seminars and conferences.
Administrator 5	Female	2	Principal	Ensures innovative teaching and learning strategies, such as multiple intelligences, and project-based learning.

Note. $N = 9$. MI = multiple intelligences; MN = multiple natures.

Founders' Roles

The founders are two brothers and one sister. One of the brother's wives is also part of the founding team. All are part of the same family that live under one roof and work together to bring their family and cultural values of love, service, and spirituality into the fabric of the school. One of the brothers is the president of the school, and his

wife is the director. The other brother is an Ayurvedic doctor, who advises on the content for the teacher training programs. He also guides the educational materials for the students on yogic practices, such as dinacharya (daily routine), swadhyaya (introspection), and what foods to eat for a peaceful mind. Their sister has been the school guidance counselor for decades, helping to educate parents and students about their intelligences and how to harness them for success. However, this year, in addition to guiding the students, she has taken on another role of managing the staff, due to COVID-related budget cuts at the school.

Other Administrators' Roles

Out of the remaining five administrators that were interviewed, three of them are the founders' children, two daughters, and one son. The children are in their thirties now, and they are all working alongside the founders, their mother, father, aunt, and uncle. Each of the three children is contributing to nurturing and expanding the family business in different capacities, depending on their strong multiple intelligences. For example, one of the daughters who have strong interpersonal intelligence is the head of human resources. The other daughter who has strong entertaining and educative intelligences is the head of learning and development and played a significant role in the development of the school's teacher training programs. The son, who has a strong entrepreneurial intelligence, is head of sales and marketing. He is focused on bringing these ancient Indian yogic concepts to the students in a modern way through the use of innovative technologies. The two remaining administrators are not family members, but they all

work together to execute the mission of the school. One of the administrator's roles is the head of academic excellence, and she works to manage the organization and regulate the school's academic programs and curriculum. The other administrator, the school principal draws upon her 25 years in the field of education to develop teaching and learning methods at the school.

Data Collection

In this study, 12 teachers and nine administrators were interviewed. Interviews took place in September 2022 over two weeks. Interviews were on average 60 minutes in length and took place in a private interview space arranged by the school. A 17-question interview protocol was used for teachers, whereas an 18-question interview protocol was used for administrators. Interviews were recorded utilizing Zoom. Interviews were professionally transcribed. Secondarily, classroom observations following the observation protocol (presented in Appendix B) took place during the same 2-week period. Document collection also occurred during this period. The greatest number of interviews conducted in a single day was five interviews. Similarly, the greatest number of classroom observations conducted in a single day was four.

Data Analysis

I followed Yin's (2017) the explanation-building technique, which has five steps. The steps included (a) stating and explaining my initial idea or theory (b) comparing one source of data (e.g., verbatim transcripts) to my initial statement, (c) revising the initial statement to incorporate my insights from the data, (d) comparing other data collected

from a second source (e.g., observation notes) to the revised statement, and (e) repeating this process until the final explanation statement incorporated all data and ideas (Yin, 2017). I describe the data analysis at each of these stages.

Step 1: Stating and Explaining My Initial Idea

The purpose of this qualitative case study was to explore one private Indian K-12 school's experience of culturally adapting multiple intelligences theory to include yogic principles of the Indian culture into the curriculum and teaching. The specific problem addressed by this study is that for teachers to support student learning styles in Indian schools, they will need to learn how to best culturally adapt instruction to the learning styles of a diverse range of students. Therefore, Chapters 1 and 2 of this study presented the background of this problem and the extant literature related to this problem. This study aims to explore this school's experience of culturally adapting multiple intelligences theory with their students. Therefore, during data collection and analysis, I paid significant attention to the constructs and ideas expressed by the literature, which are represented in the scripted interview questions.

Step 2: Comparing One Source of Data to My Initial Statement

Transcripts, classroom observations, and documents were uploaded to Atlas.ti. Initial codes were provided based on the statements of the participants for three transcripts. Once the third transcript was coded, I returned to the first and second transcripts, adding codes that may have not presented themselves during the initial coding. Then, the rest of the transcripts were coded. During this phase, 83 codes were

generated. Once these codes were created, I examined the whole of the codes, being mindful of the essence of the experiences communicated by the participants. Further, classroom observations were coded resulting in 33 codes. Finally, documents were coded resulting in 19 codes.

Step 3: Revising the Initial Statement to Incorporate My Insights

Numerous codes were duplicates of one another, expressed in different wording. Regarding the transcripts, 44 codes were merged, resulting in 39 final codes. For the classroom observations, 12 codes were merged, resulting in 21 final codes. Regarding the documents, five codes were merged, resulting in 14 final codes. For each of these, I also re-examined the whole of the codes after this merging, being further mindful of what was communicated to me by the participants. The wording of some codes was clarified. With that, a final code book for each of these data sources was established. After clarification of wording and further merging, the codebook for the interviews contains 39 final codes. The codebook for the classroom observations contains 21 final codes. The codebook for the documents includes 14 final codes. Each of the three final code books will be presented later in this chapter.

Step 4: Comparing Other Data Collected From a Second Source

Samples of lesson plans, assessments, and student work samples were collected from teachers during their classroom observation. Additionally, different documents were collected that fall into the category of guidelines on how to maintain the yogic mind/body type, such as a list of foods to eat, and the dinacharya (daily routine) and svadhyaya (self-

introspection) programs. Also, a school magazine was collected, that included the president of the school's message about the vision of the school. In all, there were 17 artifacts collected, as detailed in Table 3.

Table 3

Summary of Documents Collected

	Document Collected	Initial Category	Final Code	Accepted or Rejected?
1	Foods list for body types	MI/MN support	Dinacharya	Accepted
2	School magazine	School vision	Best Indigenous Knowledge	Accepted
3	English lesson plan	Lesson plan	MI/MN Implementation	Accepted
4	Math lesson plan	Lesson plan	MI/MN Implementation	Accepted
5	MI and MN assessment	Assessment	MI/MN Assessment	Accepted
6	Body type test	Assessment	MI/MN Assessment	Accepted
7	Dinacharya program	MI/MN support	Dinacharya	Accepted
8	Goals sheet	MI/MN support	Dinacharya	Accepted
9	Skills Chart with Rubrics	Assessment	MI/MN Assessment	Accepted
10	Student work sample	Homework	MI/MN Implementation	Accepted
11	Swadhyaya chart	MI/MN support	Swadhyaya	Accepted
12	Strong and weak MI/MN chart	Assessment	MI/MN Assessment	Accepted
13	English lesson plan - adjectives	Lesson plan	X	Rejected
14	Science lesson plan: Reproduction	Lesson plan	X	Rejected
15	Math lesson plan: Learning numbers	Lesson plan	X	Rejected
16	Parents feedback forms	Feedback	X	Rejected
17	Medical report blank form	Medical	X	Rejected

Note. $N = 17$.

Five of these artifacts were rejected and not analyzed because they were not relevant to the study. For example, some of lesson plans did not relate to the scope of the study because the learning objectives and activities did not relate to MI. Another example of something that did not relate to MI, is a feedback form that a parent filled out that said they were happy that their child got to learn what a cardamom plant needs to grow. The

parent's feedback was general and did not mention anything specific related to the students MI. A final document that did not relate to the study so was not included in the analysis, is a blank general medical report form.

In the end, 12 artifacts were accepted and imported into Atlas.ti for coding. As illustrated in Table 3, the artifacts were coded into five initial categories, and then mapped to one of the final codes that was used for the interview transcripts. The first category, MI/MN Support Documents, relates to documents used to support the healthy growth of the student's MI/MN. Dinacharya was the final code that was assigned to this category as all three items in the category were related to dinacharya, the daily routine program for a healthy, balanced body and mind. The documents included a list of foods to eat for each yogic body type, a goals sheet, and a sheet that listed the steps for the daily routine. The second category, Lesson Plans, are the lesson plans that teachers created in which the learning objectives and activities are tied specifically into MIs and MNs. MI/MN Implementation was the final code that these documents were coded under as the lesson plans included learning objectives that related to the implementation of MI/MN. The third category, Assessment, includes assessment tools used to assess the student's MI/MN, as well as their body type and their skills. MI/MN Assessment was the final code that these documents were coded under as all of the four documents related to assessing the students. The fourth category only has one document in it, which is a student homework sample. This was included in the analysis because the homework was a good example of an activity that related directly to the MI/MN. Therefore, the final

code that this category was coded under was MI/MN Implementation. The fifth, and final category, School Vision, included one document, the school magazine. This annual publication had a page that was titled, President's Message, which explained the foundation of the school based on ancient yogic principles. Best Indigenous Knowledge was the final category that this was coded under. Hence, for all 12 documents used in the analysis, the codes from the codebook were applied. Further information about the document analysis and the rich information extracted will be discussed later in this chapter.

In addition to the collection of artifacts, I also conducted 12 classroom observations. For each observation, the teachers had arranged a seat for me in the back or front corner of the classroom, and I sat wherever was the least distracting for the students. I took notes on a paper printout of my observation protocol and grid for the duration of the 45-minute class period. I made descriptive notes of what I saw and heard, as well I did not see or hear. I documented how the classroom was laid out, how many students were in the class, the specific lesson that was being taught that day if the teacher related the teachings to MI, as well as any activities that were related to MI. I also took reflective notes on my thoughts and personal reactions in observing each class. The 12 classrooms that I observed were those of the 12 teachers whom I had already interviewed for this study. Table 4 is a summary of the classroom observations conducted in this study.

Table 4

Summary of Classroom Observations

Teacher	Class	Number of Students	Grade	Lesson
1	Environmental Studies	28	2	Qualities of My Friend
2	Science	30	2	Living vs. Non-Living Things
3	Hindi	26	3	Speaking Hindi
4	Math	24	3-4	How to tell the time
5	English	26	5&6	Character analysis
6	English	27	6-8	Poem analysis
7	Chemistry	26	7-9	Chemical Elements
8	English	31	8-10	Character Analysis
9	Computer Science	37	8-12	Making a flow chart
10	Sanskrit	28	9-11	Understanding Sanskrit sentences
11	History	4	10-12	Indian Constitution
12	Business Commerce	16	10-12	How to Promote Sales

Note. $N = 12$.

I observed students from Grades 2 to Grade 12, with class sizes ranging from as small as four students to as large as 30 students. One thing that was common for all classroom observations is that no matter the class size, or the age of the students, they were all very well-behaved, and polite, yet at the same time, they were enthusiastic and engaged with the course material. I did not observe in any of the 12 classroom observations, a student acting out, or deviating from the teacher in some way.

Another theme uncovered from the classroom observations was that all the teachers except for one engaged the students in activity-based learning for the majority of the class period. In this outlier anecdote, one of the teachers engaged the students in

activity-based learning for just about five minutes, and then for the duration of the class, she lectured. But, despite this anomaly, the other 11 teachers taught their students in activity-based learning for the entire 45-minute class, which made for a very lively, dynamic classroom, full of children expressing themselves in enthusiastic and creative ways. The teachers were continually offering activities to support students' intelligences, and periodically asking students which intelligences were being used for the activity they were working on. This teaching approach of asking the students to answer questions instead of the teacher just lecturing to the students seemed to be very effective as the kids enthusiastically called out their answers, with a sense of confidence that even if they were wrong, the teacher would not criticize them. Instead, the teacher would ask the other classmates to answer, and eventually, after multiple students had answered, then the teacher would summarize the students answers and then add in any missing information. More detailed information about the classroom observations and the rich information found in these will be discussed further in this chapter. The entirety of classroom observation notes can be found in Appendix C. However, Table 5, shows an example of the detailed classroom notes.

Table 5

Example of Classroom Observation Notes

Class	Number of Students	Grade	Lesson	Teaching or Activities related to MI/MN	Reflective Notes
Business Commerce	16	10-12	How to Promote Sales	At the end of the activity, the teacher asked the students, "What kind of skills have we practiced?" And they answered: logical, creative, interpersonal, and administrative.	Students were engaged, everyone actively working together in teams of four on a project.
Science	30	2	Living vs. Non-Living Things	The teacher said to some of the students that were stuck on an activity that required them to draw, "If you can't draw the picture, then just write the name." The teacher asked the students which intelligences they were using when they were doing the different activities, and they answered. The teacher wrote on the board that the intelligences were: visual, logical, and the nature was creative.	The teacher was very positive and encouraging of the students. She did very little lecturing and mostly she was just engaging the students in a variety of activities. The students were very well-behaved, and engaged.

Note. $N = 2$.

In the vast majority of cases, the data collected from the interviews, observations and documents, illustrated the same thematic content. Of the 21 total participants, only one classroom observation differed from what was stated in the interview. All other interviews, observations and documents were congruent with one another. While each interview, document, and observation (except one) were thematically similar, each participant presented different perspectives of the case that were congruent and are noted later in this chapter. This one negative case, in the form of classroom observation, which

presented data discrepant from the teacher's corresponding interview occurred when the teacher did not include activity-based learning as her mode of teaching, and mostly just gave a straight lecture without involving the students. Further elaboration is mentioned later in this chapter. Perhaps the teacher was just tired or ill-prepared due to personal reasons, which caused her to present the material in a way that did not engage the students MIs or MN's. However, the discrepancy of this one observation bore no meaningful change to the overall thematic content that is presented in this chapter. This discrepant case was included in the write-up and can be found in the classroom observation notes (for the History class) in Appendix C.

Step 5: Repeating the Process to Ensure a Comprehensive Explanation

One final time, the transcripts were examined, applying the final codebook to any new or emergent ideas not originally coded. Various reports were outputted from Atlas.ti, including reports showing every passage associated with each code. From these, themes were validated by the researcher, and a final list of themes was produced. The following presents the individual analyses of each data source, beginning with the interviews, followed by the classroom observations and document analysis. This chapter concludes with a presentation of the synthesized findings resulting from this analysis.

Triangulation of the Findings

Data analyses were conducted on each of the data sources collected during this study. First, the interviews were analyzed. Codes and categories were produced. Second, classroom observation notes were analyzed and codes were assigned. Finally, the

collected documents were analyzed similarly as described earlier in this chapter. After each of these individual data analyses are discussed below, the synthesized findings will be presented in the Results section at the end of this chapter.

Interviews

Interviews were conducted among nine administrators and 12 teachers, for a total of 21 interviews. The transcripts were coded by first making initial codes that were reduced into categories and then finally reduced into initial ideas for themes. Table 6 details the codes, categories and initial themes.

Table 6

Codebook of Interviews

Initial Codes	Initial Categories	Initial Theme
Admin – Assessment MI, Admin – Creating MN, Admin – MI example, Culture – Nurturing Child, MI assessment, MI advice to new teacher, MI benefits, MI compared to other methods, MI implementation, MI philosophy, MI practical application, MI – teaching students about MI, Philosophy – All Kids Have a Strong Intelligence, Teacher training – MI	*Best indigenous knowledge* *Teach as the guru's would*	A. Culturally-adapted MI
Admin – swadhyaya, Admin – dinacharya, Ayurvedic body types, Body type, Ayurveda integration – dinacharya, MI compared to other methods, School philosophy, Swadhyaya, Yogic – balance of body and mind, Yoga integration, Yogic mind types, Yogic principles, Yogic – unique nature	*Swadhyaya and dinacharya*	B. Culturally-adapted MI supported by yogic practices
Admin – assessment easy, Admin – assessment MI, Admin – difficulties in MI assessing, MI – assessment, MI – assessment difficult, MI- assessment easy, MI Assessment over a long period, MI – Teacher self-assessment, The Long View	*Long view and patience* *Collaborative process*	C. MI/MN assessment
admin – advice to new admin MI, admin - attitude towards MI, MI example, MI implementation, MI implementation – easy, MI	*Activity groups* *Activities for specific MI's*	D. Implementation through activity-based learning

improvements, MI – teacher difficulties in implementation, MI – practical application, Teacher training – MI		
	Club placement	E. Student MI clubs
MI - assessment, MI benefits, MI compared to other methods, MI implementation, MI – teaching students about MI	*Benefits of working in clubs*	

Note. $N = 12$.

Classroom and Other Observations

I visited the school during the month of September 2022. I arrived before the start of the first period of class. The first period starts at 8:40 am, and there were eight class periods per day. Each class period is 35 minutes long. From 11:00 am – 11:30 am, there is a 30-minute lunch break, which is also considered as their recess time. Students bring their lunch from home and they eat lunch together in their classroom. The food they bring for lunch is according to their yogic body type, so they are eating with the awareness of the appropriate food to balance their mind and body. The lunch break is halfway through the day, as shown in Table 7, which shows the complete school schedule.

Table 7

School Schedule

Time	
8:00 am – 8:40 am	High School Assembly
8:40 am - 9:15 am	1st Period
9:15 am - 9:50 am	2nd Period
9:50 am - 10:25 am	3rd Period
10:25 am - 11:00 am	4th Period
11:00 am - 11:30 am	LUNCH
11:30 am - 12:05 pm	5th Period
12:05 pm - 12:40 pm	6th Period
12:40 pm - 1:15 pm	7th Period
1:15 pm - 2:00 pm	8th Period

Prior to the beginning of the schedule and during lunch and break periods, students can select from a wide variety of extracurricular activities, which the school divides into two categories: indoor games and outdoor games. The indoor games include table tennis and chess and the outdoor games available are sports such as archery, basketball, badminton, and karate.

Morning Assembly

Before class began, I attended a morning assembly of high school seniors. Both teachers and administrators alike explained that the teaching approach at this K-12 school is activity-based and experiential in nature. One example that brought this concept to life was when I observed the students working according to their intelligences in the morning assembly. The school starts every day at 8:00 am in the large assembly hall, in which all high school students (grades 9-12), teachers, and administrators gather to sing the morning prayers, which entail some ancient yogic mantras, followed by the India national

anthem. Students who were strong in the entertaining intelligence ran the assembly, standing on the stage with the microphone, and calling on and introducing other students to share their realizations from their daily introspection practice (swadhyaya). After the assembly ended, the students quietly and in an orderly and polite fashion left the large assembly hall. Students who have strong administrative intelligences, help to managed the flow of traffic of the flood of students exiting the auditorium. The teachers calmly hung back and observed the students acting in their managerial roles according to their intelligences.

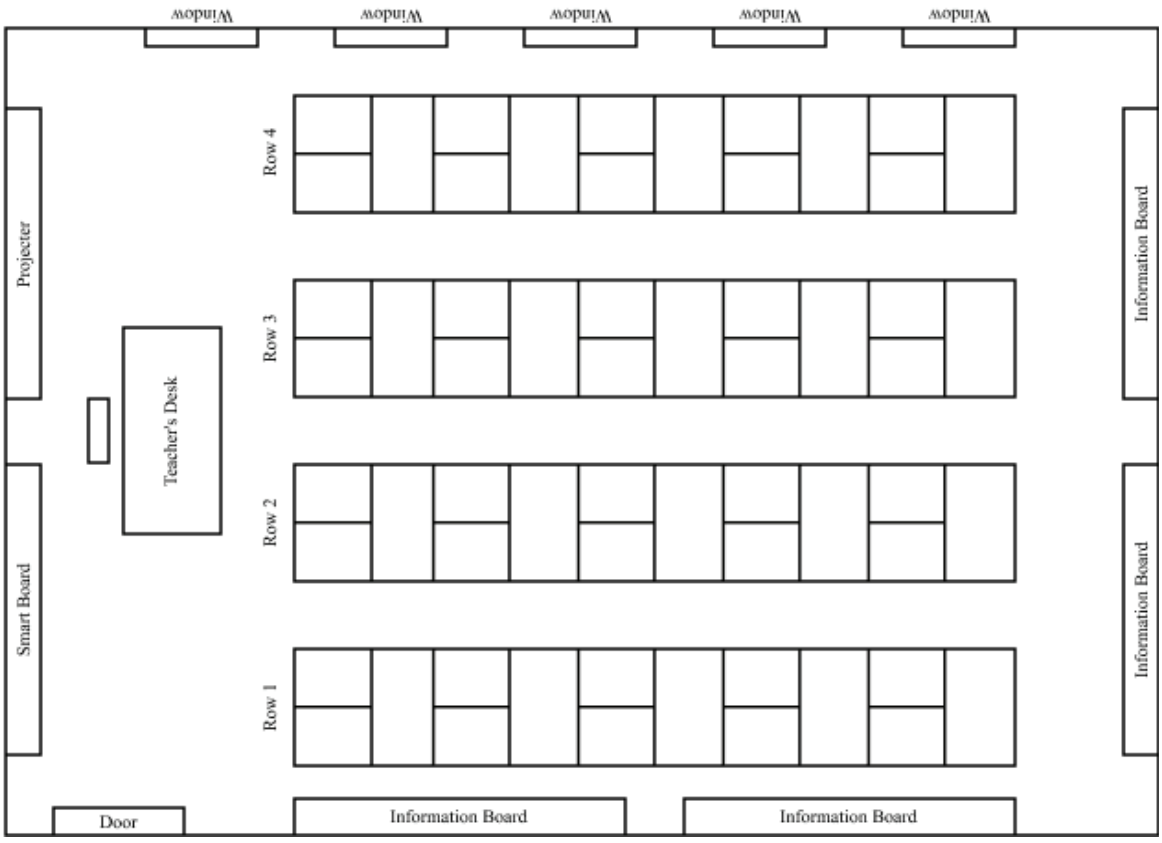
Classroom Observations

Beginning with the first period of instruction on a Monday, I conducted the first of many classroom observations. In total, over five days, I conducted 12 classroom observations, among a range of grades and subjects, as summarized previously in Table 4. The classrooms were arranged in four neat vertical rows that were the width of just two desks each. The two desks were attached, as one unit, so it looked more like a table. Students sat in the two-seater desks and depending on the class, sometimes all girls sat together on one row and all boys in another row. However, this was not a consistent finding. In other words, there were some classes when the boys and girls were mixed in the 2-seater desks. At the front of each classroom was a large white board that was called a, “Smart Board,” which was a touchpad computer. The teachers used the Smart Board to write on and also to share lesson plans, presentations and videos. There were windows along one side of the wall, and information boards along the other side of the wall. The

information boards contained various papers and posters hanging on them, which included a mantra, a list of MI's and MN's, dinacharya steps, classroom rules chart, and a list of students' birthdays. Figure 2 shows the layout of all the classrooms, which was the same as what I observed.

Figure 2

Classroom Layout



Note. Classrooms are arranged per a standard layout by administrators and teachers.

I coded the classroom observation notes into initial codes, which I then condensed into initial categories, and finally, I mapped these to the initial themes that were arrived at from the creation of themes from the analysis of the interview transcripts. Table 8 illustrates the codebook of classroom observation notes.

Table 8

Codebook of Classroom Observation Notes

Initial Codes	Initial Categories	Initial Theme
MI implementation, MI philosophy, MI practical application, MI – teaching students about MI, Philosophy – All Kids Have a Strong Intelligence	*Best indigenous knowledge* *Teach as the guru's would*	A. Culturally-adapted MI
Ayurvedic body types, Body type, Ayurveda integration – dinacharya, MI compared to other methods, Swadhyaya, Yogic – balance of body and mind, Yoga integration, Yogic mind types, Yogic principles, Yogic – unique nature	*Swadhyaya and dinacharya*	B. Culturally-adapted MI supported by yogic practices
MI – assessment, MI – assessment difficult, MI-assessment easy, MI Assessment over a long period	*Long view and patience* *Collaborative process*	C. MI/MN assessment
MI implementation, MI implementation – easy, MI improvements, MI – practical application	*Activity groups* *Activities for specific MI's*	D. Implementation through activity-based learning

Note. $N = 12$.

Document Analysis

As described earlier in this chapter, 17 documents of various types were received from teachers and administrators. Out of the 12 documents I analyzed, these included a foods list for body types, a school magazine, rubrics, and numerous lesson plans and assessments. These documents were coded for content. Initial categories emerged that were very similar to those garnered from the interviews and classroom observations. Similarly, themes observed in interviews and classroom observations came forth from the analysis. Table 9 presents the codebook for documents collected.

Table 9

Codebook of Documents Collected

Initial Codes	Initial Categories	Initial Theme
MI implementation, MI philosophy, MI practical application	*Best indigenous knowledge* *Teach as the guru's would*	A. Culturally-adapted MI
Ayurvedic body types, Body type, Ayurveda integration – dinacharya, Swadhyaya, Yogic – balance of body and mind, Yoga integration, Yogic mind types, Yogic principles, Yogic – unique nature	*Swadhyaya and dinacharya*	B. Culturally-adapted MI supported by yogic practices
MI – assessment, MI Assessment over a long period	*Long view and patience* *Collaborative process*	C. MI/MN assessment
MI implementation, MI – practical application	*Activity groups* *Activities for specific MI's*	D. Implementation through activity-based learning

Note. $N = 12$.

Hence, codebooks were created for interviews, classroom observations, and document analyses. In the coming sections of this chapter, the combined, triangulated results of these three data sources examined side by side will be presented. The following section will first present the evidence of trustworthiness of the data collection and analysis.

Evidence of Trustworthiness

The following describes the evidence of trustworthiness for each of the strategies described in Chapter 3.

Credibility

I implemented member checking by asking interviewees to review my findings in the form of key themes that I uncovered from the interviews. Final themes were emailed to the participants, requesting their input and comment. Of the 21 participants that I emailed, three of them replied, one of them was one of the founders of the school, and the other two were administrators. Adjustments to the themes were made to the extent the participants' recommendations held true in the data. In the end, participant recommendations resulted in no substantive change to the themes. Further, I utilized triangulation through multiple sources of data, including interviews, lesson plans, assessments, and classroom observations. The process of using these sources was described earlier in this chapter.

Transferability

Another strategy I utilized for ensuring trustworthiness was providing a thick description of the context of the research setting. Detailed information about the K-12 school that is the research site was provided at the start of this chapter. Further, the aforementioned description above included my report of any types of participants who were screened out of the study. No participants were screened out of this study.

Dependability

One way that I increased the dependability of the study is that I described in much detail the processes that I undertook for the study, which will give future researchers a roadmap to replicate the study. First, I described the research design and implementation. Second, I shared all the details of how I collected the data. Third, I conducted a reflective appraisal in the form of a rich description of the data collection and analysis process, to evaluate how effective the inquiry process was. This reflective appraisal is found in the data analysis section above.

Confirmability

Confirmability was managed via two main strategies: reflexive journal and audit trail. A reflexive journal was kept with my beliefs and assumptions driving my decisions throughout the research process. I also kept an audit trail in which I recorded my decisions and research procedures. In my notes, I kept track of whom I met with, when, and what we discussed. My audit trail included a detailed record of my notes about what occurred in my study, and my documentation of the process of how the raw data led to codes, themes and recommendations.

Results

Through the analysis of the triangulated findings discussed earlier in this chapter, the following themes emerge in this study. The primary research question of this study was, What is one private Indian K-12 school's experience of culturally adapting MI theory to include yogic principles of the Indian culture in the curriculum and teaching?

Five themes were discovered through an analysis of the data: (a) culturally adapted MI (b) culturally adapted MI supported by yogic practices (c) MI/MN assessment (d) activity-based learning and (e) student MI clubs. These five themes and their related subthemes are summarized in Table 10.

Table 10

Themes and Subthemes

Theme	**Subtheme #1**	**Subtheme #2**
A. Culturally-adapted MI	*Best indigenous knowledge*	*Teach as the guru's would*
B. Culturally-adapted MI supported by yogic practices	*Swadhyaya (self-introspection)*	*Dinacharya (daily routine)*
C. MI/MN assessment	*Long view and patience*	*Collaborative process*
D. Implementation through activity-based learning	*Activity groups to leverage every student's MI's*	*Activities addressing specific MI's*
E. Student MI clubs	*Club placement based on MI*	*Benefits of working in MI clubs*

These five themes stand alone, yet they are also connected to each other as they make up parts of an interdependent system which uses ancient yogic principles to support student's character development. "*Character development*" is the term that participants often used to describe nurturing the multiple intelligences and multiple natures of students. More specifically, theme a, provides the foundation of ancient yogic principles which guides teachers to teach as the guru's would, meaning, to honor the unique nature

and intelligences of each child. Theme b showcases two ancient yogic tools that the school refers to as their "moral pillars": swadhyaya (self-introspection) and dinacharya (daily routine). These tools are used by the students to balance their body and mind, which, according to the school philosophy, is a necessity to maximize one's MI and MN. Theme c describes how not only the students need to have a balanced mind, but also how the administrators and teachers need to as well to patiently arrive at an accurate assessment of the students MI and MN. Teachers also reported practicing swadhyaya and dinacharya daily as a way to balance their mind and bring it into a grounded, peaceful state. Theme d turns its attention to using activity-based learning as the primary method of implementation with the goal of nurturing the student's natures and intelligences. Finally, Theme e illuminates MI/MN-based clubs, as a way to not only nurture the student's MI and MN, but also to assess them. In summary, the five themes discussed work together as a system to identify, assess, and nurture the student's MI and MN's, to help them to maximize their nature and intelligences so they can be healthy, happy, productive members of society. The following five themes are the synthesis of the findings from the interviews, classroom and other observations, and document analysis.

Theme 1: Culturally Adapted Multiple Intelligences

The first theme uncovered by an analysis of the data was that administrators and teachers culturally adapted MI to incorporate a concept drawn from ancient yogic principles called multiple natures (MN), which categorizes human beings according to their "nature." Founder 1 explained,

> So, your Multiple Natures is in your DNA. Suppose you have an educative nature or you have a healing nature, that is your MN. But you need intelligence to execute that which is your nature. So, you need to use your MI in executing on your MN. But your MN is your nature, your natural nature with which you are born.

That is, a person's multiple natures and multiple intelligences are two different things. Multiple natures is the nature of a person, or their tendency, that is fixed from birth. A person's multiple intelligences is their abilities, that can be cultivated, and used to hone their nature. Therefore, multiple intelligences was culturally adapted to the ancient yogic concepts of India by adding multiple natures. Founder 1 elaborated upon this point by sharing a document titled, *How Intelligences and Natures Combine*, which stated:

> Intelligences and natures have an interdependent relationship, where both elements must be present in order for an individual's actions and intentions to be realized. For instance, consider someone with a tendency to make others laugh due to their having a strong Entertaining Nature. If that person also has a strong Graphic Visual Intelligence, their humor might be directed through that channel and manifest in the form of cartoons. If their Interpersonal Intelligence is strong, their jesting would likely get routed through comical interactions with others. And if their Linguistic Intelligence were prodigious, their potential for amusement would tend to realize itself through activities such as poetry, song lyrics, scripts, and so on.

Therefore, the school has culturally adapted MI, by implementing MN as the foundation of MI. To illustrate how MI and MN are used together, Table 11 depicts the co-relation between MI's and MN's. MI's can be thought of as a person's abilities that can be enhanced, contrasted by MN's, which can be likened to a person's innate tendencies, which are fixed since birth, thus cannot be changed. MI's and MN's co-relate in that the ability focuses the tendency, determining one's career path of success. For example, a person who has a high administrative MN has the tendency to be detail-oriented, which synchs up with the linguistic MI, that involves the ability to use words effectively. Therefore, a person who has a high linguistic MI often times naturally co-relates with also having a high administrative MN, because typically the person who tends to be detail-oriented also has the ability to use words effectively.

Table 11

Corelationship of Multiple Intelligence and Multiple Nature

ABILITY **Multiple Intelligence (MI)**	**TENDENCY** **Multiple Nature (MN)**	**EXPLANATION** **How the ability (MI) and the tendency (MN) co-relates with each other.**
Linguistic – the ability to use words effectively.	1. Administrative - The tendency to be detail-oriented, organized, and meet deadlines. 2. Educative - The tendency to learn and to teach others by explaining things with clarity. 3. Creative - The tendency to have innovative, original ideas.	*Linguistic MI co-relates with:* 1. Administrative MN because the tendency to be detail-oriented, is a pre-requisite for using words effectively, such as with a lawyer. 2. Educative MN because the tendency to want to learn and explain things requires the ability to use words effectively, such with a teacher. 3. Creative MN because the tendency to have innovative ideas often times is expressed with words, such with a writer.
Logical / Mathematical - the ability for reasoning or manipulating numbers.	1. Administrative - The tendency to be detail-oriented, organized, and meet deadlines.	*Logical/Mathematical MI co-relates with:* 1. Administrative MN because the tendency to be detail-oriented is necessary for the ability to manipulate numbers effectively, such as with an accountant.
Visual-Spatial - the ability to visualize abstract things.	1. Creative - The tendency to have innovative, original ideas.	*Visual-Spatial MI co-relates with:* 1. Creative MN because the tendency to have innovative, original ideas fuels the ability to visualize abstract things, such as with an architect.
Bodily / Kinesthetic - the ability to use one's body skillfully.	1. Adventurous - The tendency to take risks (physical, financial) or do dangerous things.	*Bodily/Kinesthetic MI co-relates with:* 1. Adventurous MN because the tendency to take risks (physically) works in tandem with the ability to use one's body skillfully, such as with dancing or downhill skiing.

	2. Creative - The tendency to have innovative, original ideas. 3. Entertaining MN - the tendency to amuse others, and to capture people's attention. 4. Healing - The tendency to help others with their physical and mental health**.** 5. Protective - The tendency to think of others safety, and to prevent harm, or injustice.	2. Creative MN because the tendency to have innovative, original ideas supports the ability to use one's body skillfully, such as with a sculptor, or some other craftsperson. 3. Entertaining MN because the tendency to amuse others often pairs with the ability to use one's body skillfully, such as with a comedian or actor. 4. Healing MN because the tendency to help others with their physical health often matches up with the ability to use one's body skillfully, such as with a surgeon. 5. Protective MN because the tendency to think of others safety, and to prevent harm or injustice often matches up with the ability to use one's body skillfully, such as with a police officer.
Musical - the ability to hear different sounds, and recognize their tone, pitch and rhythm.	1. Creative - The tendency to have innovative, original ideas.	*Musical MI co-relates with:* 1. Creative MN because the tendency to have innovative, original ideas naturally goes with the ability to hear different sounds, and recognize their tone, pitch, and rhythm, such as with a musician or composer.
Interpersonal - the ability to be attuned to other people's feelings.	1. Healing - The tendency to help others with their physical and mental health**.** 2. Providing - The tendency to sense others needs and help, care for, or serve others. 3. Entrepreneurial - the tendency to create and implement business ideas that generate wealth.	*Interpersonal MI co-relates with:* 1. Healing MN because the tendency to help others with their physical or mental health goes hand-in-hand with the ability to be attuned to other people's feelings, such as with a psychologist. 2. Providing MN because the tendency to sense other needs and help them overlaps with the ability to be attuned to other people's feelings, such as with a counselor or social worker. 3. Entrepreneurial MN because the tendency to create and implement business ideas requires the ability to be attuned to other people's feelings, such as with a salesperson.

Intrapersonal - the ability to be attuned to one's own feelings.	1. Educative - The tendency to learn and to teach others by explaining things with clarity.	*Intrapersonal MI co-relates with:* 1. Educative MN because the tendency to learn and to teach others by explaining things with clarity naturally aligns with the ability to be attuned to one's own feelings, such as with a philosopher or guru.

Of note, many participants used the two terms MI and MN interchangeably, in the same sentence, of they would just say each of the letters, "M-I-M-N." In other words, although in the interviews, the participants are describing what makes MI and MN distinct from each other, in practice MI and MN are always used together. For example, MN and MI are used together in tandem to assess a student's character, and help them to realize their potential. However, MI has one set of characteristics that relate to a person's abilities while as MN has another set of characteristics that relate to a person's tendencies. Still, many participants used these terms without distinction from one another. Founder 3 of the school described how they created MN,

> To create our school, we leveraged knowledge from the ancient yogic scriptures, which divided human society into four Varnas, or classifications of society, which is based on the innate tendencies, or inborn natures of people for engaging in particular types of work: Brahman (priest/guru/teacher), the Kshatriya (king/warrior), the Vaishya (businessman/merchant), and the Shudra (artisan/servant/laborer). The foundation of this classification system of professions is based on the yogic scriptures that detail the three mind types (sattva, rajas, and tamas). Brahmans have sattvic mind types (academically inclined), Kshatriya's have rajasic/sattvic mind types (management inclined),

> Vaishyas have rajasic/tamasic mind-types (business inclined), and Sudras have tamasic/rajas mind-types (labor-oriented, not academically inclined). Therefore, we based our school foundation on these Varna principles. Under the guidance of Babaji, our brother, who is a world-famous guru with deep knowledge of the Vedic system, we created our version of multiple intelligences that is called 'multiple natures,' which categorizes people into nine different personality types based on the ancient Indian classifications of society. MNs describe a person's character, how they behave, and how they naturally operate in society. A person's nature is fixed from birth and the nine multiple natures are: Protective. Educative. Administrative. Creative. Healing. Entertaining. Providing. Entrepreneurial. Based on this Varna classification system, we built upon the multiple natures concept and created our assessment practices including a mind-type survey and a body-type survey to provide a more holistic, well-rounded assessment of each child's nature.

The school based its foundation on the concept of multiple natures, which categorizes people's character and behavior into nine different personality types based on the ancient Indian classifications of society. Table 12 lists the nine MNs, along with their description, and possible suitable careers, as described in one of the documents collected.

Table 12

Multiple Natures: Descriptions and Possible Careers

	Multiple Natures	Description	Possible Careers
1	Protective	The tendency to think of others safety, and to prevent harm, or injustice.	Military Personnel, Police Officer, Lawyer, Politician
2	Educative	The tendency to learn and to teach others by explaining things with clarity.	Teacher, Professor, Trainer
3	Administrative	The tendency to be detail-oriented, organized, and meet deadlines.	Event Manager, Coach, Secretary, HR Manager
4	Creative	The tendency to have innovative, original ideas.	Artist, Writer, Musician, Designer
5	Healing	The tendency to help others with their physical and mental health**.**	Doctor, Massage Therapist, Nurse, Psychologist
6	Entertaining	The tendency to amuse others, and to capture people's attention.	Singer, Dancer, Stand-up Comedian, Magician
7	Providing	The tendency to sense other needs and help, care for, or serve others.	Social Worker, Air Hostess, Homemaker, Counselor
8	Entrepreneurial	The tendency to create and implement business ideas that generate wealth.	Sales/Marketing Professional, Owner of a company
9	Adventurous	The tendency to take risks (physical, financial) or do dangerous things.	Athlete, Astronaut, Researcher

Note. Obtained from a document collected titled Multiple Natures and Possible Careers.

The concept of multiple natures as it relates to possible careers is elaborated upon administrator 5 of the school, when she said, "Every student here has a space here to blossom as an independent thinker. You can choose your life path and purpose by

discovering your nature and intelligence." Therefore, the school philosophy is that students determine their career path by understanding their MN and MI. Furthermore, the school magazine, a document provided to me by the president of the school, brings home this point with the title of the magazine is, "Sandesh: Helping children discover the champion within!" The basic idea is that all students can thrive at a career, it is just a matter of determining which career matches with the student's MN. Within the pages of the magazine, the president continues this line of thinking. For example, the "President's Message" states,

> The ancient education system followed in Gurukuls was very practical and focused on the natures of the student. Curriculum was decided based on the child's innate abilities. Also, teachers then did not limit the learning experiences of children to just a few things. Important lesson on life-skills, social skills, environment and culture – all lessons were taught with the help of practical lessons and activities.

Therefore, according to the president and the founders who echoed his sentiment, the pedagogy at the school is designed to nurture the child's innate abilities. The child's, "innate abilities," otherwise known as, multiple natures, were described previously in Table 12. Based on MN, the school created a curriculum which supports students to connect with their innate abilities, wherein lies their passion. The basic premise is that by nurturing student's innate abilities, this will ultimately match them with a career path in which they feel passionate about and will excel at. Multiple intelligences, an interrelated,

but a separate concept, is also used at the school to support a student's MN or innate abilities. The importance of supporting children's innate abilities is explained in more detail in this excerpt from the President's Message,

> Everything in nature follows its inherent nature. Birds fly, bees make honey and spiders weave webs without any special training. Human is the only being on earth that sends their children to school and makes efforts to develop their personalities. Today, education has unfortunately become limited to academic excellence alone, and while educators focus on that, children never get the opportunity to explore their true natures. As a result, children end up choosing careers that do not match their true passion, creating stress at work, depression in their lives and an unhealthy cycle of ill-health.

So, the effect of modern-day education that does not take into consideration students' inherent nature is that the school creates graduates who end up in careers that are unfulfilling and that can make one mentally and physically ill. As mentioned previously in this chapter, the concept of developing a child's inherent nature dates back to ancient times in India when students used to learn from the guru, who would teach them about their nature. The guru would also teach his students about other relevant skills that fostered a strong character. The founders of the school themselves created their school according to their guru's instruction, which was based on his understanding of their inherent natures. He instructed the family members to bring a change in society through education. Founder 2 shared,

> Our guru was a progressive visionary who had a dream of making society healthy, wealthy, and peaceful through education. We were very clear that the pillars of strength will be skill-based and value-based education. For this purpose, he chose his most proficient disciple that had a high administrative nature, and then we started the dream of our school. And what followed was a story of service before self.

The founders started their school based on their guru's instruction, which demonstrated the concept of the guru understanding his student's multiple natures and pointing them in the direction of a career that is aligned with their inherent natures. That was over 25 years ago that their guru instructed them and they started the school. The outcome today is that all the founders report feeling passionate and proud about creating and working at the school according to their own unique natures. And just as the administrator's guru nurtured their strong natures, the administrators and teachers at the school have been nurturing their student's strong natures, catapulting them to success in their chosen career field. Founder 2 further explains, "The school has always aimed at guiding each student, channeling their energy by identifying and nurturing their true nature, skill, potential and capabilities."

Therefore, the school prepares their students to succeed on their chosen career path by nurturing their natures and developing their intelligences. Founder 1 likened the school's philosophy of nurturing a child's nature to a nurturing a seed, when he said,

> A child can be compared to a seed. The seed has its fixed nature. Mango seed will not grow into a guava tree and vice versa. Similarly, a child has a fixed nature. It will not change. The sprouting and the growth of a seed depends on the type of land and environment it is sowed in, the type of fertilizers and water supplied to it. Similarly, the development of a child's intelligence depends on what kind of education and what manner he is fed. Therefore, a child needs to know how to develop his strong intelligences to leverage his intelligences to maximize the potential of his nature.

A child's nature is like a seed that cannot change, but how well the seed grows depends on how it is nurtured. Some ingredients that help a seed to grow to its maximum potential are soil and water, just as multiple intelligences help a child to maximize their nature. Founders often acknowledged how this knowledge drives the school's philosophy, and how the source of their wisdom is derived from ancient yogic scriptures. For example, founder 3 explained,

> The word Veda means knowledge. These are books of knowledge. You can say like encyclopedia. So, if you go through the yogic literature, they talk about different subjects. They talk about engineering, they talk about construction, they talk about astronomy. They talk about health, which is Ayurveda.

The ancient yogic literature informs the schools understanding of many different facets of life from different career paths to Ayurveda, the traditional Indian system of health. Therefore, a common theme was that the founders and the administrators expressed their

reverence for the yogic scriptures as the tools which inform their knowledge of the student's natures. Furthermore, participants described how in the ancient Indian culture, careers were pursued based upon a person's nature. Founder 4 explained,

> Earlier in India, all professions are like on the basis of natures. If someone wants to be a cobbler, that's okay. If someone wants to be a tailor, like this, these professions were chosen by nature. If someone is studying sastra (scriptures) you can be priest and guru. So, in our culture, that is with a person's nature.

In ancient Indian times, people's professions were selected based on their inherent nature. Founder 1 elaborated upon this concept of inherent nature, by describing MN as,

> There are nine kinds of nature's according to the Indian scriptures, and what are their qualities, is how the child is going to behave. All these things are defined and we have made a structure of these called, multiple natures.

The Indian scriptures informed the MN concept, which defines the lens through which the administrators and teachers view their students. Founder 1 explained, "nurture the nature according to the nature of the child." An example of this is illustrated by administrator 3 (who started her career at the school as a teacher). She reflected upon her days as a teacher, in which she described trying to nurture the inherent nature of the child by saying, "So, it helps that each teacher should understand the reason behind, why is the child behaving like this? Why is he doing that? Oh, that's his nature. That's the intelligence that he has." Thus, understanding the nature and the intelligence of the child, enables a teacher to accept the child as he is, and not try to change him.

Participants differentiated a person's nature from a person's intelligence, indicating that the school culturally adapted MI to include a person's nature. Administrators and teachers alike described a person's nature as their personality, which is pervasive, with them since birth, and difficult to change. Administrator 2 described this point when she said,

> So, MN has more to do with my nature. As an individual, each one of us has our nature. Nature is my overall personality and behavior. It is broader, I would say. Whereas intelligence is more to do with your IQ and it is limited.

Therefore, a person's nature can be thought of as one's personality, which is all-pervasive, contrasted by a person's intelligence, which is more specific to how a person performs in particular realms. Founder 1 described the relationship between MI and MN as follows,

> So, you have to combine MI and MN. If you know your multiple intelligences and you don't know your nature then you are applying your intelligence in the wrong place and you are not getting success. And if you know your MN and you don't know your MI or how to apply intelligence, then you are not going to sharpen that nature. You won't get the best result and you won't shine in your career.

The school uses MI and MN as two very important tools to help identify and guide a student to get the best results. In particular, MN helps students to understand their inherent nature, and MI helps students to direct their nature in the direction in which they

will achieve the best result. Founder 4 also explained the relationship between MI and MN,

> The traditional education system of India recognized the unique potential of a student and trained him accordingly. Every child is born with a unique nature and intelligence. It is almost impossible to change nature, however, one's intelligence can be enhanced by honing it according to one's nature.

Therefore, a person's nature is unique and fixed since birth, yet a person's intelligences, can be improved upon and used to enhance a person's nature. Multiple intelligences and multiple natures are thus two interdependent tools used to identify students' inherent strengths so that the student can be supported to grow in the direction that is natural for them. The following two sub-themes were recognized during the data analysis.

Best Indigenous Knowledge

One subtheme that emerged was that the founders of the school used what they regarded as, "best indigenous knowledge," as the foundation of their content-typical K-12 academic offerings. The students follow the standard K-12 curriculum, such as math, science, and language arts. This content is not omitted because of the school's teaching approach. In fact, the content is enhanced by weaving in the best indigenous knowledge. For example, research participants emphasized the importance of the yogic scriptures, as exemplified by Founder 1's explanation of how they arrived at the idea of culturally adapting MI based on ancient Indian scriptural knowledge:

> When we opened the school, our goal was that how to take the best of the indigenous knowledge system and the best of the systems and technology of the west. Because when my brother came from the USA, he told me that the west is suffering emotionally and spiritually, although they have all the physical facilities. And India is suffering physically, although they have emotional, mental, and spiritual support. So, we decided why not open a school, which takes care of both worlds and create a society, which is healthy, wealthy, and peaceful?

This is to say that three of the founders of the school (a guru, an ayurvedic doctor, and a businessman), gathered what they regarded as the "best indigenous knowledge" from the Vedic scriptures to be the basis of the school. This includes, but is not limited to, yogic principles that were utilized to divide people by their inherent skillset into what the founders of the school coined as the term, "multiple natures." For example, Founder 1 shared,

> The idea behind the school was my brother studied some different scriptures, and he gave us these nine kinds of natures. And then we started working on this Multiple Intelligence and how to combine this multiple intelligence with multiple natures.

This is to say that the founders developed a culturally adapted system of multiple intelligences built upon the shoulders of multiple natures. MN as a concept is deeply ingrained in the "indigenous" cultural tapestry of the Indian continent. MN is not an invention of the eighteenth, nineteenth, or twentieth century. The founders regard this

knowledge as emerging from the ancient yogic scriptures dating back hundreds of years. And, they have worked to present the ancient concepts in a modern way at their school with the goal of using MI and MN as a way to understand the inherent skills and fundamental nature of the child. Therefore, through the MI and MN lens, every child is under the continuous and comprehensive observation of the teachers. To this end, the teachers use one tool collected titled, "Student Skills Chart," (Appendix D) which operationalizes this ancient concept of student's natures. The skills chart document is a sheet that lists different qualities of character development, providing teachers with a tool to record students' inherent skill sets. Evaluation is not only done by the teachers, but also by the student. In addition, the student is asked to set various goals - academic, social, family, and personal, which are evaluated monthly by the teacher, student, and parents.

Despite all of this, the school administrators realized that no single assessment could determine the nature and skills of any child. So the school has created a variety of assessments that are conducted with frequency to understand the student's MI and MN. Therefore, in addition to the student skills chart, the students are not only evaluated in quarterly exams and a final exam for their content knowledge of the subject matters, but also they are evaluated on their soft skills such as effort, behavior, and the adherence to the following the school's prescribed yogic practices (swadhyaya and dinacharya).

Every teacher at the school is required to fill out the student skills chart for every student in their class. Teachers give points to each student on the various skills each

month. The skills listed in the chart include indigenous knowledge, such as yogic practices that strengthen a student's nature, like swadhyaya (self-reflection) and dinacharya (Ayurvedic daily routine). Other more general skills that relate to a student's intelligences and natures are also included in the skills chart, such as leadership skills, extracurricular activities, punctuality, cleanliness, social skills, thinking skills, implementing skills, reading/writing, and speaking/listening skills.

The skills chart is reviewed monthly at the Parent-Teacher meetings and is included as part of the student's report cards. More specifically, the information collected in the skills chart is used as part of the overall assessment and evaluation system for each quarter and final yearly grade. There are 15 marks maximum that a child can receive on the skills chart, which includes five marks for skills, three marks for efforts and achievements, and seven marks for behavior. These 15 marks are included in the final exam report and weighted as 15% of the total grade. The way it breaks down is as follows: 15% for skills, 25% for the unit test at the end of year, and 60% for the final exam. The first page of the chart, a student skills chart, can be found in Figure 3.

Figure 3

Student Skills Chart

Teachers: _____ **Skill Chart (Class Teacher)**

Skill Chart Maximum Marks (7)					
MONTH	**April**	**May**	**July**	**August**	**Total for Half Yearly**
Skills					**Marks (2)**
1. Leadership					
2. Extra- Curricular					
Behaviour: Personal Management					**Marks (2)**
1. Cleanliness					
2. Punctuality					
Behaviour: Personal Development					**Marks (3)**
1. SOE					
2. Swadhyaya					
3. Portfolio					
Teacher's Signature					
Parents Signature					

Accordingly, the educators record the students' skills each day as they relate to their intelligences and natures, and then they record a monthly score in their skills chart. The second page of the *Student Skills Chart* can be found in Appendix D. In addition to the skills chart, the teachers also use a rubric that details how to score the student on each specific skill. For example, for the swadhyaya (self-reflection) skill, the breakdown is as follows:

A. Displays ability to analyze self
B. Identifies area of improvement
C. Makes effort to improve
D. Regular practice

The first page of this rubric, which has the skills and behavior rubric, can be found in Figure 4, and the second page, which has the swadhyaya rubric, can be found in Appendix E.

Figure 4

Rubrics for Skills and Behavior

Rubrics for Skills **Subject Teacher**

Skill	
1. Thinking (Bloom's taxonomy)	(a) Displays Knowledge of concept (b) Comprehension of concept (c) Application of concept (d) Capable of analysis/critical analysis (e) Capable of synthesis (f) Evaluation
2. Reading, Writing, Listening, Speaking	(a) Fluency, Pronunciation (b) Formations, Neatness, Presentation (c) Attention, understanding (d) Clarity, Diction, Relevance
3. Social	(a) Manages Conversation (teachers, peers & others) (b) Etiquettes (i) Shows presence of mind and displays respect (ii) Protest in a positive manner and listen with patience without interrupting (c) Good Manners (wishes elders, seeks permission, obeys and follows rules)

Rubrics for Behaviour

1. Dinacharya	(a) Brings books/notebooks according to time-table (b) Submission of work on time (c) Notes are signed by the parents (d) Brings lunch box/water bottle (e) Resourceful (brings project, chart, files, meterial, holiday home work on time etc.)
2. Discipline	(a) Maintains self discipline (library, computer lab, science lab, exams etc.) (b) Not distracted (same as above) (c) Ensures peace in the class

In addition to the rubric being used to record students' skills, it is also used to record their behavior, such as following yogic practices that nurture their nature, like dinacharya.

Teach as the Gurus Would

Teachers reported interacting with students in a way that honors their inherent nature, following the ancient teaching approach of gurus. More specifically, participants emphasized that teachers should interact with students in a way that seeks to improve upon a child's existing strengths, based on their nature. Administrator 3 described it as,

> If you look at the Indian ancient system, it was so nicely made. Even the son of the king would go to Gurukul to study. They would lay a lot of emphasis on teaching them as per their prakriti, teaching them as per their nature. So, this concept of nature was taken back from the ancient Indian sciences and then we made it fit in the modern context.

Therefore, teachers at the school model after the Gurukul system, by teaching the students according to their inherent nature. Founder 4 explained it like this, "We believe that just like every herb in nature has a medicinal value, every child is blessed with an innate quality." Teacher 11 brought this concept to life when she described how she adjusts her teaching style based on her understanding of each student's unique nature,

> If I see some restless student, so then I know that his nature is like that. He is entertaining or something like this. So, we give them a little excuse. Okay, fine, his behavior with nature is like that. We do not pounce on them, "Why are you doing this? Why are you doing that?" We understand that student much better.

> Accordingly, we behave or involve them. When I know that his or her MI is this, then I will not disturb that child because nature, the person, is like this only.

When a teacher understands, supports, and accepts a student's nature, then the student can grow according to their natural abilities, instead of being disciplined for just being themselves. To that end, Teacher 9 shared the long-term effect of supporting a student's nature when she said,

> In our school, we find the strength of the child. And we try to improve his strength because the child is going to make decisions in his life to choose his or her career, according to the strength of the MI-MN.

Teachers focus on fostering the growth of the child's natural strengths. This concept was illustrated in a classroom observation when a teacher assigned some of her teenage students to teach the class, "A Critical Character Analysis." Four student-teachers came to the front of the class, but before the students began teaching, the teacher asked the students to share with the class what their strong intelligences and natures were that enabled them to be good teachers. The students shared that they had strong interpersonal intelligences and entertaining and educative natures. Then the students took turns being the teacher by calling on their classmates and asking them about which characters in the Shakesphere play they were reading had which intelligences and which natures. The teacher was periodically pointing out the specific student-teachers intelligences and natures in real time as they were exhibiting them while they were teaching. This classroom observation provides an example of a teacher focusing on the student's natural

strengths, which illustrates the school's embodiment of the concept of teaching as the ancient gurus would.

Furthermore, Administrator 3 summarized how they created their school based on the ancient gurukul system when she said,

> There were a lot of references to Indian culture and guru, the Gurukul system. And a lot of discussion and reading material and references were made that if guru were to teach, it wouldn't work like how education is going on at traditional schools. So, understanding of a person's nature was there back then in the gurus. When gurus taught, the whole idea was to give knowledge and just improve upon what the strength of the child is, rather than focusing too much on the weakness, which is the present education system.

The school is focused on modeling after the ancient gurukul system which identifies and nurtures the student's strengths and does not focus on their weaknesses. Founder 1 went into more detail of what it means to nurture a child's strengths by stating,

> Every child is a gem. Just you have to understand what kind of gem the child is. Or every child is a seed. It is a tomato seed, or it is a mango seed, or it is a coconut seed and what kind of earth, soil, fertilizer, environment, water, air, and temperature, does the seed need? So, this helps to understand what kind of seed the child is and how much time it will take to grow. The coconut seed needs a different kind of soil and environment and the apple seed needs a different kind of environment.

Consequently, the school values focusing on the uniqueness of each student, and what is required specifically for that student to grow. A practical example was shared by Teacher 5 of how she applied this concept to implementing activities in the classroom when she said,

> Do we also observe what is their interest area? We can help them out. We prepare our lesson plan accordingly so according to their MI and MN, we assign them tasks so that they can improve themselves and they can gain confidence that yes, I can do that.

Overall, teachers have a positive attitude toward each and every student, which encourages them to have confidence in their natural abilities. However, teacher 12 explained how this is difficult to do at times because it requires also educating the parents about this approach. She said,

> So somehow when a child's logic is not good, they're not good at finding numbers or calculating, and that's where they want to skip that subject. So, we guide their parents also because the child is not very good at logical. But parents want to force them to take a particular subject, like mathematics. So, we explain to the parents that instead of giving the whole time improving one subject, why not the child give time to that subject in which he is already very good? And then he can be even stronger in that subject.

Therefore, teachers spend time educating the parents on understanding the school's approach of nurturing the child's natural strengths, as opposed to forcing the child to

become good at something which is not their nature. One tool that the school uses to help the students, teachers, and parents understand the child's natural strengths is a document called, *My Likes and Dislikes*. This three-page worksheet allows students to write down what they like and dislike, and to modify it over time. Teachers use this document to help students start to understand what their strong intelligences and natures might be. Some examples of things that the document asks about are the student's favorite sport, favorite subject, and favorite teacher. One page also asks the student to list what they like as it relates to their friends, hobbies, and environment. It also asks them to list their role model.

Therefore, concerning theme a, participants acknowledged the importance of ancient Indian scriptures in guiding their understanding of student's natures. Administrators explained in detail how they came up with the idea of multiple natures, and how it was informed by the Vedic scriptures. Additionally, participants explained how they adhere to the gurukul approach to teaching, modeled from the ancient yogic scriptures. These modern-day teachers expressed how they teach like ancient gurus, by identifying and nurturing each and every single child's unique strength.

Theme 2: Culturally Adapted Multiple Intelligences Supported by Yogic Practices

Another theme found through the analysis of the data was that teachers implemented culturally adapted multiple intelligences theory in the classroom through two yogic principles: swadhyaya (self-introspection) and dinacharya (daily routine). Founder 1 referred to these yogic principles as the "moral pillars" of the school, which

shows the importance given to their concepts and practice of them. Consequently, the cultural adaptation in this instance was implemented by creating these two supplementary yogic practices to help the students achieve their potential. The school's philosophy is that by teaching the students how to do self-introspection and a yogic daily routine, they can achieve the potential of their multiple natures and multiple intelligences. Administrator 3 described it as follows,

> We trained all of our teachers on how to implement the multiple natures concept by drawing upon the yogic scriptures to create daily practices for the students to maintain a healthy mind type and body type, which includes an ancient yogic practice called, dinacharya (daily routine), and swadhyaya (self-study). The dinacharya program includes how to use food as medicine to enhance a person's state of mind, and how to avoid degrading their state of mind by eating the wrong foods. It also includes other positive habits that are inculcated in the child's life with daily practice. The purpose of these daily practices is that will help the students work at the full potential of their nature because their minds and body will be in a balanced state.

Dinacharya and swadhyaya are two yogic practices implemented at the school that help to support the healthy development of a student's character. The following sections will describe these two concepts of swadhyaya and dinacharya in more depth.

Swadhyaya (self-introspection)

In the school magazine, Sandesh, it states, "Swadhyaya, self-analyzation, assists a child to introspect rather than become judgmental about others." Participants described the term, swadhyaya, as "self-introspection." They emphasized that swadhyaya is used to support the development of students' intelligences and natures. Administrator 1 elaborated upon what swadhyaya means when she explained,

> The purpose of swadhyaya is to realize the Self. The individual self is a combination of the soul (atma), mind (manas), and physical body. Thus, self-realization does not mean only knowing the inner self (atma), but also the mind and physical body. One has to begin knowing the outer self (mind and body) before one can know the inner self. At our school we teach our students to understand the nature of their minds and their bodies, which is included in the traditional meaning of the word swadhyaya.

Therefore, the practice of self-introspection, swadhyaya, helps the students to understand their minds and body. Additionally, swadhyaya helps in the positive development of a student's character, as Founder 3 described,

> Our thoughts and our actions are all governed by the mind. So sometimes we are in that rajasic mode or tamasic mode and we can do some activities which are not good, like getting angry or maybe trying to cheat someone or stealing something. So now we must teach the children to recognize these things. Otherwise, they will not recognize it. And then it becomes a part of their character. And that's also

> going to create a problem for them in the future. So that's why we have created this program called swadhyaya.

Participants stressed the importance of swadhyaya for student character development. Administrator 1 elaborated on how swadhyaya informs students' decision-making about healthy ways to behave in life,

> At night, before sleeping, we should do swadhyaya. In swadhyaya, we tell students to think of what were the notorious things they did in their day, think of them, and just try to improve them tomorrow morning. Just give a promise to God that we got this human body and everything is inside us, and whenever we do swadhyaya by closing our eyes, we look into ourselves, and then we can focus more on these the things which we should not do. These are the things we should do. And we are fresh for the next morning.

So, participants reported that swadhyaya is a daily practice of bettering oneself in multiple ways from better decision-making to avoiding future problems. Founder 3 summarized some benefits of swadhyaya when he said,

> The advantage of swadhyaya is that students learn to be aware of one's actions. He develops better decision-making faculty. Swadhyaya improves one's vision about life. He does not remain self-centered or selfish. He is sensitive to the effect of his behavior on others. He learns to have good and meaningful relations. Swadhyaya also improves one's creativity. He develops self-confidence and thus

is stable in the face of difficult situations. He becomes a valuable addition to society.

Therefore, swadhyaya offers numerous ways for students to better themselves, resulting in better decisions, better relationships, and better members of society. Swadhyaya is a part of the daily routine of the students, both at school and at home. In one classroom observation of a first-grade class, the teacher incorporated swadhyaya into an activity. The teacher engaged the students in a Show and Tell activity in which she held up different pictures, and asked the students to describe the pictures. Then the teacher connected the pictures to life lessons, such as that we should not litter, we should keep our community neat and clean, and we should not waste food because many poor people need food. She told the students to introspect (swadhyaya) into their own life. The teacher said, "We cannot stop learning here. Practice what you are learning at your house and in your life." Therefore, swadhyaya practice is a thread that runs through students' school and personal lives to support the positive growth of their character. As one of the moral pillars of the school, the founder's idea is that outcome of swadhyaya is that enable students to maximize their nature, and become happy and healthy in their career and personal life. Administrator 1 explained that the school's approach is different from most modern schools, where they are more narrowly focused on preparing students to maximize their potential in their careers, disregarding their natures and their personal lives. He shared,

> The modern education system teaches us about so many different topics except about our self. Therefore, a student who has undergone the best education in the topmost education institution could be an expert in his/her field of study but quite ignorant about himself/herself as a person. This implies that his/her education is incomplete. If one is ignorant about oneself, one cannot expect a functional, cordial, or optimal relationship with another person. Therefore, we often see highly educated professionals frustrated in their personal lives due to failed relationships. As a cheap solution to their frustration, they often turn to drugs or some other sort of intoxication.

So, according to the school philosophy, a student's education is considered complete only if the student is aware of himself, and only then can he be successful in his career and personal relationships. This viewpoint is taken from the ancient yogic principles, which administrators and teachers alike acknowledged, pointing to them as the guiding principles driving their school's framework. For example, Founder 2 explained, "Swadhyaya is that we do self-introspection. So, these things play an important role. The philosophy, you can discipline your life, and you can achieve whatever you want. This is our philosophy." Numerous participants, both founders and teachers alike, stated that one of the foundational pillars of the school is the yogic principle of swadhyaya. Founder 3 acknowledged the connection between swadhyaya and the yogic principles by stating,

> Swadhyaya is a very important part of Indian culture, especially the yoga part. So, yoga is all about controlling the mind and then introspecting, going in, and even

> the spiritual practices that people do. Spirituality means you realize your true identity, which is a very important part of your life.

So, swadhyaya is revered as a way to control the mind and is a very important part of Indian culture, and lives. Administrator 3 elaborated upon this point by sharing,

> To address what is missing in the modern education system, we have introduced the practice of swadhyaya to our students. The students are trained to observe their actions and how their actions influence their personal lives as well as their relations. They are taught how to make improvements in their personal qualities and character. They are taught with the medium of stories. They also share their own experiences with students and thus they learn from each other how to improve upon their character.

Therefore, participants regularly highlighted the importance of swadhyaya to develop a student's character.

Dinacharya (daily routine)

In addition to swadhyaya, participants stated that dinacharya, a term they described as, "daily routine," is the second main tool described by participants that are used to support the development of a student's character. Founder 3 explained the purpose of dinacharya as,

> To have a daily routine, a regularized routine of waking up, eating, sleeping, and different things. The purpose is to create a routine that will help maintain a balance in the physical systems of the body. It's like maintaining the rhythms of

> the body because our body works in a rhythm and rhythm is healthy. Whenever our body systems get out of rhythm, that is what is called disease.

Dinacharya is a daily routine that is used to help the students maintain balance. Founder 1 elaborated upon this point, explaining the importance of taking care of the body and the mind with dinacharya,

> The mind loves change. It gets boring with the routine. Between body and mind, it is the mind that controls our decisions and actions. Even if the body is tired and wants to rest, the mind can decide to watch a late-night show. Thus comes the need to regulate the mind. The only way to control the mind is to follow a strict regimen. Therefore, Dinacharya, as prescribed by Ayurveda, has an important role in our life.

Dinacharya is a daily routine that is used to balance the mind, which in turn balances the body. Participants related dinacharya to physical, mental, and spiritual health, which they said are all essential components in supporting the development of students' multiple intelligences. Teachers revealed that dinacharya is not just a concept, but it is operationalized into very specific steps that the students are taught to follow daily. To that end, a document titled, "Dinacharya Chart," is given to all students. It lists a set of rules based on ancient yogic principles, which are designed to help the students manage their minds and body, manage their time wisely, and connect with their family and surrounding environment. The first section of the chart is titled: "What to do Before Coming to School," and it lists eight things. The second section of the chart is titled,

"What to do After Coming Home from School," and it lists ten items. The students are required to do each of the items and then check it off in their chart each day of the week. The parents are required to review it and sign it.

Many participants emphasized the importance of following a daily routine to keep balance in the body and mind, which they connected to ultimately supporting the development of student's multiple intelligences. The daily routine not only includes sleeping and waking times, but also what to eat, and how to include remembrance of God and respect for mother earth and parents into daily life. Teacher 1 highlighted how eating the right foods as part of the daily routine affects the student's nature, by stating,

> We are focusing on the body's constitution: lifestyle, food, what type of food they should eat, and what type of food they should not eat. Their nature depends on those things also. So, that also plays an important role to make the nature of the person.

Accordingly, participants related that the development of a student's character went far beyond classroom activity, reaching nearly every facet of a student's daily routine from waking to sleeping, even down to what they eat. Teacher 7 elaborated on how eating according to one's yogic body type affects the student's ability to use their intelligence to its full potential, by explaining,

> So, if we will eat properly according to our body type, that is going to increase our health. The impact is that we will be able to focus on whatever we are doing. And in that case, whatever intelligence we are having, if we are having logical

> intelligence, so we are analyzing the thing very properly. But if we are not eating healthy, then we are not able to use our potential to the fullest. Everything, that we are doing here just starts from an early age, just that this is your body type, just eat accordingly, this is this food you should avoid. For example, in our classes, normally what I say to the students, I say, just don't eat tamasic food.

Tamasic food, as described by teacher 7, is packaged food with preservatives, old food or fried food, or meat. The teacher explained that eating freshly cooked vegetarian food is what is prescribed to have a peaceful, balanced mind and body. Furthermore, not all fresh food is the same. The school provides the students with a food list of the proper fresh vegetarian foods according that the student should eat according to their body type. Therefore, eating is a significant part of dinacharya (daily routine) that is used to support the nature and related character development of the students. With that said, numerous participants highlighted the importance of eating the right foods to create a solid foundation for the student to be able to reach the full potential of their multiple intelligences. To that end, students are taught about how food influences their state of mind. For example, a three-page document titled, “Diet Charts for Body Types,” is given to each student and their parents, which details very specifically which types of foods to eat and which types of foods to avoid based on the student’s body type. Teachers shared that students are taught which foods they should eat that are sattvic, which will induce a calm, clear, focused mind, enabling them to improve upon their naturally strong intelligences, and which foods they should avoid eating that are rajasic or tamasic, that

will induce a hyper, angry, lethargic, depressed, or selfish state of mind. Teacher 1 explained,

> So that's why we have to, first of all, we have to teach them, you want to improve your bodily fine skill? If you will always eat junk food, then definitely you will become fat. It means that you will not be able to go outside and play outdoor games. In this way, we have to connect them to (the effects of) eating tamasic, rajasic, and sattvic food.

Participants regularly stressed the importance of avoiding the wrong types of foods and eating the right types of foods to cultivate a sharp mind so they can better act according to their intelligences. Therefore, the teachers demonstrated a high level of personal involvement, care, and concern for each child's proper implementation of dinacharya. For example, in one classroom observation, the teacher asked students the specifics of their dinacharya, such as what they brought for lunch, and what time they went to sleep. The students took turns answering. One student said that he went to sleep at 11:30 pm or 12:00 am, and the teacher said that was too late and she was going to call his mother to talk about that. Another student said that his mother did not make him fresh food and that she packed him packaged/processed food for lunch, and she told him that was not good because that kind of food will make him feel tamasic (lazy) and so she was going to call his mother and ask her to cook fresh vegetarian food for him for lunch. This is to say that educators at the school do not limit their involvement with the student's practice of dinacharya solely to what happens on school grounds.

Furthermore, as evidenced by the classroom observations, teachers also made efforts to go beyond just the mechanics of eating, sleeping, and waking, by teaching students about how to apply dinacharya at a deeper level that related to spirituality. For example, in one classroom observation of 5th graders, the teacher discussed the Indian custom of offering their food to God before eating it (one step in dinacharya). She asked the students, "Why do you offer your food to God before eating?" One student said, "Because if we offer our food to God, then we will get his blessings." Other students were nodding their heads in agreement. The teacher asked the class, "Can you imagine if you gave food to God and did not expect his blessing? Have you ever done something or given something to someone without expecting something in return?" The teacher then tied this concept into their dinacharya (daily routine), by giving the students a challenge to do over the next week: The Kindness Challenge. The teacher challenged the students that as part of their daily routine, they should try to help someone who was not expecting their help, and the students should not expect anything in return. This is one example of how students' characters and intelligences were developed through practices beyond the conventions of basic daily routines such as eating and sleeping.

Founder 1 gave an analogy that nicely summarizes the purpose of the tools, swadhyaya and dinacharya when he said,

> The wheat seed will give you a wheat plant, a barley seed will give you a barley plant – but how to put it into the proper ground with the proper fertilizer, then it will give you a better crop. Just like seeds, children are born with a certain nature,

> that is what we call varna. First, we have to recognize which kind of seed is he having, and then how to groom it properly so it can reach its full potential – that is what all these tools are for.

Swadhyaya and dinacharya are tools used to support the student so they can reach the full potential of their natures and intelligences. Therefore, teachers implement culturally adapted multiple intelligences theory in the classroom through the support of the yogic principles of "swadhyaya" (self-introspection) and "dinacharya" (daily routine) as the two moral pillars of the school, which help the students to achieve the potential of their multiple natures and multiple intelligences.

Theme 3: Multiple Intelligences/Multiple Natures Assessment

Administrators and teachers assessed multiple intelligences and multiple natures of students in two characteristic ways. First, these educators assessed students' natures and intelligences with the long view in mind, and the wisely practiced patience needed for the developing student. Second, educators characterized the assessment of these natures and intelligences as a collaborative process that involved the student, teacher, and parents. Of note, some of the teachers demonstrated their depth of understanding about just how much it takes to accurately assess a student's MI and MN when they shared their personal stories of how long it took to truly understand and embrace their own MI and MN.

Long View and Patience

Participants described that they take a long view when assessing students' multiple intelligences, starting from the nursery school age through their teenage years until high school graduation. Administrator 4 emphasized that the school uses activity-based learning to, "throw those opportunities in front of the children to understand which intelligences they have." Furthermore, participants explained that the teacher needs to observe the student very closely over many years, because as Teacher 8 put it, "Sometimes we think that a particular individual is like this, but he or she might not be." Many teachers explained how they are constantly observing the student in each class and noting down what their strong intelligence and nature was in each activity to truly be. understand their MI and MN. At the end of the year, teachers give the student's MI/MN assessment file to the next year's teacher, and that teacher reviews it and builds upon it. Founder 4 explained the long view like this:

> So, this is a long process. We start from nursery and then we are observing every class, by doing various activities, MI activities and MN activities. It's not quick. We have activities, for next year, other activities, other activities.

Educators explained that the assessment process requires regular observation of students doing a multitude of activities over many years. Founder 2 explained how the observation process works starting at the nursery school level, "We just see the actions of the small kids in lunchtime, in the class when they are sharing the lunch. One child is giving and taking back. So, it means he is an entrepreneur. But one child is happy to be giving only,

so that's providing nature." Hence, from the moment the child enters the school, the teachers are observing their intelligence at work. Furthermore, Teacher 12 explained,

> When you are assessing a child based on their intelligences, then a continuous interaction is required because you cannot find out a person's intelligence in just one interaction. It requires deep study. I have to interact more with the child. That you can say is difficult because you need time. Again and again, again and again, again and again.

Therefore, participants emphasized taking the long view, which includes frequent observations and interactions with the students over many years, as the process to discover student's natures and intelligences. Founder 1 explained the long view as follows,

> We help the students to recognize their nature and know how to get the best out of it by, improving on what is already there. Then we also teach them what are the bad habits they are having and daily practices to help them to remove their bad habits. The goal with this is to not allow the negative forces to choke up their nature. Finally, we then add the good habits which are not inherent in them. Everyone is born with a potential, but then how to improve upon it and utilize that potential in the best manner, is what these tools help with.

The long view requires certainly requires patience, which teachers and administrators frequently stress is a necessary virtue when assessing student intelligences. As mentioned

earlier in this chapter, it also takes a long time to teach students the yogic practices of swadhyaya and dinacharya to remove their bad habits.

Teacher 1 explained the reason why patience is required when she said, “And most important point is, when we said patience, it applies to this topic also. Because you need a regular interaction, you need time. Because when you dive, when you are going deep into a thing, you need time.” It takes time and patience to go deep into something, such as assessing a student’s character, therefore time and patience are two keys to an accurate assessment of students’ intelligences and natures. Administrator 2 echoed this sentiment of the time it takes to truly get to know a student when she said she would advise a new teacher at the school the following, “I would tell them that spend time with each child. Be patient. Do not rush into making any kind of conclusion. I would just tell them that you just love the children whom you are teaching.” In addition to time and patience, love is a third key ingredient identified in successful assessment of students’ intelligences. Furthermore, Administrator 4 explained the importance of being a good observer, and that he would advise this to a new teacher,

> She has to ensure that she's made an environment in the class where the learning can take place and the teacher's role is not just to teach, but to observe, to create an environment, and then observe the students’ intelligences and natures.

Teacher 7 echoed the importance of observing students when she said,

> So, we just advise the new teachers that if you are focusing on the multiple intelligence side because every child is very precious now, and every child has intelligence. Now, the thing is just we have to bring that out.

Therefore, an accurate assessment of intelligences requires numerous things, such as time, patience, love, and astute observation.

One founder shared her idea of patience that comes with the wisdom of the long view. This kind of patience involves accepting that sometimes students have a delayed appreciation of how knowing their MI/MN positively affects their life. Founder 2 shared,

> I have seen a lot of students who don't understand why we are learning this thing in school. But later on, the student knows that their profession, what they chose here in the school, they are very much satisfied with their profession. They know about their nature and they are very successful in life. They are happy compared to their friends. They can explain to their friends because when they pass out (graduate), they share their experiences. But when the students are here, they are not focusing much. But when they pass out, then they know the real value.

Patience is required to accept that some students will not value learning about and nurturing their intelligences and natures until after they graduate and become successful in their careers.

A Collaborative Process

Teachers and administrators shared that the conclusions about students' multiple natures and multiple intelligences are drawn through a collaborative process over an 8–

12-year period in which the teacher, student, and parents realize the student's strong and weak natures and intelligences. Administrator 3 explained this point when she said,

> So, we believe all these 12 years of school are just exploring who am I. If a child can understand after 12 years, he will be in so much peace and for the rest of his life, the rest of the pieces of the puzzle will get connected. Which school? Which college? Which career? Which wife? Which girlfriend? Or whatever, which family values?

So, parents, teachers, and students work together as a team for many years to determine the students' natures and intelligences. Teacher 4 explained how this plays out over time, saying,

> By the time student is in their early teenage years, they know their strong intelligences and natures because they have been immersed in activities, clubs, and homework assignments that are all tied to different intelligences and natures.

Through a series of experiences over many years, such as clubs and activities, students, their teachers, and their parents, arrive at a mutual conclusion about the student's strong natures and intelligences.

Teachers are designing activities all year long and assessing their students on their natures and intelligences daily. For example, in one classroom observation, Teacher 10 presented an activity that helped the students connect which strong intelligences fit with which careers. The teacher held up pictures of people doing different things, and their job title was written on the picture in Sanskrit letters. The teacher asked the students to read

what the job title was, and then to identify which intelligence and nature the professional in the picture must be strong in and to explain why? The students excitedly were raising their hands and called out the different intelligences and natures required for the different jobs. She would ask the students to explain their reasoning and then the teacher would add to it, describing in more detail the characteristics of different intelligences and different natures that the person would need to be strong in for different professions. Teachers and students collaborate daily in different activities to help the student understand their intelligences.

Even in a chemistry class, Teacher 7 engaged the teenage students in a creative activity that ultimately educated the students about a variety of intelligences and natures, including their own. The activity involved the students working as a group of four people to create an atom (with electrons and protons) from a paper plate and other arts and crafts materials. Then each group presented their atom to the class. The teacher explained to the students that she assigned them to work in different teams in which their MIs and MNs complemented each other so they could learn from and help one another. When each group presented, the teacher asked them, “Which group member is high in which intelligence or which nature?” The group members took turns sharing and explaining why they thought their groupmate had a certain intelligence or nature, and the teacher would validate their reasoning, question it, or add to it. This collaborative process of helping the students understand the intelligences or natures was a significant part of the activity as the teacher focused equally on the subject matter and on supporting her students to learn

about their natures and intelligences. Therefore, administrators and teachers assessed the multiple natures and multiple intelligences of students with a long view in mind.

Theme 4: Implementation Through Activity-Based Learning

Participants emphasized the implementation of activity-based learning designed to support students' natures and intelligences. For example, Teacher 1 said,

> We prepare our lesson plans and the activities which we put in our lesson plans according to their MI and MN. We always write what is the MI and MN of that particular activity under it.

Lesson plans are carefully designed by teachers to incorporate activities that support students' various MIs and MNs. In one classroom observation, this concept was illustrated by Teacher 2 who engaged the class of 30 young students in multiple short activities related to the topic of living vs non-living things. At the beginning of the activity, the teacher wrote on the board the MIs and MNs that were used in the activities. Then she asked the students to draw pictures of living vs non-living things and she wrote a list of five things on the board (doll, butterfly, pen, fish, umbrella). She said, "If you can't draw any of these pictures, then just write the name," inviting the children who were weak in creative or visual intelligences to complete the exercise using their stronger intelligences, such as linguistic. The teacher walked around the room, observing the children's intelligences at work. Then she asked the students who were strong in visual or creative or educative intelligence to present their pictures to the class, while she asked other students who were strong in educative, interpersonal, or linguistic intelligences to

explain the difference between living vs non-living things. The students were very attentive and engaged for the duration of the class period. Teacher 11 highlighted a benefit of this approach when she stated, “We try to give all the responsibilities, according to their MI/MN so that they will not feel tired, bored, or forced.” Teachers create activities that engage a wide range of MIs and MNs to nurture a diverse set of strengths. Activities observed in the classrooms come in two primary forms: activity groups and general classroom activities. In both of these, I observed that the teachers used every interaction as an opportunity for the students to learn. Founder 1 reinforced my observation when he shared,

> Every day in the prayer, one child is telling his or her story that how I change. This education is personalized. This education is scientific. This education is evidence-based, and this is transformative education. This is bringing transformation in the life of the students. So, if every day, either you go to the canteen, either you go to prayer, you are going to playgrounds, sports, anything, that there's a learning. One is learning by doing. One is learning by seeing. So, it is a whole environment of a school like that.

The school atmosphere is learning through all activities, from the lesson-planned activities to the less structured activities, like on the playground or at lunch.

Activity Groups to Leverage Every Student’s Strong Intelligences

Teachers purposefully placed students of varying multiple intelligences in activity groups such that they could support one another with their strong intelligences. For

example, Teacher 9 explained how she helped the students in one activity group divide up the tasks according to their intelligences,

> You work on the content of this, you proofread this because you are linguistic. Logical, why don't you work out the logistics for how this program will work? You are administrative, you will keep a track of all the expenses of this thing. So now we are making use of everybody's nature.

Assigning students with a diverse set of strong intelligences to work together in activity groups enables students to collaborate on each student's strengths. Teacher 6 echoed this sentiment by stating, "We are working on the abilities of each student by creating or by designing different kinds of activities so that every student can participate in such activities and give their best." Teachers favor assigning students to groups of diverse intelligences so the students can collaborate on each other's strengths.

Another teacher revealed a clever story in which she had to break up a group of friends because they all had similar natures (entertaining and educative) and so they did not have enough variety in their natures to complete the group activity. The teacher said that she realized that they all would want to present the project, but that no one would want to create the project. Since the students had already formed a group, she did not want to upset them by breaking them up. With a smirk on her face, she revealed to me in the interview that she wanted her students to realize for themselves what she observed. So, she asked the group members to raise their hands if they would like to play the role of presenting their project, once it is complete. Immediately, all five of the group members

raised their hands excitedly. So, then the teacher agreed with the students, that all five of them should present because they all had strong entertaining, and educative natures. The students all felt happy that the teacher agreed, but to their surprise then the teacher promptly split the students up by assigning each of them as the presenter for a different group. This vignette is one example of how teachers used different ways to split students into activity groups that leveraged their strong, yet complementary natures.

Some participants explained the benefits, such as efficiency, of creating groups that leverage each student's strong natures and intelligences. For example, Teacher 3 shared,

> On this day, I created one group in the class and the creative person drew a picture of the Holi festival, a very colorful page. And the linguistic person and interpersonal person were telling the ideas. And those who are very good in creative and linguistic, he was writing the notes. And after five minutes, the whole paragraph was ready. I was surprised to see that the whole paragraph was ready, which I didn't imagine children will be able to write.

When activity groups of students work together, collaborating on their diverse range of strong natures and intelligences, they can complete projects quickly and harmoniously.

Activities Addressing Specific Multiple Intelligences

Not only do the school's activity groups include a diverse and complimentary range of students' MNs and MIs, but also there are activities designed to address this range. For example, one classroom observation of a literature class for teenage students

involved six students role-playing the characters from a story they were reading. After the play, Teacher 5 asked the class what were the MI and MN of each of the six characters in the story. The students took turns sharing their character analysis in which they stated the specific qualities of a character that related to their intelligence or nature. The teacher validated their answers by confirming their analysis, and then sometimes adding to their points by elaborating upon them, or correcting them by sharing a more accurate assessment of the character's natures and intelligences. The teacher subsequently asked the students which MIs and MNs were used to do the role-play. The students shared and all agreed that it was the educative nature and entertaining nature combined with interpersonal intelligence that enabled them to do the role-play. The teacher asked the students to explain their reasoning, and the students took turns sharing specific characteristics of their different natures and intelligence, and the teacher supported them by confirming and adding to their answers when needed. In this way, the teachers are continually designing activities to support the growth of different natures and intelligences.

Teacher 4 described this approach of designing activities based on students' intelligences by saying that, "We are working on the abilities of each student by creating or by designing different kinds of activities so that every student can participate in such activities and give their best." For example, in a classroom observation of a Business Commerce class for teenage students, Teacher 12 engaged the students in one activity that included four different intelligences. The students were engaged for the duration of

the class, listening closely to the teacher, taking notes, and asking and answering questions. At the end of the class, the teacher asked the students, “What intelligences were used in this exercise of the sales promotion flow chart today?” The students answered: logical, educative, interpersonal, and administrative. This is an example of how the teacher used the word, “intelligences,” but was meaning “intelligences and natures,” because when the students answered, their answers were a mix of three intelligences (logical, interpersonal, and administrative) and one nature (educative), and the teacher told them they were correct. In summary, when teachers are teaching older students, that already understand and know their intelligences and natures, they quiz the students, asking them to name the intelligences and natures being used in the activity.

In addition to teachers having to be creative with making activities to support specific strong intelligences, teachers also have to think of creative ways to support students’ weak intelligences. For example, Teacher 9 described a creative way that she taught math to a student who had weak logical intelligence. She explained that instead of forcing him to learn math the traditional way through just memorizing, since his brain did not work like that, she thought of a way that would click with his adventurous nature. She observed that he was always bouncing around in his seat and it was hard for him to sit still, so she explained her approach,

> If the child is not logical, then he doesn't understand the calculations very easily. It makes it difficult for him to understand. So, we will create the activities he likes. You have to count something and you have to add. Do that, like go up the

> stairs, count them - how many steps did you take? Come back and tell me. What do you understand, like how many steps you have taken?

Teachers leverage the students' strong intelligences or natures to help them learn something that is in their weak intelligence area. In this case, the teacher leveraged the student's strong adventurous nature to assist him with his weak logical intelligence. Another teacher elaborated on the idea of nurturing the student's strong nature differently; by assigning certain parts of the activities to the students who are strong in those intelligences. Administrator 5 shed some light on this point when she said,

> Everybody's not a good speaker, like the entertainer, engaging type, being able to catch the attention of people. Everybody cannot do that. Maybe somebody who's a beautiful artist, but he cannot explain, then that means that he's not a good performer. You need somebody else to kind of present it to him.

Through careful observation and designing and implementing creative activities, teachers support the growth of both students' strong and weak natures. Therefore, teachers implemented activity-based learning and lessons that supported the specific MNs and MIs of each student.

Theme 5: Student Multiple Intelligences Clubs

Administrators and teachers assessed the multiple intelligences and multiple natures of students and applied those assessments to club placement. Further, they characterized and described many benefits of placing students into clubs based on these assessments. Each of these ideas is presented in the sections below.

Club Placement Based on Multiple Intelligences Assessment

Students have the opportunity to join a special club based on the teacher's suggestion, or the student can elect to join a different club, based on their own choice. Teachers recommend students to specific clubs based on their assessment of their multiple intelligences and multiple natures. For example, Administrator 2 explained how the process works first-hand as she is not only an administrator but also a parent of a student at the school, "Because I'm able to know what her strength areas are, then I'm able to enroll her into clubs, activities, which I feel will nurture her strengths even more." Through astute and continual observation of students' intelligences and natures, teachers suggest which clubs students could join that match their intelligences and natures.

Alternatively, for those students who elect themselves for clubs, sometimes the reasoning for the club they select does not have to do with an alignment to their natures or intelligences. For example, Teacher 4 revealed that sometimes students do not have a strong nature or intelligence in the club they are electing to become a part of, yet they still want to join because their friend is in the club. Therefore, students who elect themselves to be in clubs are encouraged to use swadhyaya (self-assessment) to determine to what degree their club choice matches their strong natures and intelligences. Founder 2 explained the club election system as,

> We have an election, according to the multiple natures. Our student first nominates themselves. Then they go to the classes, convincing with an action plan. Then after, the ballot system. They give the vote, and according to that, we

> make the team. According to the student's natures, then we make the teams. There is an election and there are heads of the Visual team, Naturalistic team, Environmental team, and all these teams. And elections also on this basis only.

Students who want to be the head of one of the clubs have to propose their plan to the club and the club members get to vote and elect whom they think will be a good head of their club. Regardless of whatever manner the students end up joining the club, the basic idea is that the student is electing to be in a club based upon what interests them. And once they have joined the club, they will continue to be assessed and to make self-assessments to see if the club is a good match with their multiple natures and multiple intelligences. Further, Administrator 3 explained how the clubs are used as assessment tools to confirm student's strong natures and intelligences when she said,

> These clubs are responsible for organizing and conducting activities that give children exposure and the opportunity to do tasks that are as per their nature. So, then there are facilitators who observe children when they are doing different activities in these clubs. So that also kind of gives us that confirmation about the nature of a particular child.

Therefore, clubs are another way to not only support the growth of student's strong natures and intelligences but also a way to continually assess them. To that end, each club is comprised of both teachers and students who are strong in the same natures and intelligences. Both students and teachers regularly assess themselves using the MI/MN

assessment tool and they introspect (swadhyaya) about their experiences in the club to confirm their strong natures and intelligences.

Benefits of Working in Clubs According to Strong Intelligences

Teacher 11 explained that because the students are joining clubs according to their strong intelligences, the students feel happy and work hard. She said,

> All the teams are doing their duties. The whole school is running on that guideline only that we work according to MI/MN so that nobody should feel stressed that, 'Oh, I'm getting this duty, that duty.' It should not be like that. You only opted for it and you should feel happy about it.

Because students are given free choice of what club they elect to join, there is a higher level of happiness among the students because they are not being forced to join a club that does not match their interests. The same holds for teachers. For example, one teacher explained that she loves being a teacher at the school because she gets to be in a club doing something she naturally loves to do with other people who also love doing it. For example, some clubs assist in the morning program at the school. When this researcher arrived by taxi at the school in the morning, she noticed the escort team of children at the front gate, talking to different parents and asking them where the helmets were, and educating them on the importance of wearing a helmet when driving a motorcycle. The students appeared to be very friendly, smart, confident, and happy. Teacher 11 elaborated,

> Every day in the morning time, when we are having our assembly, the Escort team is there, managing traffic and escorting. They are always standing at the gate and doing their duties, telling people, making people aware to wear their helmets, wear seatbelts, and have to walk on footpaths and everything. They are good at that and they are enjoying it.

A benefit of students working according to their nature or intelligence in clubs is that they get an opportunity to feel what it is like to be good at something, while at the same time helping the community, and strengthening their intelligences by practicing the skills related to that particular nature or intelligence. Administrator 1 explained, "Yesterday we celebrated Teacher's Day. All decoration was done by the Visual team. Only those individuals who have a visual nature, they only are selected in the visual team, and they do all this beautiful ambiance." When students are working in clubs according to their strong natures and intelligences, they enjoy their work because they naturally feel happy doing what they are good at. Therefore, administrators and teachers assess the multiple natures and multiple intelligences of students based on the teachings of the yogic scriptures and suggest students' club placements accordingly.

Summary

This chapter presented the setting of the study, the demographics of the participants, the data collection method, the data analysis process, the evidence of trustworthiness, and the study results. SQ1 asked, How do teachers assess the student's learning styles based on MI and yogic principles of the mind? The findings illustrate that

participating teachers assessed students' learning styles based on the culturally adapted MI tool that they created called multiple natures, which is based on the yogic principles of the mind. This MN assessment tool works in harmony with the MI assessment tool. Not only did the school use an assessment tool based on yogic principles, but also, they used an assessment strategy based on yogic principles. The assessment strategy employed at the school involved teaching as the gurus would, by naturally letting the student's nature unfold over time. This is not a quick process, and it naturally implies taking a "long view" in assessment. This approach was inspired by how ancient gurus would minutely study their student's characters in depth by observing them over many years in a variety of situations. MI and MN assessment was also reported as being a collaborative process that involved various stakeholders including the student, teachers, and parents. Students' MI and MN were assessed through activity-based learning as well as through student MI clubs. The assessment process involved teachers observing students participating in various activities, and then periodically discussing with the student and parents about the activities which the student enjoyed versus those that they were not interested in.

SQ2 asked, How do teachers implement culturally adapted MI theory in the classroom? The first way that teachers at this Indian K-12 school implemented culturally adapted MI is that they added their own MN tool to assess a student's nature. The MN tool is based on the ancient yogic scriptural concepts of personality based on the varnashrama system, which classified people based on their skillsets and corresponding

duties. The school uses the MI and MN tool together to get a comprehensive view of the student's nature and skills. The MI tool assesses a student's abilities, which are not static, and can be developed or enhanced, whereas the MN tool assesses a student's nature, or tendencies, which are fixed from birth and do not change. Another way that the school implemented culturally adapted MI theory was that they used activity-based learning and clubs, matching activities that suit students MI's and MN's to strengthen their nature and skills. Finally, the yogic practices of swadhyaya (self-introspection) and dinacharya (daily routine) were implemented as part of the MI and MN program, with the idea that these time-tested practices will help to nurture and strengthen the students. The school prescribed the yogic philosophy that a person should have a balanced mind to perform to the full potential of the MI and MN. Therefore, they required all students to follow the yogic practices of self-introspection and an ayurvedic daily routine to stay balanced at all levels - physically, mentally, emotionally, and spiritually.

The following chapter will discuss the findings of the study in light of the previous literature. Further, Chapter 5 will present the recommendations for future research, and the implications for practice.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Government-run K-12 schools in India struggle in two major ways: (a) serving all students and (b) drawing from the country's rich cultural heritage (National Education Policy 2020, n.d.; NCERT, n.d.). The general problem was that students in government-run K–12 schools in India may be taught using methods based on learning principles that are not culturally relevant (Kumar & Wiseman, 2021). For teachers to support student learning styles in Indian schools, they will need to learn how to best culturally adapt instruction to the learning styles of a diverse range of students (NCERT, n.d.; Tilak, 2007). The purpose of this qualitative case study was to explore the experiences of teachers of one private Indian K-12 school that is culturally adapting multiple intelligences theory to include yogic principles of the Indian culture. The primary research question was, What is one private Indian K-12 school's experience with culturally adapting MI theory to include yogic principles of the Indian culture? This single case study included multiple sources of data, including 21 interviews (with administrators and teachers), 12 classroom observations, and a review of 17 documents. As presented in Chapter 4, the following themes were discovered, as displayed in Table 13:

Table 13

Summary of Findings

Research Question	Theme	Definition
1a. How do teachers assess the students' learning styles based on multiple intelligences and yogic principles of the mind?	Theme a: Culturally-adapted MI	Administrators and teachers culturally adapted multiple intelligences to incorporate a concept drawn from ancient yogic principles, which categorizes human beings according to their nature.
	Theme B: Culturally-adapted MI supported by yogic practices	Teachers implemented culturally adapted multiple intelligences theory in the classroom through two yogic practices: swadhyaya and dinacharya.
	Theme C: MI/MN assessment	Administrators and teachers assessed multiple intelligences of students through a collaborative process that requires patience, and taking a long view in mind.
1b. How do teachers implement culturally adapted multiple intelligences theory in the classroom?	Theme D: Implementation through activity-based learning	Educators emphasized the implementation of activity-based learning designed to support student's intelligences.
	Theme E: Student MI clubs	Administrators and teachers implemented club placement by assessing the multiple intelligences of students and applying those assessments.

Interpretation of the Findings

Although MI theory has been implemented in K-12 schools worldwide (Gardner, 2011), there was a lack of knowledge regarding how MI theory had been culturally adapted to the Indian context. Further, no study located addressed the cultural adaptation of MI theory involving yogic principles of the mind. In conducting this study, I responded to researchers' recommendations for further research into the following areas: effective implementation of CRP, the study of MI theory through a cultural lens, and how individual education contexts can incorporate CRP with yogic principles (Rangoonaden & Mueller, 2017; Zorba, 2020). To that end, this research study's findings confirmed some of the already existing knowledge from peer-reviewed literature on culturally responsive pedagogy and on MI, which is elaborated upon in the five themes in this section. This study also extended the already existing research by elucidating the impact of culturally adapting MI theory with yogic principles at one Indian K-12 school.

Theme 1: Culturally Adapted Multiple Intelligences

Administrators and teachers culturally adapted MI to incorporate the yogic principles of multiple natures. The founders of the school used what they regarded as the best indigenous knowledge as the basis of the school; this knowledge included yogic principles that were systematized into what staff call "multiple natures." Teachers and administrators teach and interact with students purportedly as gurus would: in a way that seeks to improve a child's existing strengths based upon their nature.

Best Indigenous Knowledge

The founders of the school regarded the best indigenous knowledge as information essential to the creation of the culturally adapted MI frameworks. As NCERT (n.d.) observed, a special feature of Indian secondary education is that the government of India, as a part of the NCF, promoted ancient Indian practices, such as yoga (see also National Education Policy 2020). The target school illustrates this focus. In creating the school, the founders incorporated indigenous knowledge systems, primarily yoga and ayurveda principles and practices, to honor and enhance each student's natural intelligences.

Ladson-Billings (1992) found that culture is the foundation of how learning occurs. My findings were similar to those of Ladson-Billings because school leaders based the curriculum on the Indian cultural concept of Gurukuls, as a way to enhance the student's learning by creating activities based on the child's nature and innate abilities. Further, Pattabhiram & Deekshitulu (2017) found that the ancient yogic text, The Bhagavad Gita, includes concepts that give detailed descriptions of how to mold a person's character by managing the mind. My findings were similar to those of Pattabhiram and Deekshitulu because the school implemented a daily routine program based on the Bhagavad Gita concepts. The purpose of the required daily routine is for the students to achieve a peaceful state of mind, which ultimately enables them to reach the full potential of their natural intelligences.

Teach as the Gurus Would

Educators sought to teach as they regarded the gurus would. Sinha and Kumari (2021) found that Indian schools that used yoga-based education implemented ancient yogic techniques practiced by gurus to develop and enhance each child's unique character. My findings were similar to those of Sinha and Kumari because the school models after the ancient Gurukul system in which the guru emphasized character-building as an essential feature of education, and hence the school's teachers nurture the student's inherent strengths, and consequently, build the student's character, through yogic techniques.

Rubin et al (2019) explains that the role of the teacher is that they should understand that all of their students have different natures, and therefore will differ in what they are interested in and also in what they can achieve so that teachers should give students feedback in a non-judgmental, nurturing way that encourages them to grow within their capabilities. My findings were similar to Rubin et al (2019) because the school focuses on the uniqueness of each student's intelligences, and gives what is required for that student to grow and further enhance their strong intelligences.

Walker et al (2020) defines the role of the teacher as one who continually and astutely observes each child's interests and then engages them in learning activities. My findings were similar to Walker et al because the teachers reported a regular and rigorous observation protocol to identify each student's intelligences and then engage them in activities that support their intelligences.

Tamilselvi and Geetha (2015) warned educators against comparing students' intelligences, or ranking one type of intelligence over another, as all intelligences are unique and powerful in their own right. My findings were similar to Tamilselvi and Geetha because the teachers in the school focus on identifying the strength of the child, and seeing every child, no matter what his strong or weak intelligences, as a gem. That is, all children are precious and unique.

Theme 2: Culturally Adapted Multiple Intelligences Supported by Yogic Practices

Teachers implement culturally adapted MI theory in the classroom through the support of the yogic practices of "swadhyaya" (self-introspection) and "dinacharya" (daily routine) to help the students achieve the potential of their multiple intelligences. Teachers state that swadhyaya and dinacharya are used to support the development of students' MIs.

Bennett et al. (2018) found that teachers should go beyond superficial show-and-tell types of cultural art activities, and encourage students to explore the deeper parts of their culture. My findings were similar to Bennett et al because the school encouraged the students to explore deeper parts of their culture by drawing upon the ancient yogic scriptures' concepts of dinacharya (daily routine) and swadhyaya (self-reflection). The ultimate purpose of these ancient daily practices is that they will help the students work at the full potential of their intelligences because their minds and body will be in a balanced state.

Datar (2020) found that the ancient yogic framework is used to understand each person's unique nature, and then balance it by using foods. My findings were similar to Datar because the school implemented a yogic daily program (dinacharya), in which the students eat specific foods to maintain a state of balance in the body and mind, thus creating a solid foundation to maximize the potential of their multiple intelligences.

Pandit (2020) found that self-inquiry practices of yoga lead to self-transformation. My findings were similar to Pandit because the students are taught to use the yogic technique of swadhyaya (self-inquiry) as a daily practice to help them make good decisions about healthy ways to behave in life.

Theme 3: Multiple Intelligences/Multiple Natures Assessment

Administrators and teachers assessed the multiple intelligences of students with a long view in mind. Teachers and administrators begin assessing MI's from the nursery forward. Teachers and administrators highlight the value of patience, where children are assessed. Conclusions about the multiple intelligences are drawn through a collaborative process over a 10–12-year period in which the teacher and the student realize the student's strong and weak intelligences.

Long View and Patience

This study found that teachers take a long view when assessing students' multiple intelligences, which takes patience and many years. Tamilselvi and Geetha (2015) found that despite a wide range of intelligences, all students can learn, but not on the same day or in the same way. My findings were similar to Tamilselvi and Geetha (2015) because

the school teachers explained that the assessment of students' intelligences requires time and patience for regular observation across a multitude of activities over many years.

Armstrong (2018) found that teachers used observational journals to assess each of their student's unique natures, in which they noted down each child's specific behaviors, and misbehaviors, as well as how they like to spend their free time. My findings were similar to Armstrong because many teachers explained that assessment was a long process over many years that involved frequent observations of each student in their class and noting down what their likes and dislikes were, and what their strong and weak intelligence was in each activity.

A Collaborative Process

Educators emphasized working together with the students and parents to determine the students' multiple intelligences. Wilson (2018) found that collaboration in the form of regular in-depth conversations between teacher and student about the student's insecurities, as well as their talents, was a crucial ingredient to assess the student's MI. My findings were similar to Wilson because teachers emphasized frequent and deep, meaningful interactions with the students over many years, as the process to discover students' intelligences.

A seminal work by Ladson-Billings (1992) found that teachings should be based on an interactive, dynamic relationship between student and teacher. My findings were similar to Ladson-Billings because teachers approached their relationship with students as one that includes regular interaction, time, love, and involvement of the parents so that all

three parties, teacher, student, and parent, can act as a team to arrive at the same conclusion of the student's strong intelligences.

Theme 4: Implementation Through Activity-Based Learning

Participants emphasized the implementation of activity-based learning designed to support students' intelligences. Teachers purposefully placed students of varying multiple intelligences in activity groups such that they could support one another. Teachers crafted lessons and activities that addressed specific MIs through the lens of yogic principles.

Activity Groups to Leverage Every Student's Strong Intelligences

Teachers assigned students to activity groups based on their multiple intelligences. Shearer (2020) found that since students each have a unique mix of intelligences, it only made sense to create classrooms and teaching strategies to support these varying intelligences (Shearer, 2020). My findings were similar to Shearer because teachers implemented the teaching strategy of activity-based learning in groups that require a wide range of strong intelligences so that every student can confidently participate.

Chen and Gay (2020) found that creating lesson plans and activities that relate to students' culture is the most important characteristic the culturally responsive teacher must possess. My findings were similar to Chen and Gay because the teachers designed different kinds of group activities that supported the students' multiple intelligences, yet at the same time, that were rooted in the student's Indian culture.

Activities Addressing Specific Multiple Intelligences

Teachers created activities to develop and enhance student MIs. NCERT (n.d.), a large national government survey, found that character formation is a central component in Indian K-12 education (NCERT, n.d.). My findings were similar to NCERT (n.d.) because teachers create activities that engage a wide range of students with strong intelligences to develop their character.

Theme 5: Student Multiple Intelligences Clubs

Administrators and teachers assessed the multiple intelligences of students and applied those assessments to club placement. Further, they characterized and described many benefits of placing students into clubs based on these assessments. Teachers recommend students to specific clubs based upon their assessment of their MI's through the lens of yogic scriptures. Students who place themselves in clubs for which they were not recommended are encouraged to self-assess to what degree their choice matches their multiple intelligences.

Club Placement Based on Multiple Intelligences Assessment

Teachers placed students in clubs based on their multiple intelligences. Boysen (2021) found that teachers should provide students with choices for various modes of expression and engagement that best fit their nature to support and enhance the student's learning experience. My findings were similar to Boysen's (2021) because the school offers clubs that match students' strong intelligences to support students' choice of expression of their intelligence and their preference for engagement.

Massum et al. (2015) found that one of the main characteristics of culturally responsive teaching is that teachers should build learning communities. My findings were similar to Massum et al. because the school clubs are learning communities, not only in which students learn about and fortify their strong intelligences, but also in which they learn together about themselves, each other, and their culture.

Benefits of Working in Clubs According to Strong Intelligences

Teachers detailed numerous benefits of students working in clubs to strengthen their multiple intelligences. Kumar and Weisman (2021) found that the NCF emphasizes that students should learn through hands-on project-based learning experiences, in which the student's voice is honored and in which learning is a fun, joyful, and creative process of knowledge construction for every child. My findings were similar to Kumar and Weisman because the students are in clubs that leverage their strong intelligences, so they feel excited and happy to be engaged in the club.

In his classic seminal work, *How We Think*, Dewey (1987) found that the very same irresponsive student might respond in a very lively manner if presented with something that engages them and to which they naturally have a quick, smart response. My findings were similar to Dewey because students are in clubs according to their strong intelligences, so they naturally come alive and have quick, creative, and smart responses.

The Findings in Relation to the Theoretical Framework

The study's conceptual framework was composed of two theories: Gardner's (2011) MI theory and Ladson-Billings' (1992) CRP. I discuss the findings in relation to each of these theories.

Multiple Intelligences

MI describes eight types of intelligences (Gardner, 2011), including: (1) Visual-Spatial (2) Linguistic (3) Logical (4) Bodily (5) Musical (6) Interpersonal (7) Intrapersonal (8) Naturalistic. Gardner expanded the traditional view of IQ, which was narrowly focused on just logical or linguistic intelligence. Further, Gardner proposed that students think and learn in many ways, and there is a wide variety of intelligences that are all equally valid. Similarly, in this study, the school adopted and culturally adapted multiple intelligences. They did so by creating multiple natures, expanding further upon Gardner's MIs. Just as Gardner proposed that students learn in many ways, the school built its foundation on this same concept. That is, the school created activity-based learning and clubs to support the engagement of all intelligences and natures. In all, the school's adaptation of MI in the form of multiple natures includes complementary practices taken from the yogic scriptures that nurture the MN. In short, MN is not a stand-alone concept, in contrast with MI, which stands alone as an intelligence measure.

Culturally Responsive Pedagogy

A culturally responsive teacher teaches through a dynamic interaction with the students, matching the classroom pedagogy to their students' cultural backgrounds

(Ladson-Billings, 1995). Similarly, in this study, the teachers taught through activity-based learning related to the student's MI and MN and implemented complementary yogic practices such as swadhyaya and dinacharya. The adaptation of multiple intelligences to multiple natures was in part a cultural response to the needs of the students. Further, the utilization of yogic practices is in part a cultural response to the need for nurturing the MI and MN in the context of this Indian school. The school-based curriculum on Indian cultural artifacts aimed to enhance the student's learning by creating activities based on the child's nature, abilities, and culture.

Limitations of the Study

I conducted interviews with 21 educators (12 teachers and nine administrators) at one Indian K-12 school that employs culturally adapted MI theory. One possible limitation of this study is that while instruction at the school is delivered in English, some educators were uncomfortable providing consent to interview because of their lack of English fluency. Accordingly, the results of the study are only indicative of those interviewed in English. However, it should be noted that very few teachers are not fluent in English. Another limitation of the study was my prior knowledge regarding the yogic scriptures. I understood that my background shaped how I viewed the research data. Therefore, I recognized my biases upfront about my own experiences and background and took great effort to allow the participants to speak for themselves in these matters (Willig, 2013). Further, my background includes experience with multiple intelligences. I have taken an MI assessment one time in the past, so I knew both my strong and my

weak intelligences. Therefore, my prior knowledge of the yogic scriptures and multiple intelligences may have influenced my interpretation of the interviews, even with the great care I exerted to follow the data analysis procedures. Use of multiple data sources, and clear documentation of the data analysis process were also executed consistently with my strategies described in Chapter 3 to mitigate the risk of bias.

Recommendations

Several directions for future research are proposed. This study found that teachers and administrators utilize the best indigenous knowledge in developing the multiple intelligences of students. Further, the teachers taught as the gurus would. Accordingly, more research is called for to examine the specific ancient Indian practices that enhance students' intelligences and character. This would include quantitatively examining how variations in gurus' teaching practices, the influence of food and food cultural knowledge, and participation in daily routines, self-reflection practices and clubs contribute to developing multiple intelligences in students. As this study focused on a single school, future research is recommended using a multi-case study qualitative approach, to explore similarities and differences in approaches to MI and MN in kindergarten through 12th grade students.

Implications

This study in its proposal stage stated that understanding teachers' experiences of implementing multiple intelligences theory adapted with culturally relevant yogic principles at one K-12 school in India can be beneficial to other schools in India, as well

as similar challenges worldwide. Indeed, as illustrated at this school, other schools can also benefit from implementing culturally adapted MI practices to support their students in identifying and nurturing their intelligences for academic, personal, social, and career success. Therefore, this study will hopefully inspire other schools to explore the possibility of using multiple intelligences in innovative ways adapted to their unique cultural practices and principles. This study also provides teachers with an idea of what is required for the assessment and implementation of these principles in their classrooms.

The interpretation of the findings leads to many recommendations for future practice. Because of the stated success of incorporating the best indigenous knowledge and teaching as the gurus would, educators should continue to incorporate ancient Indian practices and cultural knowledge into the school curriculum to enhance the development of students' intelligences and character. Educators should also get trained on how to nurture students' intelligences to enhance character development. Additionally, educators should continue to nurture all student's intelligences and character through purposeful, intimate knowledge of the student's nature. This study also found that educators found it helpful to incorporate daily routines and self-reflection into the development of students' intelligences. So, educators should continue to incorporate deep ancient Indian practices and cultural knowledge into the school curriculum to enhance the development of students' intelligences and character. This study emphasized the importance of taking the long view, which included having patience and collaborating with the parents and students to understand the students' intelligences. Therefore, in practice, it would

behoove educators to be patient and take the necessary time with the student and their parents to accurately assess students' intelligences over deep, meaningful, and frequent observations and conversations. This study also highlighted the technique of using MI activity groups as a tool to both assess and enhance students' intelligences. In practice, educators should implement activity-based learning groups that mix a wide range of students' intelligences. Educators should also enable students to join clubs that are aligned with their multiple intelligences and encourage them to participate. Educators should regard clubs as learning communities where students can develop their MIs.

Conclusion

In conclusion, the findings of this study illustrate the impact of culturally adapting multiple intelligences theory to include yogic principles of the ancient Indian culture at one Indian K-12 school. In our current times when people have been disconnected from themselves and isolated from each other due to the Coronavirus pandemic, this school offers what educators see as a winning formula for a healthy, happy, balanced mind and body, which ultimately results in a feeling of connection to oneself and society. By understanding how one Indian K-12 school harnessed ancient Indian yogic principles of their culture and incorporated them into their school curriculum, this study has offered a much deeper way to not only assess a student's intelligences but also to nurture them, ultimately developing a student's character to its full potential. It is my wish that future researchers can pick up where I left off with further studies into the experiences of other schools across India through culturally adapting multiple intelligences theory. I would

suggest that researchers who choose to embark on future research related to this study should have a background in understanding yoga, ayurveda, and multiple intelligences. I also think it would be very beneficial for Indian educators who feel so inspired, to implement something similar to this school's model of culturally adapted MI theory, so they can help every single one of their students shine, in their unique way.

As for me as a developing scholar, I would like to create more visibility around this concept of culturally adapting multiple intelligences theory to the ancient Indian yogic concepts. For example, I would like to endeavor to create an off-the-shelf culturally adapted MI program that can be easily implemented for any interested K-12 school in the world. The yogic concepts that have been implemented by the school in this study are timeless. Although yoga originated in India, it is not limited to India. In other words, these yogic principles hold for every single human being because these principles relate to understanding, nurturing, and developing a person's "body" and "mind": two things that every human being possesses, no matter their culture or country of origin. Therefore, I would also like to attend conferences and present my findings to inspire other educators and researchers to embrace this concept of culturally adapted multiple intelligences theory with yogic principles. In this way, it is my sincere desire that my efforts can inspire educators to help all students realize and develop their full potential through the culturally adapted MI theory approach because a healthy world starts with a happy and healthy child.

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Appendix A: Interview Guide

Introduction

INTERVIEWER: “Thank you for your time today. My name is Jessica Richmond, and I will be interviewing you for the next hour or so on the topic of multiple intelligences and yogic principles of the mind and your experience with implementing them in your classroom. Please give me your signed informed consent. Thank you. Before we begin, I would like to ask if you permit for me to record this interview?”

[await participant’s answer]

[press the record button]

INTERVIEWER: “It is now recording.”

Definitions for Teacher and Administrator Interviews

INTERVIEWER: “To start with, I would like to take a moment to discuss some important terms, so I can better understand how you see these concepts.”

INTERVIEWER:

A. How do you define “culturally adapting?”

i. How do you think culture can be used as a foundation for how learning occurs?

B. How do you define “multiple intelligences?”

i. How do you think multiple types of intellectual abilities, or ways to process information, is involved in learning?

C. How do you define “yogic principles?”

i. What do you think about the concept that every single person is seen as a unique combination of the material elements of nature and, through yogic practices, the person can balance their mind and body?

[Interviewer will choose from the teacher or administrator section below]

Teacher Assessment Questions

INTERVIEWER:

1: What training, if any, did you receive on learning how to assess students' multiple intelligences (using culturally-adapted multiple intelligences)?

a. What training have your colleagues received?

2. What, if anything, do you find difficult about assessing students' multiple intelligences?

a. What difficulties have your colleagues experienced?

3. What, if anything, do you find easy about assessing students' multiple intelligences?

a. What have your colleagues experienced in this regard?

4. How do you assess the students' multiple intelligences?

a. How do your colleagues assess multiple intelligences?

5. How do you teach the students about what their multiple intelligences are?

a. How do your colleagues teach students about their multiple intelligences?

6. What are the benefits of being able to assess students' multiple intelligences?

a. What do your colleagues see as the benefits of being able to assess students' multiple intelligences?

7. If you were going to give some advice to a new teacher who wanted to learn how to assess students' multiple intelligences, what would you say to that teacher?

Teacher Implementation Questions

INTERVIEWER:

1. What training, if any, did you receive, on learning how to implement multiple intelligences in the classroom?

    a. What trainings have your colleagues received?

2. What if anything, was the most difficult part for you in implementing multiple intelligences?

    a. What difficulties have your colleagues experienced?

3. What, if anything, made it easy for you to implement multiple intelligences?

    a. What made it easy for your colleagues?

4. How would you compare your experience of teaching when you teach through the multiple intelligences lens versus when you do not?

    a. How do you perceive the experience of teaching is different when one teaches through such a lens?

5. How do you feel about using multiple intelligences in your classroom?

    a. How do you feel about using multiple intelligences in your school?

6. What does it mean to you to be a teacher in a school that uses multiple intelligences with your student?

7. If you were to advise a new teacher who wanted to successfully implement multiple intelligences in their classroom, what would you tell that teacher?

Administrator Assessment Questions

INTERVIEWER:

1. What training, if any, did you receive on learning how to assess students' multiple intelligences (using culturally-adapted multiple intelligences)?

    a. What training have your colleagues received?

2. What, if anything, do you find difficult about assessing students' multiple intelligences?

    a. What difficulties have your colleagues experienced?

3. What, if anything, do you find easy about assessing students' multiple intelligences?

    a. What have your colleagues experienced in this regard?

4. How does your school assess the students' multiple intelligences?

5. How does the school teach the students about what their multiple intelligences are?

6. What are the benefits of being able to assess students' multiple intelligences?

    a. What do your colleagues see as the benefits of being able to assess students' multiple intelligences?

7. If you were going to give some advice to a new teacher who wanted to learn how to assess students' multiple intelligences, what would you say to that teacher?

8. If you were going to give some advice to a new administrator who wanted to learn how a school can assess student's multiple intelligences, what would you say to that administrator?

Administrator Implementation Questions

INTERVIEWER:

1. What training, if any, did you receive, on learning how to implement multiple intelligences in the classroom?

    a. What trainings have your colleagues received?

2. What if anything, was the most difficult part for your school in implementing multiple intelligences?

3. What, if anything, made it easier for your school to implement multiple intelligences?

4. How would you compare teaching when one teaches through the multiple intelligences lens versus when one does not?

5. How do you feel about the use of multiple intelligences in your school's classrooms?

6. What does it mean to you to be an administrator in a school that uses multiple intelligences with your student?

7. If you were to advise a new administrator who wanted to successfully implement multiple intelligences in their classroom, what would you tell that administrator?

Appendix B: Observation Protocol and Grid

Setting: _____

Teacher Observed (pseudonym): _____

Observation #: _____

Observer Involvement: _____

Date/Time: _____

Place: _____

Duration of Observation (start/end times): _____

What Did Not Occur?

_____

Descriptive Notes – what the observer sees (and does not see), hears; what occurred and what did not occur; the physical setting. Only focus on teacher's actions and the classroom's general responses (without recording information about any particular student).

Reflective Notes – the observer's thoughts, personal reactions, and experiences.

DESCRIPTIVE OBSERVATIONS	THINKING PROCESS/REACTIONS/FEELINGS

Note: Only focus on teacher's actions and the classroom's general responses (without recording information about any particular student).

Observation Grid

	What did the teacher or students generally say or do?
Talking (discussion or mention about MI)	
Teaching about MI	
Activities Related to MI	

Note: Only focus on teacher's actions and the classroom's general responses (without recording information about any particular student).

Appendix C: Classroom Observation Notes

Class	No. of students	Grade	Lesson	Teaching or activities related to MI/MN	Reflective notes
Business commerce	16	10-12	How to promote sales	At the end of the activity, the teacher asked the students, "What kind of skills have we practiced?" And they answered: logical, creative, interpersonal, and administrative.	Students were engaged, everyone actively working together in teams of four on a project.
Science	30	2	Living vs. nonliving things	The teacher said to some of the students that were stuck on an activity that required them to draw, "If you can't draw the picture, then just write the name." The teacher asked the students which intelligences they were using when they were doing the different activities, and they answered. The teacher wrote on the board that the intelligences were: visual, logical, and the nature was creative.	The teacher was very positive and encouraging of the students. She did very little lecturing and mostly she was just engaging the students in a variety of activities. The students were very well-behaved, and engaged.
History	4	10-12	Indian Constitution	To start the class off, the teacher asked the students what Multiple Intelligences and Multiple Natures they thought that their current Indian president had? The students actively participated by taking turns answering. Then the teacher lectured for the remainder of the class about the Indian constitution of 1947, with little to no interaction with the students.	The students were polite and well-behaved but there was not much opportunity for activity-based learning as the teacher mostly just lectured.

(*table continues*)

Class	No. of students	Grade	Lesson	Teaching or activities related to MI/MN	Reflective notes
Math	24	3-4	How to tell time	The teacher gave the students an activity to do with their partner (the person they shared the two-seater desk with). The teacher gave the students a piece of paper with lots of pictures of clocks with no hands on them. She asked them to draw the hands of a clock for all the activities required in dinacharya (daily routine) what time they wake up in the morning, what time they eat breakfast, what time they do introspection (swadhyaya), what time the go to sleep, etc.	The teacher tied this lesson into one of the culturally adapted principles of MI, dinacharya (daily routine). The teacher also had written on the board the different MI's and MN's that this activity was related to.
Environmental studies	28	2	Qualities of my friend	The teacher taught students what adjectives were, by asking the students to take turns sharing some qualities of their friend. Teacher wrote on the board the MI/MN's required for this activity: MI - Linguistic & Logical and MN – Entertaining	The students were very enthusiastic and engaged, actively participating.

(*table continues*)

Class	No. of students	Grade	Lesson	Teaching or activities related to MI/MN	Reflective notes
English	26	5, 6	Character analysis	Teacher gave the student multiple short activities related to the main character in a story they had read in a previous class. The teacher matched the students to work together in pairs, to draw a picture of the main character, and to write about his good qualities, and relate them to the character's MI/MN. Based on learning about the character's good qualities, the teacher gave the students a "Kindness Challenge," asking them to help someone out without expecting anything in return.	The teacher barely did any lecturing, instead she asked the students many questions about MI/MN that was weaved into the activities, and she also asked the students to take turn explaining in front of the class, which the students eagerly took turns doing.
Hindi	26	3	Speaking Hindi	Students were given different activities to do to practice speaking in Hindi. One activity they had to work in groups to fill in the blank in Hindi sentences. Another activity they had to say the first syllable of the first name in Hindi. The teacher asked in English what MI and MN were required for each of the activities, and the students answered in English.	Class was taught in Hindi, which I do not understand, so I could not follow much of what was going on.

(*table continues*)

Class	No. of students	Grade	Lesson	Teaching or activities related to MI/MN	Reflective notes
English	31	8-10	Character analysis	The students participated in an activity of analyzing a character in a Shakesphere play they were reading. They discussed the character's strong and weak MI's and MN's. The students took turns teaching the class by summarizing different parts of the play, and calling on their classmates.	This is the first class in which the MI/MN weaknesses were discussed.
English	27	6-8	Poem analysis	The teacher took the students through an activity of analyzing the qualities of the six different main characters in the poem, and then they role played the characters. The teacher asked the students which MI/MN were included in the activities and which MI/MN did each of the six characters have.	Students were actively engaged and enthusiastic.
Chemistry	26	7-9	Chemical elements	The teacher gave the students an arts and crafts activity to work in groups of 4-5 and create different chemical elements using a paper plate, and different colored fabric balls that they could glue onto the plate. The student groups took turns presenting in front of the class and the teacher asked the students to share which MI/MN were required to do this activity.	The students worked actively together and were very serious and focused on the project.

(*table continues*)

Class	No. of students	Grade	Lesson	Teaching or activities related to MI/MN	Reflective notes
Sanskrit	28	9-11	Sanskrit sentences	Teacher held up cards with different sentences written in Sanskrit on them and different pictures of people, such as a person singing. Then she asked students which MI/MN the person must have and the students took turns answering. The teacher elaborated, adding more details to the student's answers about the MI/MN of each person on the card.	The students were engaged, actively participating, and enthusiastic during the activity.
Computer science	37	8-12	Making a flow chart	The teacher explained what a flow chart was, and then broke students into groups of 3-4 students to make a flow chart using construction paper, and to cut out the different shapes of the flow chart. At the end of the class, the students took turns presenting their flow charts.	While the students were working in groups, the teacher went around to each group and asked the students which MI/MN were required to do these activities and then the teacher elaborated, adding more detail about it.

Note. $N = 12$. MI = multiple intelligences; MN = multiple natures.

Appendix D: Student Skills Chart

Teachers: _____

Subject: _____ **Skill Chart (Subject Teacher)**

Skill Chart Maximum Marks (8)					
MONTH	**April**	**May**	**July**	**August**	**Total for Half Yearly**
Skills					**Marks (3)**
1. Thinking Skills					
2. Reading, Writing, Speaking & Listening					
3. Social Skills					
Behaviour: Personal Management					**Marks (2)**
1. Dinacharya					
2. Discipline					
Efforts					**Marks (1)**
1. In planning & implementation					
Achievements					**Marks (2)**
1. Subject					
2. Competetion					
Teacher's Signature					
Parents Signature					

Appendix E: Rubric for Skills and Behavior

Rubrics for Skills **Class Teacher**

Skill	
1. Leadership	(a) Takes initiative (b) Shows responsibility towards duty / task assigned (c) Completes assigned duty / task on time (d) Shows efforts in the completion of task (e) Displays capability
2. Extra- Curricular	(a) Participation (assembly, jivakul, sports, sanskar mela, event, competition) (b) Displays skill (c) Skill Learnt (d) Excellence shown

Rubrics for Behaviour

A. Personal Management	
1. Cleanliness	(a) Uniform (clean & ironed, size & colour, condition, buttons, hemming), nails, hair (b) Surroundings (table, chair, class, corridor)
2. Punctuality	(a) Reaches on Time (b) Timely information about absentism (c) Attendance on special events
B. Personal Development	
1. SOE	(a) Writes relevant content regularly and maintains notebook (b) Contribution to others (classmates, juniors, family) (c) Contribution to environment (school, class, family) (d) Application of SOE
2. Swadhyaya	(a) Display ability to analyze self (b) Identifies area of Improvement (c) Makes efforts to improve (d) Regular
3. Portfolio	(a) Able to set clear goals (b) Efforts to achieve the goals (c) Monthly Rewiew (d) Regular (writing goals & submission of portfolio)