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THE AMERICAN UNIVERSITY IN CAIRO
الجامعة الأمريكية بالقاهرة
Graduate Studies

A Qualitative Exploration of Food Literacy in International Schools in Egypt

A Thesis Submitted by

Amy Nina Pugsley

to the

Educational Leadership

Graduate Program

May 10, 2023

In partial fulfillment of the requirements for the degree of

Masters of Arts in Educational Leadership with a concentration in School Leadership

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"An educator in a system of oppression is either a revolutionary or an oppressor."

– *Lerone Bennett, Jr.*

Dedication

This research is dedicated to my grandparents who taught me the importance of food. Thank you for the summer days in the garden, the hours spent around the kitchen table, and, most importantly, for teaching me about our culture through shared meals.

Acknowledgments

I would like to acknowledge that the American University in Cairo (AUC) played a pivotal role in my ability to take on a challenge like this one. From the first time I stepped onto campus in 2016 I knew that AUC was a place where I wanted to pursue my graduate studies. It wasn't until years later that I had the once-in-a-lifetime opportunity and I am grateful to AUC for seeing my potential and granting me a fellowship to make this happen.

I would like to thank my thesis supervisor, Dr. Mustafa Toprak who has been an educator, mentor, and motivator to me throughout this entire experience. I would also like to thank my professors and thesis readers, Dr. Teklu Abate Bekele and Dr. Malak Zaalouk. None of this would be possible without the mentorship and expertise that allowed me to explore educational research, pedagogy, theory, and practice in a new and invigorating way.

I didn’t do any of this alone, the journey to this point was arduous and I want to thank my parents who instilled a love of learning in me from a young age and always supported my educational aspirations. Last but not least, thank you to my support system over the past two years. I could not have done any of this without my partner Heanok; it was possible only because of your love and support. I can’t count the ways in which you have encouraged me to be the best version of myself possible, I love you.

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Chapter One: Introduction

1.1 Background

Food is not only a biological necessity but a thread that connects people to their heritage, homelands, and cultures. According to Benn (2014), “through food, human beings experience pleasure, joy and company, but at the same time, food can be a problem or even be seen as a risk” (p. 13). Researchers from various fields have expressed the importance of food as it relates to all physiological aspects of being and foods’ essential place in human life. From the beginning of recorded history, food has dictated how we organize ourselves within society (Belasco, 2008). How and what human beings eat is an essential part of human ontology because it guarantees biological development and it is also inherently cultural, political, economic, and social, linking humans to their ecosystems (Coca, 2021). In a simpler sense, without food nothing is possible. Maslow’s Hierarchy of Needs places physiological needs at the base—stating that without food, water, rest, and warmth, humans cannot begin to attain higher levels of achievement, including education (Maslow, 1943). Therefore, educational stakeholders urgently need to reevaluate school systems that fail to consider the full humanity of students' needs including not limited to food (Coca, 2021). Also, in the words of Coca (2021), “…any teaching-learning process that is based on materiality should consider food as a powerful pedagogical tool” (p.228).

Children spend a substantial amount of their time within educational institutions. Most countries oblige populations with mandatory educational minimums so young children spend the majority of their day at school, consuming a large portion of their daily calories within school walls. Experts have concluded that students consume between nineteen and fifty percent of their daily total caloric intake at school which is substantial considering school-aged children range from about four years to eighteen years of age (Gleason & Suitor, 2001). Nourishing oneself in a

healthy and sustainable way is incredibly significant and many students leave school without sufficient food literacy skills. Food literacy is multifaceted but is commonly defined as "a collection of interrelated knowledge, skills, and behaviors required to plan, manage, select, prepare and eat foods to meet needs and determine food intake" (Bailey et al., 2019, p. 2892). Lack of food literacy can have negative impacts not only on students during their educational journey but also extend into adulthood (Demory-Luce et al., 2004). While lack of food literacy and food insecurity is more prevalent in communities facing poverty, food literacy in affluent communities poses new sets of questions for educational researchers.

1.2 Statement of the Problem

Egypt is a middle-income country on the continent of Africa but is culturally part of the Middle East North Africa (MENA) region. The population of the country continues to climb with just over a hundred million people in 2020 and is projected to grow by about thirty million before 2030 (Helal & Ahmed, 2020). Egypt is the most populous country in the region with an estimated 5 million households ranging from low-income (earning less than EGP 250,000/US$ 16,000 per annum) to high-income (earning in excess of EGP 6.5 million/US$ 400,000) per annum). The capital city of Cairo, and specifically the Greater Cairo Area, is the largest city in the country and with a large population of youth and a burgeoning market for schools as 31% of the population is school-aged (Helal & Ahmed, 2020).

Due to the country's staggering income inequality, it is easy to discern the rich from the poor, and the haves from the have-nots (Ali, 2022). To operationalize the term affluence in the context of Cairo, contextualizing the socio-economic hierarchical structure of the Egyptian population due to gross economic inequalities is essential (Peichl & Pestel, 2011). While it is beyond the scope of this paper to explain the economic reasoning for these income gaps, it is

important to mention the post-colonial effects on present-day Egyptians. The affluent in Egypt experience a very different lifestyle than their less fortunate peers experiencing comfort, convenience, and luxury in all aspects of their lives (Ali, 2022). This places the affluent in a separate milieu; they often live in gated communities, have domestic staff employed in their homes, frequent social clubs, access international travel, hold multiple passports, have political ties and influence, and educate their children in private international schools. The effect of this affluence trickles down into all facets of life but as it pertains to this research the eating patterns of the wealthy are also notable as they diverge greatly from their less affluent counterparts. Access to imported foodstuffs, Westernized food establishments, and non-governmental school food programs is a concern to MENA researchers who have expressed concern over the reality of many countries reaching the sustainable development goals (SDGs) by 2030. Obesity, lifestyle diseases, and low rates of health literacy in Egypt are exacerbated "...in such a region plagued by high rates of malnutrition and nutrition-related disorders (Mohsen et al., 2022, p. 21). An ever-changing food landscape and access to financial resources without FL skills present a problem that needs to be further addressed in educational research.

The globalization of food has brought about the perception of superiority when it comes to Western foods. El-Ahmady and El-Wakeel (2016) discuss the effects of nutrition awareness on Egyptian students, and the shift in eating habits by stating that, "The typical Egyptian diet which usually consisted of high extracted bread, legumes, fresh dark green vegetables, other vegetables, and fruit has gradually been changing to accommodate fast foods and highly processed goods" (p. 213). Moreover, hyper-capitalism and market-based achievements have become increasingly more important thus conflicting with traditional values, including food culture. In Cairo, there is a rapidly growing demand amongst urban populations for fast foods and take-away-style meals

that can be consumed on the go. These trends that started in the middle of the 20th century have pushed Egyptians to choose the fastest options over the healthiest or traditional. This food trend is now affecting the eating habits of Egyptian children who are normalizing Western foods that solve immediate problems but have long-term consequences (Wassef, 2004).

The exacerbation of non-traditional more Westernized food in Egypt that can be accessed anytime due to affluence posits a unique problem for children and adolescents. The children of the wealthy almost exclusively attend private international institutions that are certified by foreign governments or international associations. Private international schools in Cairo accounted for 29% of total enrollment in 2019-2020 and this number is expected to increase with population growth (Helal & Ahmed, 2020). More than students in this demographic, often fall into the Third Culture Kids (TCK) category—a class that is internationally mobile, not just for vacations but for expatriate life. A high number of Egyptian children are in the hands of foreign teachers and foreign curricula; the most sought-after being the British, IB, American, and Canadian systems (Helal & Ahmed, 2020). The underlying problem in this particular context is that students at private international schools studying under the American curriculum do not have explicit nutrition-related instruction as part of their K-12 curriculum.

According to Kann and his colleagues (2001), in the United States, few state curricula specifically require nutrition education as a stand-alone topic. These researchers also argue that frequently, nutrition and health-related topics, including food literacy, are embedded in general health or science programs and, in many cases, are not taught at all. With an inundation of highly processed foods that are nutrient-poor pitted against traditional Egyptian cuisine; it is challenging to know how to navigate this food landscape (Carroll et al., 2021). Without mandatory food-related education to combat these dietary changes within the Egyptian population

international school students are at risk of obesity, diabetes, cardiovascular disease, cancer, and mental consequences that have already been researched in adult populations (El-Ahmady & El-Wakeel, 2016, Nga et al., 2019).

1.3 Research Gap

There is a large body of literature surrounding food insecurity and the detrimental effects it has on the mind and body; studies have shown that students belonging to families experiencing poverty are less likely than their high-income peers to have a healthy diet (Devaney et al., 1995). Low socioeconomic status (SES) is a strong predictor of food insecurity, typically resulting in low fruit and vegetable intake as well as a higher intake of saturated fats (Neumark-Sztainer et al., 1996). This research leads one to believe that issues related to food would solve themselves with food security and high socio-economic status or that socio-economic status and food security are interchangeable (Hanson & Chen, 2007). If food insecurity is attributed to a lack of availability and access, then a population of students belonging to the upper milieu of their society would not be concerned with food. Food literacy would—teach itself, and maybe only be a topic of interest if one was debating the benefits of having a vegan or piscatorial lifestyle. However, For some segments of the population, a high level of food security has come at the cost of low levels of food literacy especially as it pertains to navigating a highly processed food landscape, obesity, and other negative health factors.

The majority of school food programs, research, and initiatives around the world focus on students facing food insecurity due to socioeconomic barriers thus, there is a gap in the education literature that focuses on food literacy in affluent student populations. More importantly, there is a gap in the literature for affluent student populations in developing countries who are in a unique position of being part of the developing world but have resources that place them in a

separate milieu. This thesis research is different from the existing research that focuses on Egypt as a middle-income country and doesn't differentiate between the dramatically different lived experiences of Egyptians in the Plutocrat class. This thesis research focuses on only high-income children from families who are more similar to their developed country peers than their middle-class countrymen (Freeland, 2012). This research seeks to fill a gap in existing research in Cairo, Egypt on student and educator experiences of FL in a private international school environment.

Are issues of food literacy/illiteracy negated in high socioeconomic milieus? If a family is affluent, can it be assumed that they eat a well-balanced diet and are generally food literate? It can be hypothesized that regardless of socioeconomic status, lack of food literacy is problematic for one's physical, mental, and emotional health and that while affluent populations can afford to eat a well-balanced diet the barriers beyond economics are staggering. Even if finances are not the issue, "... the food industry spends billions on advertising to market these value-added products and influence children's understanding of what food ought to be" (Vallianatos et al. p. 419).

1.4 Purpose

The purpose of this qualitative study is to explore food literacy experiences in two K-12 American international schools in Egypt. The study aims to explore how and to what extent the experiences of two key educational stakeholders align or diverge vis-a-vis viewpoints, perspectives, attitudes, perceived barriers, and experiences.

1.5 Research Questions

The study seeks to answer three questions:

1) What are secondary school students' experiences of food literacy (FL)?

2) What are secondary school educators' experiences of food literacy (FL)?
3) How can the barriers to food literacy (FL) in affluent school communities in Cairo be removed?

1.6 Significance of the Research

Having spent seven years in Egyptian private schools, the austerity politics of the school lunch have plagued the researcher. Moving from a decentralized public system in Canada to an international private system, the question of food and how students engage with it appears every single day on campus as students are at school during two of the peak meal hours. Yet, the struggles that come with access to seemingly unlimited quantities of food have plagued the upper echelons in a different way prompting the question of what food literacy should look like and, more importantly, what it could look like in a vacuum of high socio-economic familial positioning. It could be assumed, based on past academic literature that the children of Cairo's wealthiest families are eating well-balanced meals at home and at school and have high levels of FL. However, the researcher has observed and personally experienced that there is a grave disconnect between these two realities.

Since the researcher is somewhat of a tempered radical as described by Meyerson and Scully (1995) as "individuals who identify with and are committed to their organizations and are also committed to a cause, community, or ideology, that is fundamentally different from and possibly at odds with the dominant culture of their organization" (p. 586), the question of why students aren't fed hot and healthy lunches as part of their high tuition fees became an important professional and research interest. As an educator, school feeding, and social justice advocate, it was even more concerning that the basic elements of food literacy do not appear to be part of the mission, vision, values, or curriculum of the schools involved. Moreover, the shocking

realization that food literacy, nutrition literacy, or any health education was not a mandatory part of the K-12 curriculum sparked even more significant questions about how young adults in high school were expected to learn about the multi-faceted components of food literacy.

This research is relevant to policymakers, politicians, parents, educators, and in general all educational stakeholders because of the insight it gives into the importance of FL for students who face barriers that are not financial. Going to school hungry either due to financial constraints or poor FL knowledge of the importance of a healthy breakfast impacts students from being able to reach their full potential (Plaut et al., 2017). According to Caraher & Lang (1999), "...food literacy needs to be framed as an essential life skill, irrespective of social class, which empowers an individual to take control over what they eat and make use of nutritional recommendations for better health" (p.7). As a life skill FL can be understood as a process through which each human is able to better understand their unique positional relationship with food whether exploring religious dietary restrictions (Kosher, Halal, Seyami), lifestyle choices (vegan, vegetarian, pescatarian), or better physical and mental health. Promoting FL is linked to healthy food habits that are positively associated with adequate food utilization including knowledge of food selection, food preparation, and overall diet quality (Palumbo, 2016) as well as increased consumption of fruits and vegetables (Burrows et al., 2015), and lifestyle changes including preferences for healthy food over processed food (Hersch et al., 2014). The findings of the research highlight school food environments giving further insight into how FL barriers can be removed.

1.7 Definition of Terms

Concepts like food insecurity and food scarcity are widely understood by researchers but the scope of food and nutrition literacy is as extensive as it is intersectional. When defining food

literacy and how it overlaps with the education system there are two commonly used definitions of food literacy (FL) and nutrition literacy (NL). Both terms are “highly contextual as they are influenced by geography and its food systems as well as the cultural and social contexts (Azevedo Perry et al., 2017, p. 14). Nutrition Literacy is defined as an individual's capacity to obtain, process, and understand nutrition-related information combined with the skills to make appropriate nutritional decisions (Silk et al., 2008). Food literacy goes deeper into the heart of the issue and Vidgen and Gallegos (2014) define food literacy as “a collection of inter-related knowledge, skills, and behaviors required to plan, manage, select, prepare and eat foods to meet needs and determine food intake”, as well as, “the scaffolding that empowers individuals, households, communities or nations to protect diet quality through change and support dietary resilience over time” (p. 54).

Both NL and FL are important, however, it is beyond the scope of this paper to dissect the terminology or semantics that render the two terms separate but equal. Therefore, the terminology used throughout this study will focus on FL and its components. The research questions for both students and educators use the more comprehensive definition that encompasses “a collection of inter-related knowledge, skills, and behavior and extends to other determinants that may influence food decisions like social and cultural factors” (Carroll et al., 2021, p. 14). This definition gives research participants depth and breadth to respond to the interview questions widely and discuss their experiences with food literacy that can exist along a long continuum. Semi-structured interviews centered on FL experiences can incorporate narratives that span “knowledge, skill, and behavior” (Carroll et al., 2021, p. 14).

A general criticism in the literature points to the lack of an “official” FL term that is used widely across all research but the most commonly used definition by researchers acknowledges

the multifaceted nature of the topic. FL encompasses how an individual understands the food system in which they are centered and if they are able to both think and act in a culturally responsive way (Vidgen & Gallegos, 2014). In this regard, the term FL is used throughout the research in a holistic way to encompass the myriad of intersections that food has with human life. As described in their transformational work on the topic, Vidgen and Gallegos's definition of FL is more holistic in a way that meshes food selection, food knowledge, food preparation, nutrition, and more socio-political concepts like food access and food sustainability.

Chapter Two: Review of Relevant Literature

In this chapter, a review of the pertinent literature on FL is presented. The link between FL and both capitalism and health is highlighted to emphasize the fact that capitalist structures are posing serious challenges to the health and well-being of citizens. Additionally, the role of curriculum in K-12 education is presented to expand on the narrower research problem of the American curriculums' disregard for FL. These subtopics further underscore the complicated nature of explicit and implicit curriculums and their interplay with capitalist forces.

In order to conduct the literature review primary sources were used by searching keywords relevant to the study. For example, food literacy, nutrition literacy, food literacy in secondary schools, food literacy in Cairo, food literacy in American school curricula, etc. In order to access this literature online databases including Google Scholar, EBSCOhost, JSTOR, AUC Library Database, and other Q1 and Q2 journals were reviewed to gain a better understanding of the terms, concepts, and existing research. Due to the interdisciplinary nature of the topic, journal articles, medical reviews, and books were searched using the keywords food literacy, nutrition literacy, and health literacy. The research gathered was then synthesized into categories to develop the study questions, research gap, and theoretical framework that underpins the research.

2.1 Food Literacy, Capitalism, and Health

Food as a broad concept is not neutral—not politically, socially, or economically neutral and how people interact with the food systems daily reflects their positionality in the world. The food that is imported, exported, coveted, and used to celebrate life's most important milestones carries with it profound significance. A significance that is usually only analyzed at the extremes–absence and abundance—feast and famine. Understanding how to nourish oneself

healthily and sustainably is incredibly significant, therefore, this topic is important to all educational stakeholders as inadequate food literacy among adolescents can impede the development of healthy food habits and limit their empowerment over their diets into adulthood (Lang & Caraher, 2001). The neoliberal shift in food systems has shifted the paradigm of nutritional issues amongst children from nutrient deficiency diseases to new concerns about overconsumption, poor dietary quality, and food choices (Briefel & Johnson, 2004).

Lack of food literacy is a multifaceted issue that can be analyzed through various lenses. Throughout the twentieth century, food has manifested itself within the neoliberal landscape highlighting the absolute power of these global systems. Unfortunately, this contemporary food system has turned the concept of food into an abstraction for many, including children who "[no longer] view food as something from nature that [has] ecological or nutritional significance" (Barton et al., 1177). Food championed by multinational fast-food chains is typically low in nutritional value and high in sugars, fats, and salts–highly processed and created to be consumed for a "quick fix" (Colatruglio & Slater, 2016). Therefore, without a deep understanding of nutrition combined with less-traditional eating habits, students are subject to lower resistance to infectious diseases and are at a higher risk of obesity, as well as psychosocial problems (Daniels, 2006).

The researcher aligns with and aims to build on the work of Jennifer Katz and Kevin Lamoureux (2018) who discuss the ongoing debates of formal schooling and its relation to health and wellness in the book, *"Ensouling Our Schools: A Universally Designed Framework for Mental Health, Well-Being, and Reconciliation"* stating that:

> From the beginnings of public education, a debate has raged about the purposes of teaching, learning, and schooling. Arguments have been made based on economics (to

> prepare the next generation of workers), philosophy (to produce democratic citizens), and communal values (to transmit the values of the local culture/ society). In a system determined to "school" a child, there is no room for self-actualization, self-determination, or, indeed, freedom. (p.1)

Unfortunately for the children of the wealthy in Cairo, simply having resources will not allow them to achieve "self-actualization, self-determination, or freedom" neither will the resources themselves translate into food literacy as shown by obesity trends and preventable illness diagnoses (El-Ahmady & El-Wakeel, 2016). Affluence is not necessarily related directly to skills or knowledge; knowing what to do with one's resources, regardless of how bountiful or meager, is a skill that needs to be learned and practiced the same way students practice traditional numeracy and literacy. Unlike other potential educational topics, FL is a pathway to shift students from being passive consumers to active consumers; giving them the knowledge and ability to transform their eating habits based on scientific knowledge (Graebner et al., 2009).

2.2 Curriculum and Complexity of Education

Most sub-topics within the field of education are multi-faceted as education systems do not exist as theoretical institutions of academia; they are subject to the forces within the existing society making education a key component of any nation-state. Education can be deemed one of the most complex socio-demographic constructs as each component of the system is subject to influence from the wider society. In this study, the complexity is increased further by the fact that students and their home language, culture, religion, and background are antithetical to the foreign American curricula that they are immersed in on a daily basis at international schools.

While it is beyond the scope of this paper to define curricula and its larger purpose in the realm of education, the concept of curriculum presented in this thesis is related to the notion that

there is both an explicit and implicit curriculum. The researcher connects with the work of Stephen Kemmis (1988) who has, in detail, discussed and critiqued curriculum stating:

> To many teachers and to other people involved in schooling, the notion of 'curriculum' presents no difficulties: its meaning is self-evident…It is often thought to mean what the teacher is obliged to teach, and over which he/she has little control. In this light, it is difficult to see the curriculum as the realization of an educational project of one teacher or of one school for its students, its community, or society as a whole. (p. 11)

The absence of explicit FL instruction in the American curriculum inadvertently sends the message that it is not important and the de-skilling of generations through limited opportunities both academic and functional is becoming an insurmountable barrier that needs to be addressed (Caraher & Lang, 1999). There is potential through the null curriculum, curriculum reform, and transformational leadership to address the lack of food literacy because, "when educational processes account for food pedagogies, eating can become a transformative experience with the potential to contribute to sustainability and inclusion in formal or informal education" (Coca, 2021, p. 228).

2.3 International Schools and Identity

International schools differ greatly in their identities from national schools. This unique "third space" as coined by Bhabha's (1994) and Jameson's (1991) theorizations of postmodern society calls for specific research. This "third space" that international schools occupy outside of the national education systems gives the opportunity for hybrid identities to form without being subject to traditional borders. Egypt, as in all postcolonial societies must navigate internal and external demands or what Bhabha (1994) called the 'ethical and political potential' of identity.

International schools and the internationalization of education directly challenge postcolonial nation-state identity pushing not only a set curriculum but cultural identities that extend beyond the classroom (Sakhiyya, 2011).

The academic literature on international schools and the field of international and comparative education continues to grow but more research on the unique situations that affect international schools is needed. Researchers must better understand the ways in which the benefits and deficits of specific education models (British, American, Canadian) that are exported internationally and how the intersection of present-day hegemonic forces and colonial pasts are affecting students' notion of identity, Questions of identity, and postcolonial forces plague international schools around the world as Tanu (2014) argues, at many international schools being “international” equates to becoming more Westernized. The Anglocentric environments of international schools are largely Eurocentric and place indigenous populations on the periphery. This core and periphery mentality seen in international schools continues to push colonial ideals of excellence and achievement and does little to further national education initiatives as local elites with access to these schools use them to maintain the status quo that directly benefits them and their children.

International school environments are typically comprised of stakeholders from a variety of backgrounds and were originally established to serve the children of expatriate families as national schools were unsuitable for a number of reasons. As discussed by Tanu (2014) at many international schools the local population is seen as “other” and the process of internationalization is often ubiquitous with Americanization. Today, the demographics of international schools have changed and while some still cater to expatriate families many international schools serve a higher proportion of local students than foreign students. The

demand grows exponentially each year putting local populations in a precarious situation when it comes to questions of national identity and the role of education within the state (Hayden, 2011). Between 2012 and 2018, there was a 40% global growth in international school enrollment with the trend projected to continue (Gibson & Bailey, 2022). The rapid growth in the demand for international schools offering foreign curricula has been seen primarily in Asia and the Middle East due to the rapid expansion of school-aged populations and the rise in middle-class families who can now afford private education. Therefore, more and more parents are looking to give their children a competitive advantage through private international school enrollment which is still most notably seen as a pathway to a better future. There is some irony in this postcolonial educational paradigm as Hayden (2011) explains,

> ...it is ironic, then, that schools that developed originally to promote greater social harmony and understanding between different peoples, as well as to facilitate mobility, seem to be contributing to a growing educational gap between social groups and thus to growing inequality in societies. (221)

2.4 Theoretical Framework

The theoretical framework of this research is multidisciplinary which mirrors the reality of education and also the reality of the larger world. FL plays a role within many academic disciplines and can be analyzed through a range of lenses as food is intertwined into every facet of human life. John Dewey is one of the most profound philosophers, educators, and social reformers of his time establishing a school of thought around education that has gone on to influence twenty-first-century education, curriculum, educators, and social justice leaders (Theobald, 2009). Dewey's insight on learner-centered education is still seen in classrooms

around the world because of his profound idea that education should be a "process of living and not a preparation for future living" (Flinders & Thornton, 2013, p.35). His push for progressive education that centered on the social realities of students is relevant to FL as the educational experience must go beyond academia to holistically encompass the physical, social, emotional, and spiritual growth of students (Schiro, 2012).

Resting on the educational ideals of Dewey, the theoretical framework for this paper can also be connected to Brazilian educator Paulo Freire who, in a number of works, discussed literacy as both reading the word and the world (Freire & Macedo, 1987). Freire's pedagogy of liberation applies to the overarching concept of FL as the essential element of basic literacy is creating connections between text, self, and the world. His theory explains the proposed role of the education system in clear terms; education should empower learners to critically analyze their experiences and engage in transformative action towards the goal of collective liberation. Learners, in this framework, are therefore collaborators rather than simply consumers of knowledge and bring their lived experiences into the classroom to build dialogue. This dialogue pushes creative problem-solving and the co-creation of knowledge through a share critical consciousness (Freire & Macedo, 1987).

Schools must therefore teach students how to do things, like basic literacy and numeracy skills, but also go one step further and create opportunities for application. Learning how to read and then reading to learn is common as students move through their K-12 years; how to interpret the world around them and how to critically think about the push and pull forces of their environments will lead to personal empowerment. In the case of FL, students must be able to not only read and learn about food but apply this understanding to their world in order to make FL

functional. Using this framework, FL is “an opportunity for self-efficacy, empowerment, and acquiring a sense of coherence and competencies” (Benn, 2014, p.31).

Continuing on this thread, in the case of international schools, the patterns of domination and submission are different from how Freire traditionally envisioned them (Allman & Wallis, 1997). Friere championed education for liberation and self-development thus seeing education as being transformational. In this case, the student population used for this research is of the affluent class within Egypt but international school teachers and curriculum are foreign and represent colonial power structures; students at international schools are conditioned to reproduce the imported systems in which they are educated and socialized even if they are to their detriment (Hill, 2022). Later sociocultural theorists like Frantz Fanon extended Freire’s work coining the term the “colonized mind” to express the visible and invisible ways in which colonial legacy has eroded the psyche of those oppressed by postcolonial structures.

This research takes place in Egypt, which was once a British colony, therefore, modern Egyptian people regardless of social class are subject vis-a-vis their nationality to the consequences of colonialism. As Kebede (2001) writes about the legacy of Fanon’s work on the colonized mind, “...not only does this inferiority complex paralyze all the dynamic forces of the colonized world, but it also institutes a permanent state of dependency” (p. 540). According to Gerrard (2021), there is a growing body of academic research that examines how modern schooling even if the model is progressive (like this one would appear to be as Western education in Egypt is seen as progressive to Egyptian families) can still dispossess people. Using a Freirean perspective, a pedagogy that is more democratic and participatory will ground teaching and learning in the concerns and issues of everyday life which means FL should theoretically be at the center of formal and informal education (Hill, 2022). Liberation theory thus underpins this

research as FL is not simply a subject in school but a pedagogical revisiting of what education means and who it is for.

Chapter Three: Methodology

3.1 Method

Qualitative research is designed to uncover the what, how, and why of a certain phenomenon or issue, according to Creswell (2012). To answer the aforementioned research questions, the study adopts a phenomenological qualitative approach to gain more meaningful insight into the experiences with food literacy experienced by Egyptian students studying at international private schools. The Phenomenological Research Method (PRM) is defined as, "a phenomenological study that describes the meaning for several individuals of their lived experiences of a concept or a phenomenon" (LeVasseur, 2003, p. 409). This qualitative method is used to understand the holistic issues surrounding a research phenomenon, and in the case of food literacy, the multi-dimensional nature of the topic itself requires an investigation of the personal experiences, interpretations, and underlying factors experienced by those affected (Patton, 2002). This research approach was chosen over others as it is most applicable to the research due to limited time and resource allocation it also allows for the potential for thick description as this method empowers people to share their stories through narrative experience (Creswell, 2007), which pairs well with the social nature of food itself.

3.2 Participants

This study uses purposeful sampling as the research questions center around a specific demographic of students—high socioeconomic status, and private school attendees, who study the American curriculum. Using Creswell's (2012, p. 206) definition, "in purposeful sampling, researchers intentionally select individuals and sites to learn or understand the central phenomenon," the researcher sought to answer the research questions and explore potential ways that food literacy can be improved.

Accordingly, using a purposeful sampling strategy, the participants for this study were fourteen students and ten educators from two private American schools located in the city of Cairo, Egypt. The participants were members of the School X and the School Y community which are both K-12 private schools, however, only high school students and educators were focused on in this research. This study focused on secondary school stakeholders (grades nine through twelve) as it is the culmination of the K-12 education system and the last legally required step of the educational process before students chose to move on to tertiary education or alternatively the workforce. It is also the last stage in adolescence where children move from being adolescence to young adults thus their positionality as it pertains to food literacy in high school has a strong correlation to lifelong habit formation (Demory-Luce et al., 2004).

The students who attend both schools are part of the country's elite and represent the top ten percent of families living in the city of Cairo. This can be deduced from their enrollment at "luxury" private international schools that cost between 6,500-30,000 USD per annum (Helal & Ahmed, 2020). The researcher can be assured that economic status and food insecurity are not the potential cause of current food literacy levels. This demographic was intentionally selected as it reflects a gap in the research surrounding FL in high-income youth populations.

Based on the literature review and the research questions, educators were chosen to participate in this study due to the potential existence of tempered radicals who may teach elements of food literacy outside the boundaries of the existing curriculum (Meyerson & Scully, 1995). Because semi-structured interviews are strong tools to capture the experiences participants have with food literacy, the study included more varied voices from the school community and opened the conversation to allow the researcher to gain a more holistic vantage point.

Table one below identifies the student participants in the study and their relevant demographic information. Each student was given an individual code that will be used to identify their direct quotes that are embedded in the findings below. Rather than a pseudonym each student was given a number corresponding to the order in which they did their semi-structured interview. S means student and the number refers only to timing and is not numerically significant. The grade of the participant and separating them into two groups based on the school they were from was not deemed important as the main focus of the research was on FL and the American curriculum of which both schools adhere to. However, columns three to six in the table are important as they show recurring patterns that are also relevant to the thematic findings explained in chapter four.

Table 1

Student Participants Demographics and Coding Schema

Sex	Code	# Years Studying in the American System	FL Courses Referenced K-8	FL Courses References 9-12
F	S1001	12		✔
M	S1002	12		✔
F	S1003	9		✔
M	S1004	13		✔
F	S1005	13	✔	
F	S1006	12	✔	
F	S1007	6		✔
M	S1008	14		✔
M	S1009	12		✔

M	S1010	4		
M	S1011	12		
F	S1012	12		✔
M	S1013	11	✔	✔
M	S1014	12	✔	✔

Table two identifies the second group of participants and their relevant demographic information. The educator table incorporates different demographic information from table one as the research questions for each group differed. Each educator was given an individual code that will be used to identify their direct quotes that are embedded in the findings below. Rather than a pseudonym each educator was given a number corresponding to the order in which they did their semi-structured interview. E means educator and the number refers only to timing and is not numerically significant. Columns three to five are important to the chapter as they show recurring patterns that are also relevant to the thematic findings explained in chapter four.

Table 2

Educator Participants Demographics and Coding Schema

Sex	Code	Department	FL Incorporated into Curricula	Mention of Parents
M	E2001	HS Science	✔	
M	E2002	HS Science	✔	✔
F	E2003	HS Math		✔
F	E2004	HS Science	✔	✔
M	E2005	HS Humanities (History)	✔	✔
F	E2006	HS Humanities (IB Psychology)	✔	

F	E2007	HS Psychology	✔	✔
M	E2008	HS Computer Science		✔
M	E2009	HS English		✔
F	E2010	HS English		✔

3.3 Data Collection Tools and Procedures

The research took place on School X's and School Y's campuses and interviews were facilitated by the researcher in English. Using semi-structured interviews, the researcher collected rich data to develop an in-depth understanding of FL. According to Patton (2002) and Creswell (2012), semi-structured interviews are an essential way for researchers to obtain information that goes beyond data collection and expands the conversation surrounding the phenomenon of study.

Since there is no universally accepted tool used to measure FL among adolescents a set of questions based on self-reflection was created by the researcher derived from a similar study conducted with adults (Carroll et al., 2021, p. 2). Expert opinions were gathered to further improve the semi-structured interview questions for students. The aim is to uncover self-perceived levels of food literacy and was adapted from Carroll et al., 2021. The questions developed for educators aim to explore the ways in which teachers explicitly or implicitly engage in FL within and beyond the parameters of the curriculum. These questions were developed based on the work of Carroll et al., (2021) and Renwick et al., (2021) with expert opinions. These questions are listed in Appendix A and B. Before data collection took place, the researcher did a pilot study of the interview questions in order to ensure they are clear, concise, and

well-adapted to the age of the participants. The pilot study served the purpose of revising and amending the interview protocol.

3.4 Data Analysis

For analyzing the research data a thematic approach was used in order to help the researcher to identify patterns of meaning and themes as they relate to the research questions (Braun & Clarke, 2013). This thematic method involved seven steps including: data transcription, reading and familiarization, coding, searching for themes, reviewing themes, defining and naming themes, and finalizing the analysis (Braun & Clarke, 2013). Following the aforementioned steps, the researcher transcribed the data which is the "process of converting audiotape recordings or field notes into text data" (Creswell, 2012, p. 239). The interview transcripts were then considered documents that could be examined, analyzed, and coded to extract the themes using the constant comparison method requiring the researcher to compare codes to codes and emergent themes to themes (Strauss & Corbin, 1998). According to Clark and Creswell (2014), the thematic coding approach allowed the data to be sorted into relevant themes linked to the keywords, research questions, and theoretical framework to help answer the research questions.

In order to finalize the data analysis, after multiple rounds of analysis and revision of themes, the transcribed data was sorted into three final themes to identify the interrelationships and findings of the research (Gorman et al., 2005). The analysis found the thematic trends of curriculum gaps and deficits when it comes to FL knowledge, time management, and familial involvement during the teenage years, and finally competitive food vendors and the poor food environments created by capitalist forces.

3.5 Ethics

Ethical considerations in this study were considered beforehand and approval was obtained from the Institutional Review Board (IRB) before data collection was started. Moreover, all participants were briefed about the nature of the study and given consent forms that explained what the data would be used for and informed that their consent to participate in the study could be revoked at any time without prejudice. Confidentiality was also explained because the researcher is part of the research subject's community and there needed to be a clear demarcation that this is not an action research project nor is it related to scholarship or employment. As it pertained to adult participants, they were verbally informed that their data would be used for tertiary educational purposes only and not be disclosed to their employer; ensuring their identity would be confidential. As it pertained to student participants, those under the age of 18 were asked to have their parent/guardian sign a waiver allowing them to participate in the research study and were verbally informed that this data would be used for academic purposes only and not be connected to their personal academic records.

3.6 Trustworthiness

To ensure the research study follows the five aspects of trustworthiness as stated by Korstjens and Moser (2018), the researcher took intentional steps to ensure credibility (internal validity), transferability, dependability, confirmability, and reflexivity. To ensure the results and findings of this qualitative study were trustworthy the researcher took many steps throughout the research process. In qualitative research, validity is determined by, "how accurately the account represents participants' realities of the social phenomena and is credible to them" (Creswell & Miller, 2000, p. 124). Throughout the interviews, the researcher recorded narratives digitally to transcribe and review them later. During the semi-structured interviews, the IRB-approved research questions were asked as well as follow-up questions to ensure that the meaning of

statements was consistent with the researcher's understanding of what was said. Clarifying participant answers helped to ensure the accounts reported were credible and to make sure that the researcher's inferences did not affect the narratives. Interviews were transcribed verbatim and responses were not changed in the findings section except to remove dead space, unnecessary coordinating conjunctions, or repetition. Due to the fact that all students involved in this study speak English as a learned language (ELL) sometimes verb tenses and word choice in the student responses were changed for readability. One method of trustworthiness was member checking, a process that ensures participants' voices are heard accurately and validates conclusions (Cope, 2014). The practice of member checking was employed by giving the transcribed data to participants to ensure their voices were reported accurately. According to Creswell and Miller (2000), member checking is an essential part of building credibility and in this case, participants agreed that the transcripts of the interviews accurately represent their viewpoints.

3.7 Credibility

The research first accomplished credibility through the triangulation of data in which the researcher had to “search for convergence among multiple and different sources of information to form themes” (Creswell & Miller, 2000, p.125). Upon completion of transcription and member checking the data was reread multiple times for the researcher to highlight and code sections to bring out relevant themes. Once themes emerged the data was then revisited to ensure that the themes extracted accurately represented the narratives of students and teachers. Since there were two sets of stakeholders involved the thematic analysis aimed to combine the narratives into overarching themes that represented the research questions and responses in the most accurate way possible.

According to Shenton (2004), the element of credibility in qualitative research is important because it refers to how the study was conducted and if the study "measures or tests what is actually intended" (p. 64). In order to do this the researcher used the method of triangulation by using two research locations (schools) as well as two different groups of stakeholders (educators and students) who are key in the educational community. This was an important step in ensuring credibility as "...triangulation may be achieved by the participation of informants within several organizations so as to reduce the effect on the study of particular local factors peculiar to one institution" (Sherton, 2004, p. 66). Including ten educators and fourteen students representing a wide range of ages, genders, religions, nationalities, grade levels, education levels, and experiences the research represents multiple viewpoints and understandings of the topics presented within the research. Moreover, the qualifications, background, and experience of the researcher also build credibility in the study (Sherton, 2004). In this research, the professional experience gained in almost a decade of teaching in the K-12 system as well as undergraduate qualifications in the field of education allowed the researcher greater insight into the phenomenon of FL and its implications building credibility.

3.8 Role of the Researcher

The role of the researcher is important to clarify as I am uniquely positioned as an expatriate teacher working in the K-12 American system in Cairo, Egypt, and concurrently studying Educational Leadership at AUC. However, the only real way to describe my positionality is to echo the words of the classic novel, "The Great Gatsby" by F. Scott Fitzgerald. As a researcher, "I was within and without, simultaneously enchanted and repelled by the inexhaustible variety of life" (Fitzgerald, 2016, p. 26). I have access to a very unique space in international education and a privileged vantage point from which to conduct research. I am

within the system insofar as I work in an American private school in Cairo but am also very much without. I am undeniably an outsider, each day I am reminded that I am neither American nor Egyptian.

I consciously, actively, and adamantly self-identify as being Assyrian-Canadian and do so because Canada is a country of indigenous peoples, European colonizers, and new immigrants. As a third-generation Canadian, food was always important on both sides of my family—for many Canadians, food is what connects them to their homelands. Growing up in the province of Saskatchewan with Assyrian-Iranaian and Hungarian parents I ate a wide variety of foods from both cultures as well as partook in dishes from cultures that were not my own. Looking back, I can remember hundreds of times food was the start of a cultural conversation: the curry wafting in through my bedroom window when my Indian neighbors were having a family get-together, buying fresh perogies from the Ukrainian co-op, and learning how to eat injera with my Ethiopian friends; these examples only skim the surface. Looking back on my early years in Canada, food was always a point of pride, a practice of pluralism, and joy.

I can attest to food being of incredible personal importance but it wasn't until much later in my life that yet another familial encounter changed the way food would forever be seen. Food's larger connection to school, community, and life was brought into the spotlight when extended family members moved from Sweden to Canada and were severely distressed by the fact that their children were not fed school lunches. This change caused stress on the family as the concept was entirely foreign to them as new immigrants from Sweden. This societal construct of "packing a lunch" that is seen as normal for Canadians was a massive change from their experience in Scandinavia where "Sweden provides a free school lunch to every child in the compulsory (9-year) school system. It consists of a hot meal, a salad buffet, bread, and a

beverage. The Education Act states it must be free of charge (since 1997) and ‘nutritious’” (Patterson & Elinder, 2014, p. 655). For the researcher, this moment was pivotal in the realization that FL represented a lot more than a lunch program or curricular learning outcome.

From these lived experiences school lunches, FL, nutrition literacy, and the incredibly complex and unique intersectionality between physical and mental health have become a focus of observation for the researcher. While the researcher is passionate about the topics presented within the research there was no conflict of interest at the personal or professional level that would serve to negate any findings within.

Chapter Four: Presentation of Results

4.1 Thematic Findings

This qualitative study explores the experiences of FL from students' and educators' points of view. Three overarching themes emerged with responses from both groups, the themes are: FL curriculum gaps and deficits, time management issues and familial involvement during the teenage years, and competitive food vendors and the poor food environments created by capitalist forces.

The discussions were recorded via a hand-held digital recording device (offline) and afterward, the oral recordings were transcribed by the researcher. Through transcription analysis, the fourteen student transcripts and ten educator transcripts were then organized into charts and color-coded to construct themes that ran throughout the narratives. The goal was to take the narratives based on two different sets of research questions to find themes that connect the relevance of FL to these two stakeholder groups. Table three shows the research questions and their connection to the thematic findings.

Table 3

Research Questions and Themes

Interview Question(s) Educators	Interview Question(s) Students	Theme Identified
Within your subject area, are there curricular frameworks that explicitly relate to the concepts of food literacy? If yes—What food literacy and food system education topics do you engage in with students? Could you tell me about your experiences with this?	Can you tell me about your experiences of either a grade or a course where you were taught the elements of food literacy? Please explain where and how you obtained the majority of your knowledge about food.	Curriculum gaps and deficits

How do you think students' FL could be improved? What is your view of Food Literacy (FL) and its significance for students? What do you think are barriers to an improved FL?	How would you describe your food habits overall?	Time management issues and familial involvement during the teenage years.
Based on your academic and non-academic observations and interactions with students, What is your view of students' levels of FL? What do you think are barriers to an improved FL?	Can you tell me about your experience with meals at school? If there is, please explain What is that room for improvement? How do you think school meals can be improved?	Competitive food vendors and poor food environments are created by capitalist forces.

4.2 Curriculum Gaps and Deficits

Throughout the semi-structured interviews, the topic of curriculum and explicit instruction of FL was discussed by both teachers and students. This was the most prevalent theme and was heavily emphasized by both groups of stakeholders. This was very interesting to the researcher because the participants in this study are from mixed backgrounds spanning multiple nationalities, however, they are all currently part of a private education system that offers a standard American Diploma (AD) or an International Baccalaureate Diploma (IBDP). In this case, the schools in which the research was conducted are operating offshore in Cairo, Egypt to allow Egyptian students the opportunity to study and earn a degree equivalent to that of students studying in mainland America. Interestingly, the theme of curriculum gaps and deficits was woven throughout both student and educator statements.

In the American curriculum, there is no explicit FL education from grades K-8 unless the school operates within a state that has specific mandates or if the teacher carves out time to teach these elements above and beyond the expected curricula. However, in grades nine through twelve there are various courses in which elements of FL are taught but this is not standardized and often happens haphazardly as many of the courses are electives and therefore not taken by all students. Since many educators working within this particular American educational system are not Americans themselves, the absence of FL practices seems to stand out in contrast to other education systems. While the purpose of the research was not to compare FL programs between curricula the discussion around what FL looks like in an American school is not lost on educators with E2002 saying,

> …I know for a fact they don't have a nutritional science program coming through middle school and high school. If it's intentional, then it's negligence. If it's not in their academic domain, because it's not there for the American Diploma (AD), then that would certainly explain quite a lot of the issues that we hear about in the media about America having massive obesity-related diseases associated with its population.

In the case of private American schools abroad, the accreditation process is complex and beyond the scope of this research paper. It is relevant to these findings to note that in this example there is no school board, union, or group of elected officials to oversee the curriculum. Instead, a board of directors (typically comprised of financial stakeholders) makes the decisions in a top-down manner. Beyond what is required for official accreditation American schools based in Egypt are allowed to operate outside the confines of the specific state legislature that schools in mainland America would be held to. In this regard, many health-related initiatives like the former first lady Michelle Obama's "Let's Move" program, The Comprehensive School Health Program (CSHP),

American School Health Association Programs (ASHA) or the National School Lunch Program (NSLP) don't reach offshore private schools (Best, 2017). This gap in FL programs and initiatives changes the dynamic of overseas American schools that sell an American education experience to parents but do not have to engage in policies beyond what is required for accreditation.

When asked the research question, "Within your subject area, are there curricular frameworks that explicitly relate to the concepts of food literacy (healthy eating, cooking, composting/waste management, gardening, food justice, agriculture, food safety, etc)? If yes—What food literacy and food system education topics do you engage in with students? Could you tell me about your experiences with this?" about half of the educators gave an example of how FL was taught in their classroom. Ranging from theoretical to hands-on examples, E2005 said, "I teach industrialization in a couple of different grade levels and that refers to things like the agricultural revolution and the growing of crops, selective breeding of animals for food and things like that." While E2004, an applied science teacher went into detail about a specific unit saying,

> **…**we created dishes that were either heart-healthy or diabetic-friendly. They brought the food to school. They took pictures of themselves making it. They took pictures of all the ingredients. They were able to look up the nutritional values of fruits and vegetables and they were able to calculate a serving size. They were able to calculate the recipe serving size and give the nutritional information. I walked them through it but they were able to do the final project on their own and I was thrilled with the results."

Many educators who participated in the semi-structured interviews gave examples of teaching FL at the high school level. A similar sentiment was echoed by students who were

largely able to recall a time when they were learning about FL in high school. However, many did not feel that it was sufficient enough and when asked to explain the connection between their food knowledge and curriculum many struggled to say anything beyond "physical education" or "science class." Many students were not able to elaborate on their answers and give concrete details. S1009 said, "The only class that really focused on food ever was like science …in applied science where we were speaking about the importance of nutrition and how to create a good meal plan." Another student echoed a similar acknowledgment of the lack of curricular frameworks saying, "Yeah, I could have definitely learned a lot more in the school about food choices that would have helped me to know exactly what I should be eating."

On the other hand, many answers from students were overtly negative citing that the curriculum did nothing to help them develop FL skills and that the majority of their knowledge came from outside the classroom. For example, S1001 said, "I learned a lot from my grandmother because she cooks all the time, my mom cooks all the time. I feel like I have learned more from them than from school in general." S1009 responded to the question by saying, "...obviously at home…it's not like I learned the foods from school…" and S1005 said, "...probably from my family or like stuff I see online, but not really from school." These answers show that there is a gap in curricular frameworks that help establish FL practices throughout the K-12 education system. Some students who participated in this research were not able to give a single concrete example of learning FL in any course throughout their educational journey; this is concerning for students on both a personal and academic level. Considering the sample group was made up of only high school students, most of whom had been in the American education system for over 10 years (starting in KG or KGII) it was unlikely that they

would encounter anything of sufficient substance to meet the aforementioned definition of Food Literacy as explored in the Literature Review section of this paper before graduation.

While it does seem slightly positive that students are getting some FL from home (based on the quotes in the paragraph above), the fact that there is a gap in instruction (theory and practice) creates caveats that are not going to be positive based on previous research. Familial participation is an important piece of the puzzle (this will be addressed further in a later theme) but relying solely on the parents will not create a holistic FL environment. Another element that cannot be assumed is the correlation between socioeconomic status (SES) and FL. The student population in this particular qualitative research is a sample from a high SES familial background but there is research that shows diet quality is important to academic performance, a factor that supersedes SES (Florence et al., 2008). In essence, having the ability to eat high-quality foods doesn't automatically mean it is happening. This link between dietary quality and academic performance is of importance to students' futures and the research broadly shows that there are important connections between school-based interventions and their impact on the community at large (Chaudhary et al., 2020). It is also worth noting that the population is composed of adolescents all of whom attend school daily. Students are a captive audience and are required to fill certain requirements for graduation. Therefore, school is an ideal setting for more than just nutritional education but can serve as a location to foster behavioral change, skill development, and positive lifestyle outcomes that will stay with students into tertiary education and beyond (Dudley et al., 2015).

4.3 Time Management Issues and Familial Involvement in FL

The theme of time management as it relates to food preparation and consumption as well as the links between time and familial involvement in teenage food habits was another emergent

theme that connected the stakeholder narratives. While there were no explicit research questions aimed at parental involvement or time management, both groups independently brought up these issues as part of the semi-structured interviews.

Educators mentioned that the high school population is made up of teenagers who are beginning their journey into adulthood and that the poor food choices made were either due to poor judgment or a lack of guidance from their parents. When asked the research question, "What is your view of Food Literacy (FL) and its significance for students?" The educators either contributed a lack of FL to parents or simply the fact that the adolescent brain is still developing therefore impulses for sugar, salt, and fat trump understanding of good food choices (Blakemore & Robbins, 2012). These narratives link to research on food flavor preferences and addiction; it was found that there are 'innate flavor preferences' and 'learned flavor preferences' (Onaolapo & Onaolapo, 2018). Being attracted to the taste profiles of lipids (fats), sweets (sugars), and savory (salt) flavors is not unique to teenagers but what is unique is this pivotal time period in their lives. Studies in physiology indicate that while an innate preference for one of the three senses of taste exists they have found that most flavor preferences are learned (Sclafani & Ackroff, 2012). If most flavor preferences are learned and can be changed with exposure to a variety of foods that span food groups and taste profiles then making time for elements of FL in educational spaces is important. Earlier research by (Nanayakkara et al.) suggests that even amidst resource scarcity like lack of time combining FL with other subject areas and interdisciplinary teaching could inspire a more holistic application of FL (Nanayakkara et al., 2017).

This aligns with research on adolescent behavior that attributes this time in life to a period of rapid growth, changing dietary habits, increased autonomy over diet, body image

concerns, and greater peer influence (Livingstone et al., 2004). The sentiments were expressed differently by students who attributed the problem to a lack of time on school days or poor self-control. This discrepancy is logical from both an age perspective as students in this age group see themselves as more independent than they are in reality and do not want to blame their families for their negative food habits as they see themselves as independent actors. The discrepancy is also logical from a cultural perspective as the majority of the student population is Egyptian therefore culturally do not want to bring shame to their families even if they are aware that negative food habits are being practiced or reinforced at home.

The lack of time seemed to exacerbate problems with making healthy food choices from the student's point of view. Both schools are located in Cairo, Egypt which is one of the largest urban centers in the world. Busy city life is part of the reality for students who often have robust academic and social lives. Moreover, the populations that attend these schools are often made up of the children of the elite who are actively involved in events around the city so expectations beyond the school day are often taxing. When asked to describe overall food habits, time was brought up as being a barrier to making good choices. S1001 explained that there was not enough time to pack a lunch for school saying, "I don't feel like making a lunch box or something to eat every morning. I'm just too tired for that. So I grab like a snack or like a granola bar or something for school…" A similar answer was elicited from S1005 who said "I get too tired to pack food in the morning and then I don't eat at school." As well as S1010 who doesn't eat at all during the school day tells the researcher, "I don't eat during the time of school. I like to wake up late I don't have time to take a shower I brush my teeth and then I don't like to eat after I brush my teeth." These students were aware that their choices were not optimal but felt that time was limited therefore either a processed food snack or not eating at all during the school day was

the only feasible option. Another student mentioned that due to time the only real option was junk food saying, " I rarely eat at school because first I don't like half the food that's in school and sometimes I'm just too lazy to make it at home, so I just come with a bag of chips and that's it (S1006)."

When asked the research question, "How do you think students' FL could be improved?" educators didn't see time as being the main reason for poor eating habits on campus instead attributing these choices to an overall lack of familial involvement and the reliance on school food vendors to supply healthy food during the school day. This result makes sense as educators are inherently more aware of the macro-level implications of the familial structure on overall FL as well as the research that has time and again stressed the essential nature of parental involvement in forming adolescent eating habits (Anliker et al., 1990). When asked the question, "What do you think are barriers to an improved FL?" Many educators mentioned parents and the autonomy given to both the student and the school when it comes to choosing appropriate food. E2001 said, "...I think we rely on parents to do that a lot, and sometimes they do, sometimes they don't." E2005 said, **"**I don't think it's possible for schools to undo parenting, good or bad. The behavioral side of it needs to be at home, but the side of it with the actual knowledge needs to probably be done at school. But there is no harm in overlap."

Statements given by the educators referring to students' parents' lack of involvement show that there is a weak home-school relationship when it comes to FL at these two American schools and that this topic seems to be neglected due to a myriad of factors. Stakeholders are not on the same page when it comes to understanding the barriers of time and parental involvement. There needs to be a better understanding between stakeholders of the barriers that exist for high school students as well as families and how to overcome them. Similar research has shown that

school-based intervention programs cannot alone be successful and need the support of families (Birch & Fisher, 1995). A better path forward needs to be established to ensure that as many barriers as possible are removed so that students are eating healthy food throughout the day.

These findings were interesting to the researcher as not a single student mentioned familial or parental involvement negatively, only speaking about their deficiencies in food selection or of the faults in the curriculum. Two statements were made that showcased the trouble with relying on school food vendors instead of parental guidance with E2004 sharing, "...the biggest barrier is probably the parents not being involved in their daily food preparation. You know, here's some money to buy yourself lunch at school. Well, that leaves the door wide open." Interestingly a student agreed with this exact issue explaining that there is a transition at his school between when students are required to bring food from home and when they are deemed old enough to frequent the on-campus vendors. Connecting this idea student S10011 explained, **"**The main reason people gain weight in school is when they first introduce cafeteria meals. Because there's a certain time when you're not allowed to use the cafeteria. And you have to pack lunch. I think the second they transition into cafeteria meals; people start to gain weight mostly at a young age."

These two complimentary statements bring to the forefront the importance of FL both in theory and practice. The participants in this study are all of a high SES background so paying for high-quality food is not a barrier; however, mentions of lack of time to enact the knowledge that students have was expressed by many as the reason breakfast, lunch, or any healthy food was consumed during the school day. Based on these statements it can be seen that not only is the curriculum important but the practice of making choices that are good for the body and mind. The gap between theory and practice needs to be better explored for these students to truly

benefit from having both a high socioeconomic level (access) and requisite education (food literacy knowledge). The overall need to improve teenage dietary quality to improve physical and cognitive growth during these pivotal years cannot be understated (Burrows et al., 2016). According to Veugelers and Fitzgerald (2005), school-based programs can be effective in bolstering academic performance as well as preventing childhood obesity through the promotion of healthy eating and proper physical education.

In this study, students interviewed expressed challenges of time management in their ability to make good food choices but research has proven that teenagers alone cannot be in charge of their food selection as they will tend to choose items with high levels of sugar and often make hedonistic choices regardless of the short or long term consequences (Johannsen et al., 2006). For these two school populations, there are (some) barriers but a more comprehensive home-school partnership will serve to improve FL for these adolescents showcased by educator E2005 saying, “I think with young people, in general, is that they don't understand the things they're doing to their body because so little of what they do has a long term. Well, they don't see the long-term effect because there is no long-term if you're 15, 16.”

4.4 Competitive Food Vendors and Poor Food Environments Created by Capitalist Forces

It was apparent throughout the semi-structured interviews that the food on campus presented a natural way to engage in the topic of food literacy with both groups of stakeholders. In this study, the food sold on campus was referred to either by the vendor’s actual business name or the umbrella term of school food as a catch-all for the overall school food environment. Both schools have more than one food vendor on campus and depending on the grade level there are certain restrictions. Logically the high school students at both schools have the widest access to school food as compared to K-8 students (elementary and middle school students). Overall,

the thematic findings showed a natural progression between sub-topics ranging from curriculum to the role which families play in providing healthy food for their school-aged children. The final theme was the most compelling to the researcher as it was expressed by both students and educators that the competitive nature of on-site food vendors and their contribution to what was concluded to be a poor food environment was an obvious barrier to healthy eating on campus.

The link between the themes presented so far in this chapter is best showcased by educator E2001 who, when asked about the curriculum he taught in his high school science class, went on to connect the failure of the American curriculum to the big business associated with school food programs in the United States. He said,

> It's not in the curriculum in public schools because of the large food companies which want to sell crap to students, and they are controlling. In public schools, in the U.S. anyway, they control...they have some sort of control over the curriculum somehow because it's a multi-million-dollar business, and they want to sell processed crap because it's cheaper. Yeah, so I think that's absolutely why it doesn't get taught in public schools in the U.S.

This connection between curriculum and the school food programs in the United States was made by an American educator who is keenly aware of the public records—between the years 2009 and 2011 that over $175 million dollars were spent by the food and beverage industries to lobby against stricter nutritional standards for the food market to children in schools (Best, 2017). Competitive food sales in schools have become such a hot-button issue in the United States that many individual states have set nutritional guidelines that are stricter than the USDA requirements; twenty-seven states have their standards for competitive foods and twenty-nine states have limits on competitive food above and beyond federal requirements (Yoshida &

Simoes, 2018). The connection between for-profit sales of food on a closed campus and the tendency for vendors to prioritize sales over health were reported by two educators with E2006 saying, …our kids don't think of healthy food before they make a decision to buy it and they, the vendors want to sell. So yeah, they'll sell them whatever they want." E2004 brought up the obvious conflict of interest saying **"** …the selections here have gotten a little bit better. They have more fresh fruit and stuff. But I see the people who take it are usually the adults."

Students were asked more generally about their experiences with meals at school leaving the door open for them to discuss personal practices or critique the current status quo. Two questions in particular one being, "Can you tell me about your experience with meals at school?" and "How do you think school meals can be improved?" elicited many passionate responses from students as well as apathetic ones. S1009 responded despondently by saying "... food from school, I eat from it but it's not because like I like it. It's kind of the only option I don't want to go eight and a half or nine hours not eating so I do eat from school but the food isn't really the best option." S1013 had little to say when asked about how school meals can be improved, stating "The school food isn't like necessarily healthy or like high quality, it's rather just to be made so that they can put it out."

The most insightful answer was given by S1002 who articulated the conflict between creating a positive food environment and the conflicting forces of wanting to make a profit. When asked about school food improvement she said,

> "…at the end of the day their businesses, they're trying to make money…they're not coming to feed us healthy food. It's not benefiting us anyway, rather it's benefiting them and it's making us eat junk food for no reason…it's essentially money-driven, business-driven, it's more of business than health. They're coming to benefit themselves

> and themselves only. So it's causing me to eat food that I don't want to consume and it's bad for my body."

This statement by S1002 is aligned with research that while nutritional knowledge is one step towards FL that this does not automatically translate to good dietary practices. The multidimensional nature of FL requires interconnected components that encompass both the classroom and cafeteria (Taylor et al., 2017). To enact nutritional knowledge and put FL into practice there needs to be an adequate food environment (Vereecken et al., 2010). Knowing what is good for you without being able to eat it, in this case, not due to lack of purchasing power but due to the inadequate food environment tainted by capitalist forces is another barrier to holistic FL practices. Moreover, there is consistent "…evidence that eating patterns are more likely to improve, when changes in the school environment are complemented with classroom nutrition education (Tallon et al., 2019, p. 170).

Chapter 5: Discussion of Results

Food literacy as explored through the experiential narratives of high school students is multifaceted in nature. FL as an academic concept is complex because it includes knowledge, skills, and attitudes related to food and nutrition. According to Vidgen and Gallegos (2014), FL encompasses four key dimensions: food and nutrition knowledge, food skills, food choices, and food-related behaviors. Food and nutrition knowledge refers to the understanding of the nutritional value of different foods, as well as their effects on health. Food skills delve further into the application of knowledge and involve the ability to prepare and cook healthy meals, read food labels, and plan balanced meals while food choices refer to the selection of healthy foods, while food-related behaviors include the adoption of healthy eating habits. It can be concluded from the result of this research that the two stakeholder groups experience similar sentiments, both expressing that FL could and should be improved within their current educational environments.

This awareness of a need for improvement in FL aligns with research by Slater (2013) who outlined three pillars of food literacy as a process of empowerment. FL is not a one-size-fits-all concept but a non-linear framework through which humans' relationship with food and their well-being can thrive. As expressed by the participants of the semi-structured interviews, there is a perception that FL can be improved in the school environment. The three pillars outlined in the research include the conceptual understanding of FL which focuses on function and is known as functional food literacy (FFL). FFL is the first step in that it focuses on the understanding of science-based nutritional information and would encompass knowledge of the food pyramid and other evidence-based information. The second pillar is interactive food literacy (IFL) which encompasses the personal knowledge and skills around food that can

positively contribute to individual health and well-being. This is where FFL is taken a step further in order to operationalize the knowledge and put it to use in the real world. The last pillar is the most comprehensive and is known as critical food literacy (CFL) which requires a critical thought process to evaluate the food systems in which one is situated and larger beliefs about food and its interplay with religion and culture. Slater's (2013) pillars of FL align with research findings in Chapter 4; while not explicitly stated most student participants reflected that they have some FFL, little IFL, but a lot of CFL as they are mostly practicing Muslims who are observant of Halal eating and proud of their Egyptian heritage and historic fertile crescent diets.

John Dewey's pedagogical approach to learning aimed to develop the whole person, advocating for a more holistic approach to education that took into account students' positionality in the real world. Taking learning from the classroom into the world requires opportunities for students to practice hands-on learning, complete authentic assessment tasks, and bridge the gap between school and community in a way that is culturally responsive. While international schools face different challenges than national schools, a Deweyian approach to FL can fit well into spaces that are already diverse by nature, giving students the opportunity to share their unique linguistic, cultural, and culinary backgrounds. The process of moving through the pillars of FL is important as there is no "graduation" from FL as it is a lifelong pursuit and is part of each person's socio-cultural and socio-economic environment resulting in changes over time and place (Palumbo et al., 2019).

However, the behaviors adopted during the adolescent period have consequences that can span an entire lifetime. Students who have low FL levels are at risk for lifestyle-related diseases like Type II diabetes, heart disease, as well as obesity (Canavan & Fawzi, 2019). Moreover, the physical and psychological damages of obesity are immense and can increase the risk of mental

health disorders, suffering from non-communicable diseases, and shortened life span with an acute risk of premature death (Di Cesare et al., 2019). While FL can be defined as a process with three pillars, the overall importance of promoting food and nutrition literacy as a determinant of health to support healthy eating habits later in life is well represented in academic research (Seabrook et al., 2019). In a 10-year longitudinal study on self-perceived cooking skills in young adults, researchers found that those with better cooking skills consumed less fast food and had a higher intake of fruits and vegetables (Utter et al., 2018).

Improving FL levels is not straightforward and unlike other policies increasing FL levels will require sustained effort from all stakeholders including educators, parents, students, and community members (Canavan & Fawzi, 2019). Room for improvement means there are many areas in which the stakeholders feel that changes either in theory or practice could enhance the student population's FL level. It also shows a readiness to make changes because it is understood that the changes implemented would be for the better, even if the gains were not immediately felt. It also requires what political scientist Joan Tronto explains simply as…caring. In a chapter, she wrote on the politicization of caring through a language of rights she says, “Caring is not only about the intimate and daily routines of hands-on care. Care also involves the larger structural questions of thinking about which institutions, people, and practices should be used to accomplish concrete and real caring tasks” (Tronto, 2013, p. 139). This idea of caring for others as part of public interaction and not simply relegating care to the private sphere is somewhat radical because it shifts the perspective of macro-level questions in education. If care is taken into consideration, there is a fundamental shift in how FL is understood in the context of school food and how stakeholders would approach the topic. Using a language of rights, FL would be required to encompass the four key dimensions of food and nutrition knowledge, food skills,

food choices, and food-related behaviors. According to Vidgen and Gallegos (2014), this then means FL education would holistically span K-12 education ensuring that students leave school with a high level of interrelated knowledge and transferable skills as well as the physiological health to get the best possible start at young adulthood.

From a biological point of view, the discussion of FL and its components seems straightforward. If FL aims to "care" and thus aims to educate and care for students until they graduate then a logical inference would be the creation of school-based food programs where students are fed nutritious meal(s) through the school day. This aligns with what the students said to the researcher about time constraints and the poor choices made due to time management issues and competitive food vendors on campus who do not prioritize the health of students over their own profits. Since school is a place where children spend the majority of their waking hours and where they are present during the times of the two most important meals of the day, it is almost redundant to emphasize the biological needs for students as humans to consume healthy food (Godos et al., 2020). Ideally, food that would benefit their minds and bodies in order to prepare them for a rigorous learning environment therefore again extending the concept of "care" to all students to give them the best possible chance of academic success.

The topic of breakfast is often discussed when it comes to school nutrition programs as this is typically the main target for low SES school-based interventions. However, breakfast consumption has become a universally recognized standard for health in children and overall healthy lifestyle; especially for children who are at a stage of critical physical and mental development eating a healthy, sufficient, and nutritious breakfast plays a critical role (Yao et al., 2019). Does coming from a high SES background guarantee that the student has had breakfast? Going further, data from existing School Breakfast Programs (SBPs) in the United States have

shown that the existence of school-based food interventions promotes increased attendance (Jacoby et al., 1996), readiness to learn (Wahlstrom & Begalle, 1999) better classroom behavior (Shemilt et al., 2004), increased pro-social behaviors (Shemilt et al., 2004), and an overall positive impact on school performance (Adolphus et al., 2013). Outcomes associated with SBPs are positive and regardless of familial background increase the cognitive functioning of students in real-time and the adoption of a school breakfast or lunch program would solve immediate nutrition problems as well as be a step forward in creating a better school food environment.

The benefits of school feeding programs are multifaceted and can alleviate hunger, reduce nutrient deficiency, prevent obesity, improve attendance, and increase cognitive performance (Bundy et al., 2009). Research by Carrillo-López (2023) highlights the importance of executive brain functioning on academic performance and the ways that learning is bound by the physiological. Having meals at school can be an important way to ensure that the student population is physically ready to undergo a day of learning and removes barriers for students to access healthy food immediately even if their overall FL level needs time to develop. This is logical and aligns with an earlier discussion of Maslow's Hierarchy of Needs and the ways in which human beings need to fulfill their physical needs before any higher-order functions like learning can be accomplished. As Maslow pointed out, there is a hierarchy in which humans must address their needs because they are first and foremost animals that need to have the most basic needs met before any energy can be harnessed into other endeavors. Healthy eating habits are part of FL but if students are coming to school hungry they will not be able to learn about FL nor will they be able to fully engage in any of their subjects.

Jirout et al. (2019) provide an example of the impact of nutrition based on information processing theory. For humans to learn, at the most basic level they need to have an absence of

both hunger and fatigue. Students need to be able to use their energy to engage in the mental gymnastics of disequilibrium without inhibiting discomfort factors that distract them. The information processing model by Jirout et al. (2019) is a theoretical framework that explains how people acquire, store, and use information to make decisions. The model shows that it is best to have optimal learning conditions for students to increase their working memory functioning to build long-term memory capacity (Jirout et al., 2019). Across subject areas, improvement in executive brain functioning will help attention, engagement, and fact retrieval all of which will contribute to academic performance (Montes Miranda et al., 2020).

Building on this information processing theory model the concept of student well-being must also be addressed. Well-being as a concept can be quantified in many different ways but the biopsychosocial model explains the concept as the interaction between psychological, biological, and social factors. Through this model, well-being is multifaceted and requires a holistic approach to FL that aligns with Dewey's understanding of education and its role in society. This biopsychosocial model of well-being and FL align as the ultimate goal of FL is to empower people to make the best choices for their health and overall well-being (Fava & Sonino, 2007).

Wellness is a buzzword used in many industries to promote products and services but the promotion of wellness should be at the center of FL programs. FL is important for students because, "Humans do not innately know how to select a nutritious diet; we survived in evolution because nutritious foods were readily available for us to hunt or gather "(Nestle, 2013, p. 15). In a more complicated landscape that is increasingly becoming more globalized, better skills are required to navigate landscapes will continue to shift. To highlight the need for increased FL, food landscapes in the United States over the last century can be used as a case study. In the early part of the twentieth-century issues in America around FL were concerned with citizens'

adequate intake of nutrients and calories. Throughout the latter part of the twentieth-century developments in agricultural technology, food production, and eating patterns shifted. The American food landscape went from being primarily small family farms to large-scale industrial factory farms owned by corporations. Diets that were based on whole foods cooked at home were increasingly expanding beyond the kitchen to include fast, processed, and pre-prepared foods. Americans saw improvements in diets but the pendulum shifted too far toward overnutrition, defined as eating too much food or too much of certain kinds of food (Nestle, 2013). Today, the majority of children in the United States fail to meet national recommendations for fruit and vegetable consumption yet obesity has become a major issue for healthcare professionals, educators, parents, and politicians. (Krebs-Smith et al., 2010). The adverse effects of low FL on a population have been outlined but beyond FL questions about identity, culture, and

5.1 Implications for Practice, Policy, and Research

There exists a large interest in school food research to initiate and promote healthier eating as well as wholesale lifestyle changes in adolescents. The findings of the research contribute to the existing literature on FL in secondary schools but also contribute to the wider conversation around food in schools. Many studies span various countries, education systems, and demographics it is apparent that more research is needed when it comes to FL in high SES populations. Even the wealthiest Egyptian families in two high-ranking schools are still working on how to create a positive school food climate. Furthermore, a school system based on the model used in the wealthiest country on the planet is not adequate and the failures of FL in an exported model of American education in Egypt further highlight this point.

The researcher agrees with the existing literature on the topic of FL in K-12 schools that there is a need for more synthesis of the findings to put research into practice (Chaudhary et al., 2020). Further research on the topic of FL needs to look deeper into the phenomenon of how FL and food insecurity, undernutrition, and disordered eating patterns exist even in the wealthiest demographics within both developed and developing countries. Since food insecurity can be measured at the individual, household, or community level it is important for researchers not to assume that FL and food security exist simply based on familial status (Gallegos et al., 2021). As shown in this study, children who have financial access to healthy food do not necessarily have a high level of FL for various reasons. Food insecurity is not a blanket concept that can only be explored through the lens of poverty and disenfranchisement but can adversely affect those typically left out of the research. Recent research on the topic of food insecurity has shown that the hyper-focus on financial access to food alone as the most important pillar of food security has created an underestimation of household food insecurity in high-income countries (HFI) (Long et al., 2020). There is also evidence that the absence of food literacy is associated with HFI further emphasizing the need for researchers to explore how FL can be improved regardless of SES (Begley et al., 2019).

The results of this research may also have a significant effect on education policymakers, stakeholders, and administrators. In order to be successful, FL and NL programs must consider the multitude of influences on adolescent eating patterns and must go beyond simply assuming that high SES equates to sufficient FL. A combination of theory-focused and behavioral-focused interventions is needed to generate positive behavioral change meaning that educational stakeholders should be holistically focused on FL not just targeting one area like curriculum (Khong et al., 2018). The findings of this research may highlight the benefits of having a school

feeding program that is centralized, student-centric, and healthy because there is evidence that eating patterns are more likely to improve when changes are made not only to nutrition education but also to the school food environment (Story et al., 2009). Educational consultants and policymakers should encourage both parents and schools to provide diverse foods for school-aged children. One way to do this is through school feeding programs which have been shown to improve the dietary quality, diversity, and nutrition levels of students (Zenebe et al., 2018). This research also contributes to the literature stating the importance of FL curricular frameworks as a positive first step toward FL implementation. Some state governments are taking action to address obesity and low FL levels. For example, the California Department of Education created the 'Nutrition Education Resource Guide for California Public Schools Kindergarten Through Grade Twelve' program that integrated FL in many subject areas (Amahmid et al., 2019).

5.2 Limitations

In this qualitative study, two sets of stakeholders were interviewed to explore the research questions surrounding self-perceived FL levels. One obvious limitation is that this study only took into account two main groups of stakeholders when the international school community is composed of many voices and narratives. Since the setting of the research is in an international school community bound by an American curriculum, expanding the research to include more stakeholders would have enhanced the findings. In hindsight, interviewing members of the school board of directors, administrators, parents, on-campus food vendors, and non-academic staff could have enriched the findings and provided more insight into what is a very complicated topic.

Another limitation as it pertains to the student population is the overall study method including the research questions. Having students answer questions about their self-perceived FL levels was a good starting point for conversation but knowing their actual or more quantifiable FL levels based on a quantitative questionnaire could have added to the findings. Being able to compare their perceptions and reality could have been a valuable tool and while the qualitative narratives presented in this paper are a good first step a more data-driven approach would have yielded specific and more quantifiable data sets to prove the qualitative narration that has been cited here because there seems to be a collective sentiment that more FL (in various forms) is wanted by at least two of the main stakeholders. If this study were to be conducted again a mixed-method approach it would undoubtedly have resulted in richer findings with stronger correlations to the various intersecting sub-topics of FL.

One limitation when it came to interviewing educators was time both as it pertained to the length of semi-structured interviews as well as the willingness to participate on or off campus. The researcher had originally wanted to interview ten students and ten educators and found it very difficult to even get ten educators willing to participate in this study. Based on feedback from educators and inferences made by the researcher the hesitation was due to time constraints and not an unwillingness to engage in the topic itself. A second limitation as it pertained to educators was the fact that in an international school setting some of the adults on campus do not speak the same language. For example, at both schools, Arabic department members do not speak fluent enough English and would only be able to participate in a semi-structured interview if a translator was present. Due to this linguistic constraint, only those able to do the semi-structured interview in English were included.

The ultimate limitation of this research study was the topic of FL itself. Food Literacy is an incredibly vast topic incorporating overlapping elements of public policy, education, health, economics, and politics. It was challenging for the researcher to reduce some of these important sub-topics in a way that honored their importance and connection to the topic of FL. In the end, more connections to FL and its implications on childhood obesity, future earning potential, quality of life indicators, lifestyle-related diseases, Egypt's GDP, gender inequalities, religious influences and other sub-topics would have been interesting to explore but were not due to time constraints. The issue of food advertising and the capitalist forces that are at play psychologically for adolescents is another area that should have been explored in greater detail as a few students mentioned food advertising in passing as well as seeing more and more food-related content on social media platforms like TikTok. The scope of this research only skims the surface of what needs to be studied to help shape a better understanding of how to ensure that adolescence moves from childhood to adulthood with the best possible arsenal of FL knowledge, skills, and tools. The fact that there are many limitations when it comes to this study and others relating to FL speaks to the importance of the topic.

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Appendix A

Student Questions

Note: The concepts of Food Literacy (FL) will be explained by the researcher in case the participant does not have a full understanding.

1. How many years have you studied at an American international school?
2. Can you tell me about your experiences of a grade or a course where you were taught elements of FL?
3. Please explain where and how you obtained the majority of your knowledge about food.
4. Can you explain your understanding of the following types of nutritional information: food labels, food advertising, familial food advice, and information from health professionals?
5. Please explain the concept of the food pyramid.
6. Explain step-by-step how you would make a balanced meal at home.
7. Can you tell me about your experience with meals at school? If there is, please explain what is that room for improvement.
8. How do you think school meals can be improved?

(adapted from Carroll et al., 2021, p. 278)

Appendix B

Educator Questions

Note: The concept of Food Literacy (FL) will be explained by the researcher in case the participant does not have a full understanding.

1. What is your view of Food Literacy (FL) and its significance for students?
2. Within your subject area, are there curricular frameworks that explicitly relate to the concepts of food literacy (healthy eating, cooking, composting/waste management, gardening, food justice, agriculture, food safety, etc)?
    a. If yes—What food literacy and food system education topics do you engage in with students? Could you tell me about your experiences with this?
    b. If no—Do you incorporate any elements of food literacy into your curriculum anyway? Could you tell me about your experiences with this integration?
3. Based on your academic and non-academic observations and interactions with students, what is your view of students' levels of FL? What do you think are barriers to an improved FL?
4. How do you think students' FL could be improved?

(Adapted from Renwick et al., 2021, p. 707)

Appendix C

THE AMERICAN UNIVERSITY IN CAIRO
INSTITUTIONAL REVIEW BOARD

Case# 2022-2023-182

To: Amy Pugsley
Mustafa Toprak
Dena Riad

From: Heba Kotb Chair of the IRB
Date 25/2/2023

Re: IRB approval

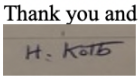
This is to inform you that I reviewed your revised research proposal entitled

"A Qualitative Exploration of Food Literacy in International Schools in Egypt)"

It required consultation with the IRB under the "expedited" category. As you are aware, there were minor revisions to the original proposal, but your new version addresses these concerns successfully. Your proposal used appropriate procedures to minimize risks to human subjects and that adequate provision was made for confidentiality and data anonymity of participants in any published record. I believe you will also make adequate provision for obtaining informed consent of the participants.
This approval letter was issued under the assumption that you have not started data collection for your research project. Any data collected before receiving this letter could not be used since this is a violation of the IRB policy.

Please note that IRB approval does not automatically ensure approval by CAPMAS, an Egyptian government agency responsible for approving some types of off-campus research. CAPMAS issues are handled at AUC by the office of the University Counsellor. The IRB is not in a position to offer any opinion on CAPMAS issues, and takes no responsibility for obtaining CAPMAS approval.
This approval is valid for only one year. In case you have not finished data collection within a year, you need to apply for an extension.

Thank you and good luck.



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