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## Professional Development Program Addressing Teachers' Well-Being: A Nature-Based Intervention Approach

Carmen Chow

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**Professional Development Program Addressing Teachers' Well-Being:**

**A Natured-Based Intervention Approach**

Carmen Chow

Capstone Project: A School Improvement Plan

Northwestern College, Orange City, Iowa

### **Abstract**

ECE Teachers are often exposed to a number of stressors in their professional environments that place demands on their physical and psychological well-being. Maintaining work well-being requires a multidimensional approach, including holistic professional development programs, stress interventions, recovery experiences, as well as a social support network. Nature-based intervention has been proven to alleviate stress, decrease depressive symptoms, and lower blood pressure in individuals. This school improvement project raises awareness towards promoting teacher well-being at an institutional level by implementing a nature-based well-being professional development program to increase staff capacity.

*Keywords:* nature-based intervention, teacher well-being, professional development, occupational well-being, staff capacity

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## **Professional Development Program Addressing Teacher's Well-Being: A Nature-Based Intervention Approach**

Working in early childhood education (ECE) can be a highly demanding and stressful occupation. Often ECE teachers leave the profession due to burnout after a relatively short time. According to studies researching the high burnout levels among female ECE teachers, the incapability to perform well, long working hours, number of students in each classroom, and fulfilling the needs and desires of the school management and parents are among the reasons for this phenomenon (Eid and Majed, 2017). It is also worth noting that in emergency remote teaching during the COVID-19 pandemic, most of the teachers declared that their perceived well-being diminished: positive emotions decreased while negative emotions such as anxiety, nervousness, and sadness increased (Panadero et al., 2022). Preschool teachers are often exposed to stressful work conditions and suffer from poor well-being. To successfully deal with these work demands/stressors and maintain well-being, it is not enough that preschool teachers possess knowledge and skillful educational techniques. They also need to be in optimal physiological and psychological states to sustain high degrees of focus, energy, and engagement over time (Gu et al., 2020). Though there has been increased recognition of the role of early childhood professionals in shaping children's development, less research is focused on supporting the ECE workforce. This gap is problematic because the social and emotional competence and well-being of teachers are vital to facilitating positive interactions with children.

Recent research suggests that recovery from work has been identified as a key mechanism that enables individuals to stay vigorous, motivated, and healthy, even when facing a variety of work stressors (Gu et al., 2020). These findings suggest the significance of proposing off-job recovery experiences and professional development programs that are essential to

reducing the effects of work stressors on teachers. In the presence of high levels of emotional dissonance, preschool teachers who experienced higher levels of relaxation during off-job time reported fewer insomnia symptoms over time (Gu et al., 2020). Subsequently, the need to find effective interventions to reduce occupational stress and promote well-being for teaching professionals is a growing area of research.

The purpose of the school improvement plan is to explore and advocate nature-based intervention as a possible solution to support ECE teacher well-being. Nature-based intervention is defined by Gritzka et al. (2020, p.2) as “planned, intentional activities to promote individuals’ optimal functioning, health and well-being or to enable restoration and recovery through exposure to or interaction with either authentic or technological nature.” This plan is based on current scientific research highlighting the effectiveness of forest bathing on stress recovery and other positive contributions to physical health. Studies have found that participants in a forest setting had a significantly lower SAA (salivary  $\alpha$ -amylase) than those in an urban setting, proving the function of forests in reducing stress. Additionally, subjects’ blood pressure and pulse rate were lower when immersed in the forest, compared to those in urban environments (Chen et al., 2018).

The key objective of the project is to promote a school-funded mental health professional development plan with the long-term goal of raising awareness of teacher and occupational well-being. This project contributes to research on the role of PD programs in positively influencing teachers’ health and well-being. Preliminary studies of well-being PD programs done in Australia have found that the majority of programs did not provide any supporting evidence in the form of evaluations; hence, their effectiveness is unknown. This finding suggests that more work needs to be done by program development and delivery agencies to evaluate their programs

(Corbett et al., 2021). Long-term, the improvement plan will involve other types of stress intervention, such as mindfulness and stress management practices. The first phase of this project will focus specifically on nature-based interventions including forest bathing and nature therapy.

### **Review of the Literature**

The purpose of this literature review is to examine the effect of nature-based interventions on the psychological and physiological well-being of adults who experience general and occupational stress and anxiety. Exploratory, empirical, and explanatory studies within 10 years were considered for inclusion in the review. Research for this paper was drawn from the ERIC (Education Resources Information Center) database, the WorldCat discovery tool through DeWitt Library, and Google Scholar meeting the following search criteria: occupational stress, teacher well-being, nature-based intervention, and professional development. Overall, forest recreation programs and exposure to nature have significant positive psychological and physical effects on participants by reducing stress, decreasing anxiety, and lowering blood pressure (Bielinis et al., 2019).

First, this review outlines factors contributing to teacher well-being. Second, the current professional development design for the educator is explored to review its effectiveness. Thirdly, the effectiveness of nature-based interventions on well-being is summarized. Finally, implications of interventions for promoting the well-being of teachers and themes for future research are discussed.

### **Teacher Well-Being**

The study of well-being is not new, beginning with Aristotle's idea of eudaimonia (commonly known as well-being). In his earlier studies (in the 1960s), Bradburn discusses the balance between a person's positive and negative affect: "an individual will be high in



psychological well-being in the degree to which he has an excess of positive over negative affect and will be low in well-being in the degree to which negative affect predominates over positive” (as cited in Dodge et al., 2012, p. 223).

Bradburn’s work was under criticism by Ryff who then went on to identify aspects of well-being including autonomy, environmental master, positive relationships, purpose in life, a realization of potential, and self-acceptance (Dodge et al., 2012). The definition began to move closer to focusing on individuals’ perception of their current situation and their aspirations as well as linking well-being to reflect an equilibrium model developed by Headey and Wearing in the 1980s. Since then, multiple researchers have attempted to define, redefine, test, and propose models and theoretical frameworks. These studies point to the difficulties in this area of research. Consequently, Dodge et al. (2012) proposed a new definition of well-being as the balance point between an individual’s resource pool and the challenges faced. For the purpose of this review, work-related well-being will be highlighted as the key focus of this study, specifically, the well-being of teachers. According to Panadero et al. (2022), work-related well-being can be defined by an employee’s overall well-being that they perceive as determined by work and can be influenced by interventions in the workplace. For teachers, factors such as availability and accessibility to resources and support, amount of workload, work salary, students’ behaviors, teachers’ personality, and relationships can have an impact on an individual’s well-being.

In the event of an emergency crisis such as the COVID-19 pandemic, teachers’ well-being and quality of life were affected to a greater extent. ECE teachers continued to care for children during the outbreak while risking exposure to COVID-19. Additional life disruptions and financial stress due to facility closures further affected teachers’ life satisfaction. In the early months of the pandemic, the Center for Disease Control and Prevention (CDC) categorized ECE

teachers as frontline non-essential workers; the changes associated with it involved working from home, changes in work conditions, and altered work hours (Randall et al., 2021).

Some studies were conducted to assess the effect of work changes necessitated by the pandemic on teachers. In a qualitative study by Fraile et al. (2022), 936 Spanish teachers from all educational levels participated in a self-reported nationwide survey investigating how ERT (Emergency Remote Teaching) affected the well-being, emotional state, and motivation of teachers. A comparison was also made between different teachers' characteristics and their well-being before and during ERT. According to the findings, most of the teachers reported their perceived well-being diminished significantly after ERT. The main factors affecting this decrease in wellness were the adaption to online teaching, information and technologies, and undefined work hours blurring work and personal time. The study also revealed that female teachers and teachers with low socioeconomic status (SES) were most affected. The contrast of impact indicates that some populations of teachers are more at risk of suffering from stressors than others.

Similarly, the impact on physical well-being was studied. In another study done by Randall et al. (2021), the relationship between physical activity (PA) and sedentary behavior (SB) with teacher well-being and life satisfaction during the COVID-19 Pandemic was examined. Online surveys were completed by 1234 ECE teachers from 46 states in the United States. Measures of physical well-being, physical activity and sedentary behavior; psychological well-being, professional well-being, and job demands were analyzed. The findings indicated that at least 150 minutes a week of moderate PA for ECE teachers were directly and positively associated with physical well-being, whereas SB was negatively associated with physical and psychological well-being. The result of the research highlights the important role both PA and

SB play in teachers' well-being, mental health, and life satisfaction (Randall et al., 2021).

Additionally, the findings seem to indicate correlations between online teaching and a decrease in teachers' physical well-being and sedentary behavior, thus negatively affecting their well-being and mental health.

Teachers' subjective well-being (SWB—referring to personal and work-related resources as well as the absence of physical and mental impairment, which generate a healthy functioning in the work environment ) has received much attention over the past decades due to increased sick leave and job quitting among teachers from across cultures and countries (Benevene et al., 2018). In an explorative, cross-country study conducted by Benevene et al. (2018), the subjective well-being of kindergarten teachers from Hong Kong and Italy was analyzed and compared. A self-reported questionnaire was completed by 243 Italian participants (95% female) and 371 Hong Kong participants (99% female) measuring job satisfaction, self-esteem, and general health (GH). According to the findings, the years of teaching are significantly and negatively associated with GH. As expected, teachers' GH has a significant and negative correlation with self-esteem and self-esteem.

By contrast, no correlation emerged between teachers' self-esteem and their total job satisfaction. When comparing teachers from Italy and Hong Kong, Italian kindergarten teachers showed a higher level of job satisfaction and self-esteem. Furthermore, in both groups, self-esteem is negatively associated with mental health complaints, while job satisfaction is significantly correlated with mental health (Benevene et al., 2018). As expected, similarities as well as differences were revealed in the studies; more specifically, kindergarten teachers in Italy showed a higher level of self-esteem and job satisfaction than teachers in Hong Kong, even though they are less satisfied with their pay (Benevene et al., 2018). Hence, these findings can

suggest that in both contexts, job satisfaction and self-esteem seem to protect teachers from risks of mental ill-being.

Contrasting the results studying teachers from Italy and Hong Kong, a survey of 45 Head Start teachers in the U.S. reported being satisfied with their work, but many also expressed concern about their financial situations (Bullough et al., 2012). Those who considered leaving their job expressed that they would leave or had considered leaving primarily over pay concerns. One 53-year-old, divorced assistant teacher with a bachelor's degree reported in an interview, "I have a real problem with the government saying that for Head Start teachers they can only hire college graduates . . . but pay them this [low] wage, this outrageous wage" (Bullough et al., 2012, p.326).

A range of factors can affect a teacher's mental health in the workplace. In a quantitative, cross-sectional descriptive research surveying female Hungarian teachers, the findings revealed that depressive symptoms have a correlation with their unfavorable financial situation. The findings showed that the more financial uncertainty, the more likely the appearance of depressive symptoms (Fináncz et al., 2020). The results indicate that policies must consider these issues carefully to develop successful support programs that encourage staff stability, teacher quality, and well-being, starting at an institutional level.

It is worth noting that in each study discussed above, the participants consisted of a majority of female participants. Gender differences were not taken into account and should be included in future research. Findings could indicate that female teachers balancing family responsibilities on top of their work demands play a role in contributing to the results. Furthermore, in a study done by Alves et al. (2020) the researchers stated that because the gender variable is sometimes a predictor of professional well-being and other times it is not, the gap in

the literature regarding the relationships between gender and well-being among teachers should be noted and further discussed.

Subsequently, self-reported questionnaires of each study may have also influenced the answers to questions about the institutional climate. Participants selected by non-random sampling may not be representative of the whole population of professionals working in early childhood education. Given these points, when addressing and identifying the most vulnerable teachers and predicting mental health and well-being, country context, cultural values, gender differences, and educational systems should be considered.

### **Professional Development (PD) and Well-Being**

Concerning challenges faced by teachers, recent research indicates that, approximately 40% of teachers abandoned the profession less than five years after career onset (Manasia et al., 2020). A survey conducted in England reveals that 61% of teachers thought about quitting the profession (Manasia et al., 2020). These statistics point out that a high-quality environment and program for young children requires supporting those directly involved in the workforce.

Can PD help provide the needed support for teachers' well-being? Traditional PD has played a vital part in the educational system by providing teachers with academic and instructional support. In a study by Domitrovich et al. (2009), a randomized trial with 84 teachers who received evidence-based curricular professional development support targeting language/literacy and social-emotional development produced an improvement in teaching quality and a change in attitudes and practices. Moreover, teachers' well-being is also associated with the success of students and work quality. Hence, professional development targeting the holistic development of teachers can promote physical and psychological health and social development to maintain teachers' long-term occupational well-being.

It is worth discussing and evaluating the effectiveness of PD programs that support teachers' well-being. A study by Corbett et al. (2021) reviewing the characteristics of 63 PD programs in Australia revealed that many of the programs are run by private businesses rather than a government body. The topics of these programs ranged from mindfulness to growth mindset, all aiming to improve teacher well-being and health. However, a key finding of the study revealed that most PD did not specify a theoretical framework or evidence of evaluation. Additionally, the programs were delivered in a single-day session, and only six programs covered topics on a healthy lifestyle. These findings are concerning and suggest that PD programs may not achieve the desired outcome of changed behavior. As stated by Corbett et al. (2021), PD programs guided by theory and of longer duration have a higher probability of achieving their objectives.

A key question for discussion is what components an effective PD consists of. A descriptive, nationally representative study of Head Start teachers in the U.S explored types and characteristics of PD to predict teachers' well-being, attitudes, and teaching practices (Harding et al., 2019). First, a higher number of PD support available was positively associated with teachers' job satisfaction. This finding is consistent with the study by Ortan et al. (2021) surveying 658 K-12 teachers from the North West region of Romania. It revealed the potential for professional development to positively influence job satisfaction. However, the number of different types of PD support had a small effect, and the total number of PD support did not significantly correlate with levels of depression. More specifically, PD interventions on classroom management for ECE teachers had no effect toward reducing psychological distress (Harding et al., 2019).

Contrary to the above findings, teachers from a different culture or country may be impacted by PD differently as shown in a qualitative study by Kaur & Singh (2019) surveying 50 secondary school teachers from North India. The interview results revealed that certification and professional development programs made these teachers anxious and stressed due to the administrative work and professional learning activities involved. However, their subjective well-being is positively associated with successful participation in professional development activities. It is also worth noting that though professional development programs have shown effective in improving teacher well-being after one year, the results for reduction in teacher burnout faded after two years (Narea et al., 2022). Further research is needed to examine the long-term effect of PD programs on teacher's wellbeing.

### ***Professional Development and Types of Interventions***

Provided that PD does have a positive association on teachers' job satisfaction and well-being, addressing teacher burnout and occupational stress remain a key area of research. The association between burnout and poor job satisfaction, anxiety, and high rates of absence was revealed in previous research (Iancu et al., 2018). The authors also highlighted the following primary stressors of teachers: social-emotional demands, lack of teaching resources, lack of support from colleagues and superiors, and a lack of autonomy and professional development. These findings are consistent with a study by Li and Zhang (2019) surveying 615 kindergarten teachers from China. The results revealed that teachers' occupational stress negatively predicted their work-related well-being, confidence, and psychological capital.

To investigate the effectiveness of interventions aimed to reduce teacher burnout, Iancu et al. (2018) conducted a meta-analysis of 23 controlled trials (mostly conducted in a Western culture such as the USA), including those reported in 19 journal articles and 4 unpublished

dissertations. The types of interventions studied included cognitive behavioral therapy (CBT), mindfulness and relaxation, social-emotional skills, psychoeducational approach, social support, and professional development. Overall, the findings revealed that the effect of an intervention to reduce teacher burnout is generally small except in the areas of emotional exhaustion and personal accomplishment. Additionally, mindfulness intervention, cognitive-behavioral intervention, and social support seem to have some significant impact while psychosocial and social-emotional interventions had null effects on burnout. Moreover, the study by Li & Zhang (2019) also revealed that social support has a moderating effect on teachers' psychological capital and work-related well-being. This correlation can be explained by opportunities for teachers to share their burdens with others when facing occupational stress. In comparison, mindfulness interventions studied by Iancu et al. (2018) showed significant improvement in anxiety symptoms, depressive symptoms, self-efficacy, and job satisfaction and were effective in improving other aspects of well-being.

The lack of recovery time for preschool teachers can also affect their performance in the classroom. A two-wave study on 298 preschool teachers in China over a period of one year by Gu et al. (2020) investigated the effect of recovery experiences (i.e., psychological detachment and relaxation) on work stressors and well-being. Psychological detachment was defined as a sense of being away from the work situation and mentally disengaging from affairs related to the job during off-job hours. Relaxation was defined as experiencing low activation and positive affect (Gu et al., 2020). The study findings revealed that recovery experiences play a role in weakening the detrimental effects of work stressors by restoring and replenishing resources.

The implications of these studies advocate the importance of managers and superiors respecting the boundaries of staff members as well as offering social support in the workplace.



Additionally, policymakers and educational leaders need to consider the specific needs and cultural context of teachers when designing professional development programs at both individual and organizational levels. In summary, retaining teachers requires high-quality professional development activities that are formally evaluated, specific to the educational environment, targeted to specific stressors, and supportive of teacher well-being, attitudes, and practices.

### **Benefits of Nature Exposure and Nature-Based Intervention on Well-being**

The challenges of modern life resulting from occupational stress, urbanization, and environmental degradation have driven the need for mental health professionals, physicians, psychotherapists, and organizational leaders to consider best practices and approaches to alleviate the stress and anxiety of city dwellers. Prolonged stress can have detrimental effects leading to chronic fatigue and other physiological and psychological symptoms such as reduced memory capacity, insomnia, increased heart rate, and headaches (Dolling et al., 2017).

According to reports from Japan, approximately 60% of workers complain about strong feelings of anxiety, worry, and stress related to work and occupation (Furuyashiki et al., 2019). A study by Eid et al. (2017) investigating 96 female kindergarten teachers in Al Salt also revealed that the level of burnout among female teachers is high, especially among married female teachers compared to single females.

In the 1980's E.O. Wilson introduced his hypothesis of the term "Biophilia" stating that humans are innately attracted to other living organisms, which was further expanded to suggest that humans have an innate bond with nature. Furthermore, "the affective aesthetic theory also known as the stress reduction theory emphasizes stress reduction through a person's interaction with nature by affections and emotions elicited by nature" (Zhou et al., 2019, p.2). Research on

the psychological and physiological benefits of contact with nature has been shown to improve well-being among individuals suffering from depression, anxiety, and stress. More specifically, the practice of Forest Bathing, also known as *Shinrin-Yoku* in Japanese, has been found to have positive effects. *Shinrin-Yoku* is a traditional Japanese practice of immersing oneself in nature by mindfully using all five senses (Hansen et al., 2017).

In a comparative study, Furuyashiki et al. (2019) studied 155 participants (who had depressive tendencies  $n = 58$  and those without  $n = 97$ ). They participated in a day-long session of forest bathing (held a total of 16 times during a three-year period from October 2012 to November 2014) in Hiroshima, Japan. The profile of mood (POM), which has been used as a standard procedure to study the influence of natural experiences on mood state and change, was used as a psychological measurement. The scale comprises 30 items in the following six subscales: Tension-Anxiety (T-A), Depression-Dejection (D-D), Anger-Hostility (A-H), Fatigue (F), Confusion (C), and Vigor (V). The findings revealed that after forest bathing, the POMS score for all participants in the negative subscales decreased significantly; additionally, the mood state also changed from a negative to a positive state. Specifically, the negative subscales for both the depressive tendencies group and without were found to have decreased significantly.

Similar findings were revealed in a study by Bielinis et al. (2019) where 21 participants from Poland took part in a one-day pre/post-test forest recreation program in a forest nature reserve. The program was five hours long and included activities engaging the senses. The activities were repeated three times a day in different forest areas. The pre-test was conducted indoors before the recreation and then after the next day. The results revealed a significant decrease in four negative mood states on the POMS scale after the program. Furthermore, the participants' restoration effect and vitality also increased significantly post-test. Considering the

physiological effect on the participants from both studies, there was a significant decrease in SBP (systolic blood pressure) and DBP (diastolic blood pressure) after the forest bathing and forest recreation program. These findings highlight that time spent in forest areas has positive benefits and reduces negative mood and blood pressure.

Comparing the results from the study by Furuyashiki et al. (2019) on participants with depressive tendencies to the study by Berman et al. (2012) on individuals with major depressive disorder; both findings revealed cognitive and affective improvements after walking in a natural or urban setting for 50 minutes. Even when participants were instructed to think about a painful negative experience prior to the walk, the effect size for individuals with MDD was nearly five times larger than for healthy individuals. This phenomenon suggests that time spent in nature can have therapeutic benefits for individuals even when they are in a ruminative process. Hence, regardless of whether participants are diagnosed with depression or with depressive tendencies, forest bathing may lead to the prevention of depression and stress-related health problems and improve the mental health of individuals.

Notably, a field experiment designed by Chen et al. (2018) investigating the effect of two-day forest therapy on stress recovery of middle-aged women in Taiwan also revealed a significant decrease in four negative emotional states and anxiety in the post-test. Consequently, the vigor level of participants increased significantly. Contrary to the study published later on depression (Furuyashiki et al., 2019; Berman et al., 2012), the changes in Taiwanese women's depression did not significantly change. It is worth noting small change could result from the weather condition and season the experiment took place. As noted by Chen et al. (2018), the shorter length of sunshine exposure and cloudiness during the winter season may be correlated

with depression. Likewise, a decrease in both SBP and DBP was observed after the forest therapy program proved to be consistent with the study by Bielinis et al. (2019).

However, as most modern city dwellers may not always have easy access to a forested area, it is worth comparing the geological difference between urban and rural forest environments. Zhou et al. (2019) compared the change in anti-anxiety scores of 43 Chinese university students aged 19-23 after forest bathing in either urban or rural parks. Pre and post-walk scores from the questionnaire were used to quantify the change in anti-anxiety. The results indicated that anxiety from financial state, exam pass pressure, romantic relationships were alleviated from forest bathing in an urban park, but forest bathing in a rural park maintains anxiety about campus life.

Regarding the impact of environmental differences, Dolling et al. (2017) hypothesized that an outdoor forest environment would be more relaxing than an indoor handicraft environment for 46 participants with high-stress levels. The findings revealed that in both environments the participants' physical and mental health improved including their mood, lower levels of fatigue, stress, and burnout. Likewise, this study indicates that engaging in effortless activities, regardless of the environment, can have a restorative impact on individuals. This finding is consistent with Gu et al. (2020) on the stress-buffering role of recovery experiences in weakening work stressors on preschool teachers. It is worth noting that the Attention Restoration Theory (ART) proposed by Kaplan suggests four characteristics of the environment that are beneficial to mental health: being away, compatibility, fascination, and extent. Though environments such as the outdoor forest are more likely to encompass the above, the study by Dolling et al. (2017) indicates that an indoor environment provides a context where people feel a

sense of belonging, opens up space for their thoughts to wander away and contributes to the restorative effect.

It is worth mentioning that the methods and interventions discussed in the studies focused only on single-day or short (two-hour) activities. Therefore, the positive effect on mental health from forest intervention may be short-lived, and the long-term effects require further studies. As such, a clinical trial by Sonntag-Öström et al. (2015) evaluated whether visits to a boreal forest have a restorative effect on individuals' rehabilitation from exhaustion disorder (ED). Their results showed that after three months both groups (rehabilitation and control) had enhanced recovery from ED after the intervention period, but mental states showed seasonal differences. Notably, most participants recruited in the studies were relatively healthy individuals; non-healthy participants with mental or physical diseases were excluded. Therefore, future studies would be necessary to validate the efficacy of forest bathing for individuals with a clinically diagnosed health issue as well as involving overnight forest bathing sessions and long-term studies on participants' health status following interventions.

In summary, the scientific evidence of short-term forest therapy and nature-based intervention corresponds with significant short-term improvement in both psychological and physiological health including stress recovery, alleviation of anxiety, reduced depression, reduction of blood pressure, and increased positive effect on working and university adults and middle-aged women from around the globe. The implication of these findings has significant potential for the provision of more free and publicly accessible nature-based therapies and green/blue spaces at both personal, institutional, and governmental levels.

## **Site Profile**

### **School Characteristics**

Small World Christian Kindergarten was established in 1986 as a stand-alone school founded by a young missionary woman during her training with Youth with a Mission (YWAM: an interdenominational Christian mission organization) (Small World Christian Kindergarten, 2021). This school is located in the Mid-Level District, Hong Kong, and is housed in a former British military hospital building. The school campus is surrounded by trees and a large outdoor playground. The school originally had only eight children and grew to over 250 students attending morning or afternoon classes. Presently the school is under the not-for-profit organization Generations Christian Education with two adjoining sister schools: Norwegian International School and Island Christian Academy.

Small World provides a place of learning for children ages two to five years from a diverse range of backgrounds, faith, and nationalities. Children are placed according to their age in either Junior Kindergarten (K1) or Senior Kindergarten (K2). Each classroom has two qualified Early Years teachers with learning assistants offering support as needed. The teaching staff includes both male and female teachers from countries including Canada, the Philippines, Hong Kong, Ireland, New Zealand, China, and Brazil.

### **School Vision and Mission**

The vision of Small World is based on Psalm 78:6-7:

So the next generation would know God, even the children yet to be born, and they in turn would tell their children. Then they will put their trust in God and will not forget his deeds but will keep his commands.

This school's motto is, "Loving for Today, Learning for Tomorrow, Living for Eternity." The three-core mission of the school is the following:

1. To educate the whole child in a nurturing, vibrant, and international community

2. To cultivate individuals of character, compassion, courage, and competence
3. To inspire the next generation to be a global people of Christian faith, a people serving others (Small World Christian Kindergarten, 2021)

### **School Curriculum, Instruction, and Assessment**

Small World Christian Kindergarten is an IEYC accredited school, and its program is based on the International Early Years Curriculum (IEYC) and Biblical Foundation curricula, which focus on learning and development through play. Four key learning strands lay the foundation of the curriculum: independence and interdependence, communicating, enquiring, and healthy living and physical well-being (Fieldwork Education, n.d.). These strands are broken down further into eight personal goals: 1) adaptable 2) communicator 3) collaborator 4) thinker 5) ethical 6) resilient 7) respect 8) empathetic (Small World Christian Kindergarten, 2021).

Additionally, a Mandarin program based on the Storybook Approach aims to enhance children's Mandarin learning and understanding of Chinese culture. Small World is also active in providing an inclusive learning environment to support children with special educational needs. A trained learning support team uses accommodations and modifications in curriculum and materials, instructional strategies, and in-class support for children; this team also meets with families. Lastly, the Small World (Generations) playgroup provides a stimulating and nurturing environment for children aged 18- 32 months (Small World Christian Kindergarten, 2021). Due to the nature of the school's play-based learning, qualitative assessments are administered through a checklist and student portfolio. The school does not provide quantitative data regarding students' mathematic or language performances.

### **Home-School Partnership**

Small World values home school partnership by providing many opportunities for parents to be involved through volunteering for special events such as Taste of Culture, Storytime graduation, and field trips. A popular event is Mom's and Dad's date where an evening is dedicated for parents to spend unhurried time in their children's learning environment. This is a great opportunity for parents to learn about their children's daily life in school as well as connect with their child's teachers. Communication with parents through emails, school newsletters, and parent-teacher conferences allows parents to be actively involved. During the COVID-19 pandemic when kindergarten classes were suspended by the Hong Kong Education Bureau, an Early Years School Learning Programme took place that mirrored the regular on-campus half-day schedule using the Zoom platform. Parents had access to the parent portal, and the children's learning was disrupted at a minimal level.

### **Professional Development Practice**

The school provides a wide variety of ongoing professional development opportunities to its staff through partnerships with organizations such as IEYC Fieldwork Education and St. John First Aid, guest speakers, and individual performance evaluations to strengthen teachers' areas of interest and learning. The school team is led by two school administrators, a principal, a special needs coordinator, and a school leader. Team meetings are held regularly to discuss key instructional strategies, student learning, assessment, and classroom management.

### **Needs Assessment**

The psychological and physiological effects of stress, burnout, depression, and anxiety for early childhood teachers are a common reality. The COVID-19 pandemic that began in 2020 brought attention of mental health professionals, educational researchers, and leaders to the importance of supporting staff during a global crisis. According to the Center For Disease



Control and Prevention, ECE teachers were categorized as frontline non-healthcare essential workers. As a result, the pandemic-induced changes experienced by ECE teachers likely influenced multiple aspects of their well-being, including physical and psychological well-being, which, by extension, likely influenced their overall life satisfaction (Randall et al., 2021).

Effective professional development has the opportunity to positively influence not only teachers' health and well-being but also a large number of academic and health outcomes for students (Corbett et al., 2021). Based on the school profile, the current professional development opportunities offered to staff focus mainly on strengthening teachers' capacity towards curriculum and instructional strategies. There is a need to address the gap in professional development that targets the well-being of teachers. A school improvement plan to raise greater awareness and promote opportunities for offering PD that can enhance the psychological, social, and physical health tools teachers can utilize is required to maintain teacher well-being.

Teachers at Small World have reasons for mental health struggles. There is a disproportionate balance between the number of staff (< 20 employees) and the number of program offerings (e.g., playgroups, summer programs, and extracurricular activities). The turnover rate has also been relatively high in the past school year as more teachers are leaving Hong Kong due to the ongoing pandemic and the current political situation. The concern extends to students: the success, growth, and mental health of children is dependent on the professional commitment, motivation, and well-being of teachers (Kaur & Singh, 2019). Hence, teachers are valuable resources, and there is a need to create and implement specific professional development programs targeting teacher well-being.

### **Data Analysis**

All lead teachers, teaching assistants, and learning assistants (a sample size of  $n=20$ , 18 females and two males) completed a self-reported informal well-being audit designed by Falecki (2021) to measure and identify their school's well-being status (see Appendix A). The results identified areas of strength and areas that needed further development. The survey is based on Martin Seligman's 5 Pillars of Well-being known as PERMA. PERMA stands for Positive Emotions, Engagement, Relationships, Meaning, and Achievement. It was developed to help individuals find paths to flourishing (Slavin et al., 2017). This framework was chosen to collect data for its potential for institutional leadership and culture change. According to Kun et al. (2017), the PERMA framework demonstrates a multidimensional assessment of employees' well-being, which can provide more specific information to create a picture of the essential aspects of workplace well-being. The survey consists of 30 questions based on the Likert Scale (*Always*: 3, *Sometimes*: 2, and *Rarely*: 1) and is subdivided into the 5 Pillars of Well-being. Questions one to five relate to Positive Emotions, questions six to nine relate to engagement, questions 11-15 relate to relationships, questions 16-20 relate to meaning, and finally questions 21 – 25 relate to achievement.

### **School Strengths**

As shown in Figure 1, out of the 5 Pillars, Relationships and Positive Emotions received the highest mean score ( $n=3$ ). Based on the self-reported questions on the survey, these results suggest that the employees of the school are experiencing positive emotions such as happiness, joy, love, and gratitude in the here and now. Additionally, the high scores reflect that the relationships among colleagues and with others such as students, parents, and school supervisors are positive and mutually beneficial as well as characterized by love and appreciation

(Donaldson et al., 2022). This result indicates that a strength of this school is that its employees experience positive emotions, which likely enhances their performance at work. Additionally, the high score on Relationships suggests that strong ties with colleagues leads to a sense of belonging and enhanced well-being (Kun et al., 2017).

### **School Challenges**

In contrast, the pillar that received the lowest mean score is Accomplishment ( $n=1$ ). According to Kun et al. (2017) the Accomplishment pillar signifies leading a productive, meaningful life. It is the opportunity given to an individual to look back at their own lives with a sense of accomplishment. The low mean score of this pillar suggests that the school's teachers have had limited opportunities to set clear goals as well as a clear vision for themselves in their workplace. When asked about this further through the interview process, a teacher who has been with the school for 10+ years shared the following:

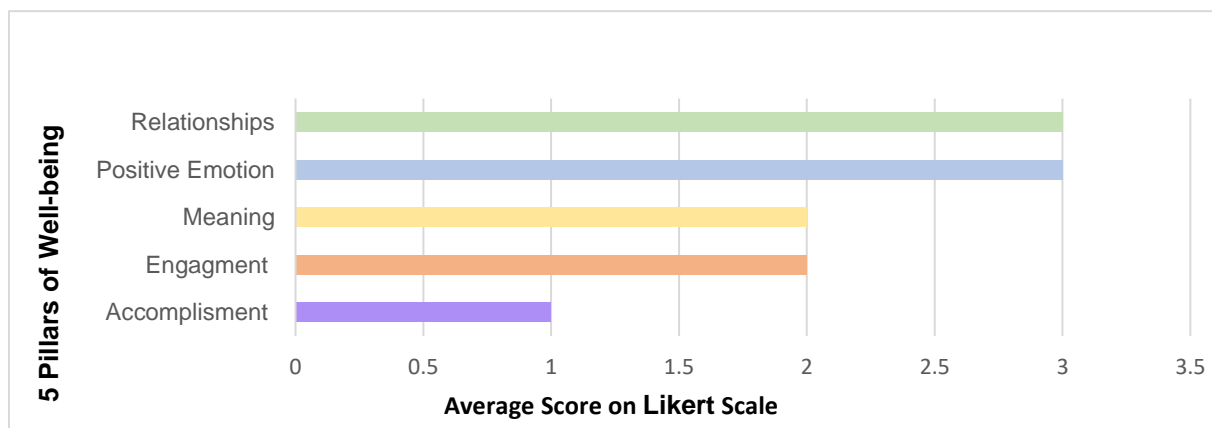
This year was exceptionally hard. With the COVID-19 Pandemic and school closures moving to online teaching was extremely stressful. I have been in the school for more than 10+ years and have never experienced this many changes in such a short period. Additionally, our school was in the process of being accredited. I don't have time to even think about my own goals or accomplishments. I went through a period of depression and anxiety and even considered if this career was right for me in the future.

Both Engagement and Meaning Pillars received a mean score of ( $n=2$ ). Engagement involves the concept of "flow," which describes immersing in the present moment. The result indicates that on average the teachers do feel a sense of attachment, involvement, and concentration towards their work in the classroom. Similarly, Meaning involves the use of strength and individuals having a purpose in doing what they do not just for themselves but for a greater good.

When it came to reporting about specific strategies they use to manage emotions in times of stress, time to reflect on their work and accomplishments, and opportunities to practice mindfulness, the averaging score is “Sometimes or Rarely.” Figure 2 highlights the overall summary of teachers’ self-reported statements, which are consistent with findings from the 5 Pillar survey.

**Figure 1**

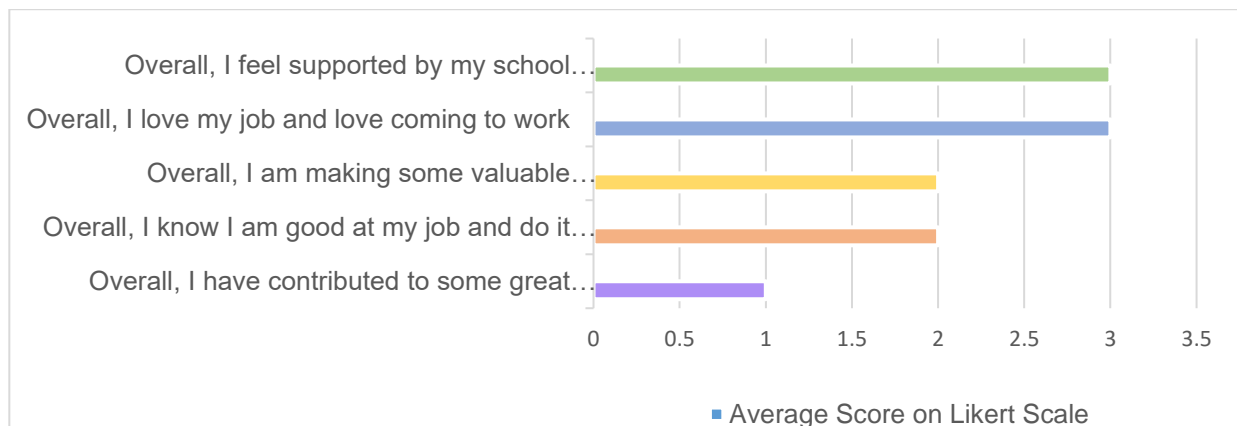
*5 Pillars of Well-Being*



Note: Total Sample N=20. Self-reported score on questions 1 – 25 showing the average score indicating the 5 Pillars.

**Figure 2**

*Overall Well-Being*



Note: Total Sample N=20. Self-reported score on questions 26 – 30 showing the average score from the Well-Being Audit

Each individual received a final score indicating the level of strategies used to support their own well-being, a score that fit in one of the following categories: 75-90: frequently use, 50-74: using some strategies, or 0-49: time to do something for yourself. The survey results show the average score to be  $n=70$  among the 20 teachers who completed the survey. This score falls within the range indicating that individuals in this workplace are using some strategies to support their own work well-being but could invest and try additional ways to have more consistent energy throughout the week.

A post-survey interview was conducted to collect qualitative data to further explain the final score based the results. A teacher who scored 80 shared :

I am a single woman and do not have the commitment of family or children. I put a priority on my own well-being by going to yoga classes, meeting up with friends, and going into nature to relax. Being a teacher leader can be stressful with multiple meetings, management teammates, and parents' needs

Another teacher who score 39, relatively low on the survey shared “I have 2 kids and a family to manage. They are my priority on top of the demands of running a classroom of young children. It’s very hard for me to keep my mind relaxed when I have so many needs to take care of. Work-life balance doesn’t exist for me. I do wish that I can have more time to myself!”

The result of these findings is consistent with previous reviews that educators’ experiences of stress are part of a social system involving other colleagues, families, and children (Cumming, 2017). According to Kun et al. (2017), to achieve well-being, individuals must be able to look back on their own lives with a sense of accomplishment. Subsequently, the findings suggest that a high level of stress can have a negative impact on teachers’ sense of meaning and purpose in their work.

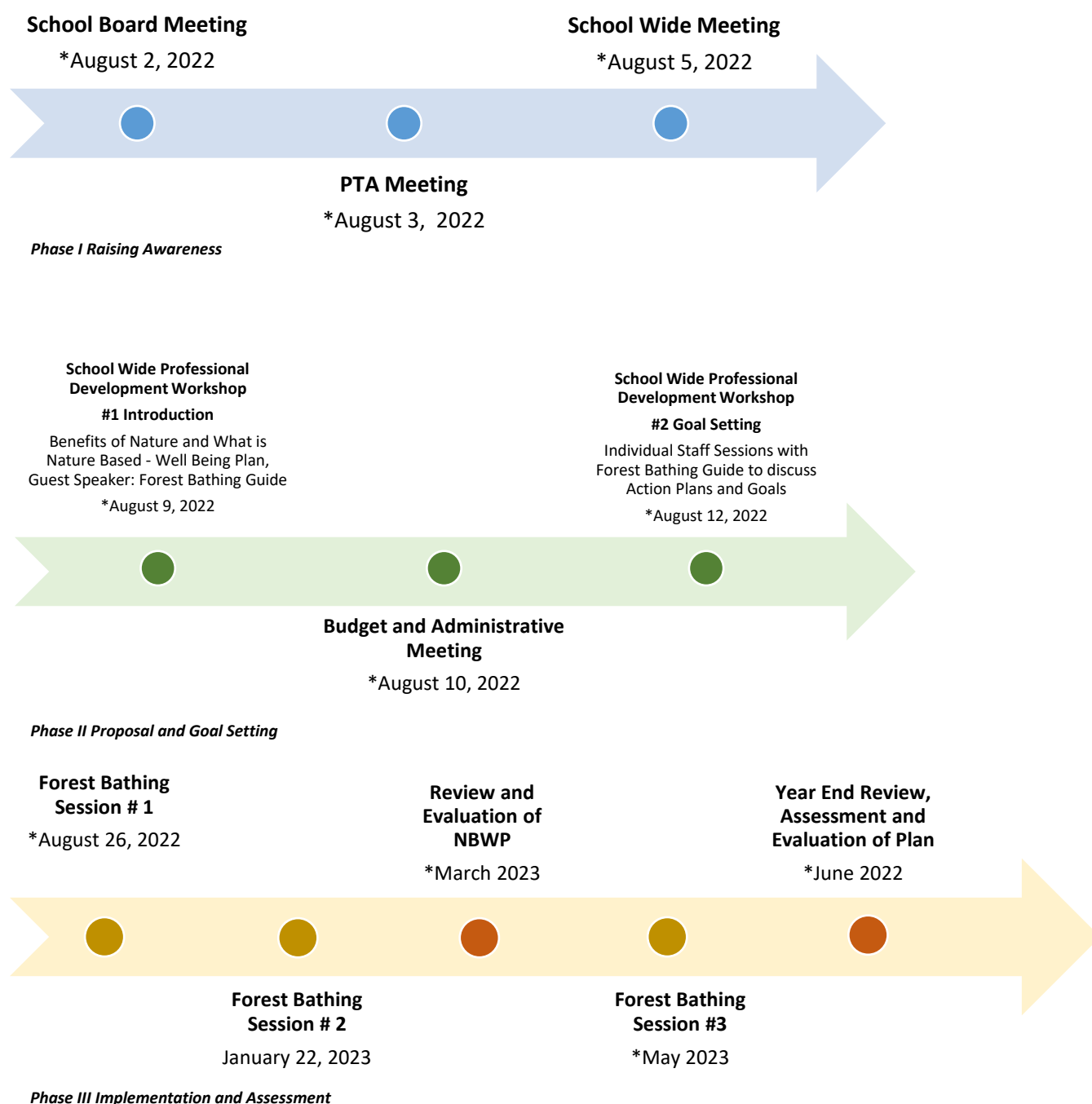
The data collection has weighty implications for the proposed school improvement plan, which is to provide specific strategies for managing teacher stress, leading to decreased levels of staff turnover and absenteeism, and increasing the healthy functioning of individual teachers and the organization. Enhancing positive emotions and relationships, providing meaningful work, and supporting personal goals and fulfillment can increase better performance, self-efficacy, motivation, and commitment to work (Kun et al., 2017). The aim of the school improvement plan is to bring a more holistic balance between the Five Pillars of Well-being to the staff.

### **Action Plan**

Based on the benefits of exposure to nature to alleviate anxiety, reduce stress, and depression and promote health revealed in the literature review, the school improvement plan is an implementation of a nature-based well-being professional development program to enhance staff capacity and flourishing of well-being in the workplace for kindergarten teachers.

The key objective of the school improvement project is to promote a school-funded mental health support professional development plan with the long-term goal of raising awareness of teacher and occupational well-being in the workplace. The long-term project will involve various types of stress intervention. The first phase of this project will focus specifically on nature-based interventions. This project will develop practices promoting health and well-being among teachers and improve the overall school environment including job satisfaction, motivation, social cohesion, and increased staff capacity in the workplace.

The project is divided into three phases as shown in Figure 3.

**Figure 3***School Improvement Plan Timeline*

**Phase I: Raising Awareness**

This phase will include raising awareness using data from the literature review about the negative effects occupational stress, burnout, depression, and anxiety have on the well-being of teachers and how the above factors can affect teachers' job satisfaction, motivation, and relationship with children and overall job performance. With the consent of the participants and the school principal, qualitative and quantitative data collected previously at Small World will be used to highlight the voices of the school staff sharing their own well-being experiences. The information will then be presented to the school board and PTA of the organization through various means including newsletters or presentations. The goal of the school board and PTA meeting is to open a discussion regarding the need to support teachers to maintain their well-being not only at an individual/personal level but also at an institutional level. Training is required to help teachers manage stress, nurture positive emotions, and build a healthy community. The reason behind this approach is based on previous research that found significant and positive relationships between teacher retention, well-being, and school climate (Kaur & Singh, 2019).

**Phase II: Proposal and Goal Setting**

The second phase is to propose the implementation of an accessible school-wide nature-based well-being plan as part of the professional development for staff to support their well-being throughout the school year. The proposal will highlight current data from research on the psychological and physiological health benefits of exposure to nature through interventions such as forest bathing and nature therapy. One goal of the plan is to implement a nature-based well-being plan. The proposal will define what is a nature-based well-being plan, the steps needed, and its goal. Some steps include creating nature connection routines and organizing a schedule to



incorporate nature into daily life and work life (see Appendix B). The nature-based well-being plan is based on the needs and tastes of each person/organization once a general plan is designed. The implementation of this plan will include inviting and collaborating with professionals in the community such as a forest bathing guide or forest therapy practitioner to implement the program. The proposal will include a budget to be allocated for professional development as shown in Table 1.

**Table 1**

*School Improvement Plan Budget Allocation*

Item	Quantity	Cost
Forest Bathing Session	<ul style="list-style-type: none"> <li>• 3 sessions</li> <li>• 20 Staff members</li> <li>• 2 Forest Bathing Guide</li> </ul>	<b>\$300 per session/ person</b>  <b>= \$18000 HKD</b>
Nature-Based Well Being Plan (NBWP) Workshop	<ul style="list-style-type: none"> <li>• 2 * 3-hour session</li> <li>• Include all materials</li> <li>• Individualize NBWP and coaching sessions for staff</li> </ul>	<b>= \$5000 HKD</b>
Transportation	Bus rental to and from the forest site	<b>= \$1200 HKD</b>
TOTAL ESTIMATE		<b>= \$24,200.00</b>

## Approval of the Plan

The researcher will oversee the project from beginning to completion. The building supervisor (principal) is pending the approval for the school improvement project to proceed, including approval for researcher attendance at the school board and PTA meetings. The school administrator is pending approval to work closely with the researcher in managing the logistical administering of the program including scheduling of sessions and workshops, overseeing accounts, and coordinating staff attendance. Once the project is approved, the researcher will begin Phase I.

## Implementation of Plan

### Phase III: Implementation

The third phase will involve implementing the proposed intervention and workshop that includes a maximum of three forest bathing sessions a year for school staff (beginning, middle, and end of the year calendar) and an individualized nature-based well-being plan for the staff involved. A forest bathing session will be a two- to three-hour immersive nature experience guided by a forest bathing guide in a designated natural environment/forest (see Table 2). The Profile of Mood States (POMS) questionnaire will be used to assess the session's effect on the emotional states of participants. POMS is a tool that measures six mood states: confusion, fatigue, anger or hostility, tension or anxiety, depression or dejection, and vigor. A five-point Likert scale was used for each item to evaluate participants' mood states, with each item assessed from 0 (strongly agree) to 5 (strongly disagree). The researcher has chosen this tool for its tested reliability and validity in measuring psychological distress and has been used previously in studies to estimate the influence of the forest environment on mood states (Bielinis et al., 2019).

**Table 2**

#### *Sample 2.5 Hour Forest Bathing Walk Schedule*

Time	Activity
9:00 am	Meet Forest Bathing Guide at designated forest site
9:15-9:30 am	Introduction to Forest Bathing from Guide <ul style="list-style-type: none"> <li>• Talk about expectation, risk assessment</li> <li>• Group Sharing</li> </ul>
9:30 am – 12:00 noon	Guided Forest Bathing Walk <ul style="list-style-type: none"> <li>• *Nature Connection Activities led by a forest bathing guide</li> <li>• Circle Sharing</li> </ul>
12:00 – 12:15 pm	Closing Tea Ceremony Group Sharing and Debrief

Note: \*Nature Connection Activities: Activities that invite the participant to connect with nature through their senses and reflection

The nature-based well-being plan will be introduced and conducted through a workshop format and revised throughout the year with the support of the forest bathing guide. As an organization, the nature-based well-being plan could include specific changes to the school environment such as including more green space or natural elements (e.g., plants) in the staff room/classroom, lunch break walks in the nearby park, breathing exercises in the morning before arrivals, or visual (photographs of nature) in the school hallways.

### **Barriers and Challenges**

A potential barrier to the implementation of this plan is sustaining staff involvement and the executing long-term implications of the plan. There is a risk of dropout from staff who may show decreased interest and motivation in attending outdoor activities. Work and classroom demands may impact staff motivation to engage with their goals and sustain practices towards supporting their well-being. Barriers can also include functional diversity of the staff, posing possible challenges to the Forest Bathing Guide in creating sessions inclusive for everyone. As this program is also weather dependent, the timeline of events (i.e. forest bathing sessions) may require flexibility fitting into the school calendar. Additional challenges may include changes in the social dynamic of the group and unpredictable triggers during Circle Sharing. Potential triggers may require the additional help of mental health professionals for participants who require support beyond the scope of the school supervisor and guide.

### **Assessment**

The goal of the school improvement plan is to support the well-being of teachers through increasing job satisfaction, staff capacity, and staff cohesion while reducing stress, anxiety, and burnout. The final phase will be the assessment and evaluation of the project, to be conducted using interviews and surveys two times a year (middle/end of the school year). Teacher well-

being can be measured using the Positive and Negative Affect Schedules (PANAS) and the Maslach Burnout Inventory. To assess the cost-effectiveness of the nature-based intervention in the workplace, work productivity can be measured using the Flourishing at Work Scale, Recovery Experience Questionnaire, and the Restorative Component Scale (Gritzka et al., 2020).

The outcome data will be used to assess if such a project was successful in meeting its purpose and should be continued into the next school year. Evaluation of the success or failure of the plan can also be based on staff engagement (e.g. participation in workshop and forest bathing walk) and satisfaction with nature integration in the school environment. Gritzka et al. (2020) raised the importance of taking various individual (e.g., age, nature connectedness) and workplace factors (e.g., organizational cultures) into account as some employees or organizations might vary in benefits gained. By distinguishing individual and organizational factors, the assessment can provide further insights into whether the school improvement plan should be conducted on the organizational level targeting a large group of employees or targeted specifically to individuals most in need.

As Corbett et al. (2021) mentioned, a high-quality program evaluation can provide valuable data that can then further identify its effectiveness, any potential barriers, and acceptability. Additionally, a measure of students' academic and health outcomes can be measured using the Classroom Assessment Scoring System to assess the quality of interactions in the classroom. Research shows a relationship between the psychological well-being of teachers and the quality of interaction (Narea et al., 2022).

Finally, NBWP will also be reviewed once a fortnight with the Guide and the Client to reflect on what the process of connecting with nature feels like, what has worked, what hasn't worked, and what client wants to keep and change. This step of the Nature-Based Well-Being

Plan is important to ensure that the client is able to integrate and find their own inner connection with nature and ownership towards their personal and workplace well-being.

### **Conclusion**

Well-being is a multidimensional construct defined not only by the absence of negative affect but by the prevalence of positive experiences, feelings, and satisfaction. Research on the well-being of early childhood educators has not always received the same attention as the professionalization of education and professional standards (Fináncz et al., 2020). Yet, research has revealed that in 2018 67% of education professionals were stressed out, 31% had mental health problems, and more than 50% of professionals contemplated leaving because of mental health issues (Kaur & Singh, 2019). These findings highlight the importance of promoting a holistic approach to promoting social, psychological, and physical health for maintaining the occupational well-being of teachers.

Professional Development (PD) has the potential to reduce stress and improve health and well-being. Teachers' job satisfaction has shown improvement when opportunities for professional development are available (Ortan et al., 2021). In contrast, research has also revealed that not all PD programs show evidence of their effectiveness in producing the desired outcomes (Corbett et al., 2021). Not all PD programs available have gone through an evaluation process and are guided by theory or principles. Offering specific criteria, Harding et al. (2019) suggest that PD be targeted to teachers' specific needs, be intensive in nature, be ongoing, and contain with quality content.

In summary, a multitude of factors and interventions have shown to have some effect in reducing teacher burnout such as cognitive behavior therapy (CBT), mindfulness and relaxation, social-emotional skills, and psychoeducational approaches (Iancu et al., 2018). However, studies

on recovery experiences have shown a strong association to weaken the detrimental effects of work stressors by restoring and replenishing resources (Gu et al., 2020). Therefore, it is imperative that teachers receive opportunities and support to strengthen and maintain their well-being through a nature-based intervention, which research has shown to be an effective approach to improving the psychological and physiological health of individuals including stress recovery, alleviation of anxiety, reduced depression, and reduction of blood pressure (Bielinis et al., 2019).

This school improvement plan is a model for how teachers and the institutions they work can receive the attention, appropriate changes, resources, and practical support to flourish and thrive in their professional and personal well-being. The success of this project has the potential to be implemented in other schools and districts and become a key part of pre-service training for teachers. Outcome data can also be part of future studies for school agencies and researchers to create more specific nature-based well-being content geared towards the teaching profession and based on school culture, country, and environment.

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## Appendix A

### Teacher Well-Being Audit



## TEACHER WELLBEING AUDIT

*How well do you support your wellbeing at work?*

*Complete the following survey to determine which areas of Martin Seligman's 5 pillars of wellbeing (PERMA) are strongest and which may need the more attention.*

*Visit [www.teacher-wellbeing.com.au](http://www.teacher-wellbeing.com.au) for tools on how to address these areas and more.*

		Statements about our school.... (circle your response)	Always	Some-times	Rarely
P	1	I often experience positive emotions at work such as joy, excitement and happiness	3	2	1
P	2	I am able to track the good stuff by either sharing it with others or writing it down myself	3	2	1
P	3	I frequently give positive feedback to both staff and students to recognize effort and achievements	3	2	1
P	4	I am able to receive positive feedback from others when they notice I have done a great job	3	2	1
P	5	I have the ability to manage my emotions in times of stress using specific strategies that do not impact negatively on others	3	2	1
E	6	I am aware and have identified my top 5 character strengths	3	2	1
E	7	I frequently plan ways to use my top 5 character strengths	3	2	1
E	8	I am able to spot character strengths in others and help them use them	3	2	1
E	9	I feel in the 'flow' in my classroom various times throughout the week	3	2	1
E	10	I frequently use language that promotes a strength-based mindset	3	2	1
R	11	I feel strongly supported by at least 2 other staff members at school	3	2	1
R	12	I feel supported by the school executive with a strong sense of belonging	3	2	1
R	13	I am able to connect well with students and their parents to form great relationships	3	2	1
R	14	I offer frequent support to others with care, concern and compassion	3	2	1
R	15	I am able to ask for help or support when I need it most	3	2	1
M	16	I feel as my job has meaning and purpose on daily bases	3	2	1

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M	17	I practice mindfulness at various time throughout the day	3	2	1
M	18	I often remind myself of why I entered teaching and what I love about it to stay motivated and not get caught up in the small stuff	3	2	1
M	19	I am mindful of my own actions and behaviour to be the best role model I can be for fellow staff and students	3	2	1
M	20	I am aware of my core values as a teacher and live these every day	3	2	1
A	21	I frequently set myself small goals each day or week and set about achieving them	3	2	1
A	22	I frequently celebrate my achievements with small rewards and sharing them with others	3	2	1
A	23	I frequently stop and reflect on everything I have achieved in a term and give myself a pat on the back	3	2	1
A	24	I have a clear vision of the type of teacher I want to be and how to be it	3	2	1
A	25	I recognize I am working as part of a larger team and strive to support the school vision	3	2	1
	26	Overall, I love my job and love coming to work	3	2	1
	27	Overall, I know I am good at my job and do it well	3	2	1
	28	Overall, I feel supported by my school community	3	2	1
	29	Overall, I know I am making some valuable contributions to others	3	2	1
	30	Overall, I have contributed to some great achievements in my role	3	2	1
		<b>TOTAL</b>			

#### **So, how did you go?**

Add each column at the bottom

Add across the subtotal of each column to give you a score out of 90

#### **If you scored;**

**75 - 90** – Congratulations, you frequently use strategies to support your wellbeing. Keep doing what you are doing. Maybe even share some of your strategies with others through mentoring.

**50 - 74** – It is great you are using some strategies to support your wellbeing, perhaps you could try a few more to ensure you have more consistent energy throughout the week.






**0 – 49** – Have you heard the saying, put on your own oxygen mask before giving one to others? It is time for you to do somethings for yourself. Checkout [www.teacher-wellbeing.com.au](http://www.teacher-wellbeing.com.au) for specific strategies you can use to be the best teacher for your students you can be.

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(Falecki,2021)

## Appendix B

### Sample Page from Nature-Based Well-Being Plan

Sensual Awareness Inventory (SAI) <sup>5</sup>					
Under each heading please list 10-20 items or activities from which you get pleasure, enjoyment or comfort					
Sight 	Sound 	Touch 	Smell 	Taste 	Activity (Samples)
				*	Peppermint Tea
			*		Smell the Lavender
		*			Warm sun on skin
	*				Listen to birdsong
*					Sunlight streaming through window

#### Step 2: Creating technical routines and barriers

During the month, start with simple routines that activate all aspects of wellbeing and health. You can find a list of routines, their effects and how to do them in the Nature-Based Wellbeing Plan Schedule.

<sup>5</sup> Source: *Sensual Awareness Inventory (SAI)*, George W. Burns, 2005. *Nature-Guided Therapy: Brief Integrative Strategies for Health and Well-Being*.