

# Understanding Food Literacy Through Google Fit Application : A Case Study in Reframing Positive Communication

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Abstract. In the digital era, food literacy—an essential competency for making informed dietary choices—has gained significance in enhancing not only individual health but also communication skills. This study investigates the role of the Google Fit application in improving food literacy and its subsequent impact on positive communication among university students. Utilizing a qualitative case study approach, we explored how the use of Google Fit influenced the understanding of food literacy and fostered supportive, constructive interactions among 20 English Literature students at UNIMED. Findings reveal that Google Fit's features, such as calorie tracking and activity monitoring, significantly enhance students' awareness of nutrition and healthy eating behaviors. Furthermore, improved food literacy encouraged participants to engage in data-driven, empathetic dialogues, thus fostering positive communication. The results highlight the potential of mobile applications to serve as effective educational tools, not only for promoting health literacy but also for cultivating essential interpersonal skills. These findings underscore the importance of integrating digital tools into academic practices to bridge the gap between personal health education and broader social competencies.

Keywords: Food, Literacy, Positive, Communication, Mobile.

## 1. BACKGROUND

In the digital era, food literacy plays a vital role in shaping not only our food choices but also how we communicate. The use of mobile applications to enhance food literacy has been increasingly integrated into educational settings, particularly for university students. These digital platforms provide a convenient and effective way for students to acquire knowledge about healthy and sustainable eating habits, helping them navigate their dietary choices with a more informed perspective. However, there is limited research on how food literacy, specifically through mobile applications, can influence students' communication skills, particularly in fostering positive interactions. Existing studies highlight the importance of digital literacy as a broader skill that enables individuals to engage more effectively in the modern food environment. For instance, research has shown that digital tools, such as apps for food sharing and sustainable food systems, can empower users to participate more actively in community-driven food initiatives (Samoggia et al., 2021; Mackenzie & Davies, 2019). These platforms help individuals to share knowledge, collaborate, and contribute to conversations about food choices, which can, in turn, enhance communication skills by encouraging respectful and informed discussions. (Smith et al.,2020;Jones et al., 2022)

While research extensively explores the role of the digital tools in fostering food literacy their influence on communication skills remains underexplored. Digital literacy an essential competence in using technology effectively plays a criticcal roe in enabling individuals to engage with modern food environments (Greenhow & Lewin,2016). For instance, digital tools such as food sharing and platforms for sustainable food systems empowers user to participate actively in community driven initiatives (Mackenzie & Davies, 2019). Such platforms encourage users to share knowledge, colloborate, and engage in meaningful discussions about food choices, fostering respectful and informed interaction (Brown & Wilson, 2020). These engagements not only enhance food literacy but also contribute to the development of communication skills, such as the baility to express opinions empathetically and respectfully.

Furthermore, a study conducted in Chile explored how digital literacy interventions in the food sector helped strengthen communication and networking among smallholder farmers and consumers. This highlights the potential of digital tools to bridge communication gaps, particularly in the context of food literacy. It suggests that understanding food literacy can improve an individual's ability to engage in constructive dialogue and share opinions confidently (Samoggia et al., 2021). While these studies primarily focus on food systems and sustainability, they imply that a strong foundation in food literacy can contribute to more effective, empathetic, and positive communication in general settings.

In the case of English Literature students at UNIMED, enhancing food literacy through mobile apps could not only improve their ability to make informed food choices but also foster communication skills that are essential in both academic and social contexts. By promoting awareness of food sustainability and health, students may become more confident in discussing a range of topics, from personal health to global issues, while also developing the ability to listen and understand diverse perspectives. Thus, this study seeks to explore the relationship between food literacy through mobile apps and the development of positive communication skills, providing insights into how digital food education can extend beyond dietary choices to influence broader interpersonal skills.

#### 2. REVIEW OF LITERATURE

Food literacy refers to an individual's ability to make informed and healthy food choices, integrating practical skills, knowledge, and attitudes essential for navigating daily food-related decisions. Vidgen and Gallegos (2014) define food literacy as a framework encompassing four domains: planning and managing, selecting, preparing, and eating. These domains collectively influence food behavior, aiming to empower individuals to adopt healthier eating patterns. Their framework highlights the practical and cognitive skills required to access, prepare, and consume nutritious food, considering cultural, social, and economic factors. Vidgen and Gallegos's definition has become a cornerstone in food literacy research and public health interventions. For example, Begley and Vidgen (2016) expanded on this by emphasizing the role of food literacy in addressing dietary imbalances and reducing health disparities. They argued that enhancing food literacy equips individuals to overcome barriers such as misinformation and limited access to healthy options. Their findings support food literacy as a critical component of health promotion strategies. Further supporting this perspective, Pendergast et al. (2011) Food literacy is the 'capacity of an individual to obtain, interpret and understand basic food and nutrition information and services as well as the competence to use that information and available services that are health enhancing.

Mobile applications have emerged as powerful tools for enhancing food literacy, especially among university students. As digital platforms, these apps provide a dynamic and engaging way to improve students' knowledge about food, nutrition, and healthy eating behaviors. Studies have highlighted the role of mobile applications in offering accessible, interactive environments that cater to different learning styles, making it easier for students to grasp concepts of food literacy in a more engaging and efficient manner (Samoggia et al., 2021). According to Mackenzie & Davies (2019), these apps enable students to make informed decisions about their diet by providing them with immediate access to nutritional information, meal planning tools, and personalized recommendations based on their health goals.

One significant benefit of using mobile apps in food literacy education is their capacity to foster greater food awareness. Experts argue that food literacy extends beyond basic knowledge about food and nutrition—it includes the ability to apply this knowledge to make healthier food choices in daily life (Berg et al., 2021). Mobile apps such as Google Fit and MyFitnessPal encourage students to reflect on their eating habits, track their food intake, and monitor their physical activity, all of which are essential components of food literacy.

Furthermore, these apps provide real-time feedback, making it easier for students to adjust their behaviors and make healthier decisions.

In addition to improving food literacy, mobile applications contribute to the broader field of digital literacy, which refers to the ability to effectively use technology to find, evaluate, and apply information. According to experts like Lankshear & Knobel (2019), digital literacy is crucial for students in the modern age, as it empowers them to access and navigate various information sources, including those related to health and food. Through the use of mobile applications, students are not only learning about food and nutrition but also gaining the digital skills necessary to engage with a wide range of health-related content online.

Despite these benefits, some studies also point out the challenges students face in using mobile apps for food literacy. For instance, not all students have the necessary technological skills or access to devices that support the full functionality of these apps (Smith et al., 2020). Furthermore, students may struggle with maintaining consistent engagement with the app, which can hinder the long-term effectiveness of these tools. Nonetheless, experts agree that with the right support, mobile applications can be a valuable resource for improving food literacy and encouraging healthier lifestyle choices.

Positive communication, as defined by Leontovich Olga Arkadyevna, emphasizes the constructive and supportive exchange of ideas that leads to beneficial outcomes in interpersonal and social contexts. It is characterized by constructiveness, where dialogue fosters growth, positive actions, or emotional well-being, avoiding harmful criticism or destructive tendencies. A fundamental aspect is supportiveness, which involves empathy, nurturing dialogue, and often humor, creating an encouraging and reassuring atmosphere. Moreover, positive communication requires intentionality and initiative, where participants actively contribute to smooth and meaningful interactions while maintaining balance and avoiding domination of the conversation (Leontovich, 2014). Studies suggest that food literacy can enhance individuals' ability to communicate effectively, particularly when discussing health and nutrition topics. Food literate individuals are better equipped to engage in supportive conversations about healthy eating, encouraging open dialogue and fostering mutual respect (Silva et al., 2023).

Thus, the skills gained from understanding food choices can extend beyond food discussions, contributing to more positive social interactions. Grounded theory approaches have been used to explore the relationship between food literacy and communication skills. These approaches focus on identifying patterns and theories from empirical data, offering a

deeper understanding of how food literacy influences communication behaviors in various settings (Samoggia et al., 2021). Despite the growing body of literature on food literacy and its components, limited research has explored how food literacy, particularly through mobile apps, impacts positive communication in diverse student populations. This gap presents an opportunity for further investigation into how digital tools can not only improve food knowledge but also enhance interpersonal communication, a key skill in both academic and social settings

Google Fit is a health and fitness application developed by Google to help users monitor physical activities, track fitness goals, and improve overall health. Available on Android, iOS, and Wear OS devices, it uses a data-driven approach to encourage a healthier lifestyle. The app features Activity Points, rewarding users for physical activities that elevate heart rate, and allows for the setting of personalized daily goals based on recommendations from the World Health Organization (WHO) and the American Heart Association (AHA). Additionally, Google Fit provides activity tracking for various exercises such as walking, running, and cycling using sensors in smartphones or connected devices. It integrates seamlessly with thirdparty apps like Strava and MyFitnessPal, as well as wearables like Fitbit, consolidating health data into a single platform. Users can also monitor sleep quality and stress levels when paired with compatible devices. Google Fit serves as a comprehensive tool for promoting and maintaining an active and healthy lifestyle, making it a valuable resource for individuals focused on fitness and well-being (Zakiah, 2023).

#### 3. RESEARCH METHODOLOGY

This research utilizes a case study design with a qualitative approach. The purpose is to explore how the understanding of food literacy among UNIMED English Literature students is influenced by the use of internet, and how this, in turn, impacts their positive communication skills. The case study methodology allows for an in-depth examination of the participants' experiences and perceptions, providing insights into the intersection of food literacy, technology, and communication in an academic context. As food literacy is often viewed through practical, applied knowledge, this design facilitates a closer look at its real-world implications on interpersonal skills (Vidgen & Gallegos, 2014). The participants in this study are 20 undergraduate students from the English Literature at UNIMED. The primary instruments for data collection are in-depth interviews of the students' interactions through the

use of internet related to food literacy. Interviews will provide qualitative insights into individual students' experiences, and gather more structured data. The second research question explores the relationship between food literacy and positive communication. Through a similar process of interviews and surveys the study will track how students' understanding of food literacy influences their communication skills. Positive communication in this context is defined as respectful, empathetic, and constructive dialogue (Silva et al., 2023). The internet used will also be assessed to determine if they foster communication skills, such as collaboration and constructive feedback. To analyze the collected data, thematic analysis will be employed. This method involves identifying, analyzing, and reporting patterns (themes) within the data (Braun & Clarke, 2006). In the context of food literacy, thematic analysis will allow for the identification of key aspects of food knowledge and communication behaviors. Data from interviews will be transcribed, coded, and organized into themes that reflect the the role of Google Fit to the participants' understanding of food literacy and the manifestations of positive communication in their daily interactions.

## 4. DISCUSSION

Pertanyaan	Kategori Jawaban	Jumlah Responden	Persentase
1. Seberapa sering Anda menggunakan Google Fit untuk melacak kebiasaan makan atau aktivitas fisik Anda?	Setiap hari	8	40%
	3-5 kali seminggu	6	30%
	Seminggu sekali	4	20%
	Jarang	2	10%
2. Fitur apa dari Google Fit yang paling membantu Anda dalam mempelajari pola makan sehat atau nutrisi?	Pelacakan kalori	10	50%
	Grafik aktivitas harian	6	30%
	Integrasi dengan aplikasi lain	3	15%
	Pengingat aktivitas	1	5%
3. Bisakah Anda memberikan contoh bagaimana Google Fit memengaruhi pilihan makanan atau perencanaan makanan Anda?	Mengurangi konsumsi kalori	8	40%
	Menambah sayuran dan buah-buahan	5	25%
	Meningkatkan kesadaran tentang gula	4	20%
	Meningkatkan frekuensi memasak sendiri	3	15%
4. Dalam hal apa Google Fit meningkatkan pemahaman Anda tentang makanan dan nutrisi secara keseluruhan?	Pemahaman tentang kebutuhan kalori harian	10	50%
	Kesadaran tentang keseimbangan pola makan	7	35%
	Peningkatan wawasan nutrisi makanan	3	15%

### Table 1 The role of Google Fit in enhance food literacy

Google Fit has proven to be a valuable tool for monitoring habits related to food intake and physical activity, as reported by participants in the study. Approximately 40% of respondents indicated using Google Fit daily, highlighting its critical role in raising awareness about dietary habits and promoting consistent nutrition tracking. This frequent use underscores the app's effectiveness in supporting students to stay informed about their nutrition, a fundamental aspect of food literacy. Additionally, key features of Google Fit, such as calorie tracking (used by 50% of participants) and activity graphs (30%), were identified as significant contributors to enhancing food literacy. These features enable users to evaluate the balance between their energy intake and expenditure, fostering a deeper understanding of healthy eating patterns. By offering actionable insights, Google Fit reinforces the relationship between food choices and physical activity, making it a powerful educational tool. Furthermore, many participants reported that the app positively influenced their food choices, encouraging healthier habits like reducing calorie consumption and increasing the intake of fruits and vegetables (25%). Through its ability to visualize data on nutrition and exercise, Google Fit empowers students to make more informed decisions about their diets, contributing to a comprehensive understanding of balanced nutrition as a core component of food literacy.

Pertanyaan	Kategori Jawaban	Jumlah Responden	Persentase
5. Bagaimana pemahaman Anda tentang food literacy memengaruhi cara Anda berkomunikasi dengan teman tentang pola makan sehat?	Mengajak teman makan sehat	9	45%
	Berbagi informasi tentang makanan bergizi	7	35%
	Meningkatkan frekuensi diskusi	4	20%
6. Bisakah Anda ceritakan situasi di mana pengetahuan Anda tentang food literacy menghasilkan percakapan yang positif atau konstruktif?	Membantu teman dalam diet	8	40%
	Diskusi tentang resep makanan sehat	6	30%
	Berbagi pengetahuan nutrisi dengan keluarga	4	20%
	Menyarankan perubahan pola makan	2	10%
7. Apakah pemahaman food literacy membuat Anda lebih mendukung atau membangun komunikasi positif tentang topik kesehatan? Jika ya, bagaimana caranya?	Memberi saran secara konstruktif	12	60%
	Menjadi panutan bagi teman	5	25%
	Berbagi pengalaman pribadi	3	15%
8. Bagaimana belajar tentang food literacy melalui aplikasi seperti Google Fit memengaruhi kemampuan Anda untuk berbagi informasi atau saran yang akurat kepada orang lain?	Meningkatkan kepercayaan diri berbagi informasi	10	50%
	Membantu memberikan rekomendasi berbasis data	7	35%
	Meningkatkan kemampuan memberikan saran praktis	3	15%

Table 2 The influence of food literacy on positive communication among stduents

The study found that Google Fit played a pivotal role in fostering positive communication among participants by enhancing their food literacy. Approximately 45% of respondents shared tips about healthy eating, nutritional choices, and insights gained from Google Fit with their friends and family, creating opportunities for positive interactions. This demonstrates how increased food literacy through the app fosters a culture of communication where students actively help each other make healthier decisions, contributing to supportive and constructive social relationships. Furthermore, 60% of participants reported that their understanding of food literacy enabled them to provide constructive health advice to others. This newfound confidence allowed them to share data-driven guidance on food choices and fitness goals, emphasizing the importance of informed, positive communication rather than mere opinions. Additionally, 50% of respondents mentioned that their improved food literacy inspired them to encourage others to adopt healthier habits. Leveraging data from Google Fit, they initiated conversations about healthy lifestyles, highlighting how understanding food literacy empowers students to engage in goal-oriented discussions that promote not only individual well-being but also collective health and wellness.

The analysis of the interviews revealed that Google Fit plays a pivotal role in improving students' understanding of food literacy. The app's key features, such as calorie tracking, activity monitoring, and personalized goals, help students develop a deeper awareness of their food intake and physical activity. Participants highlighted the usefulness of these features in assessing the balance between nutrition and exercise, which reinforced their understanding of the importance of balanced diets and healthy lifestyle choices. A majority of students reported using the app regularly, which suggests that it serves as an effective tool for promoting food literacy by offering real-time data that aids decision-making related to food choices and health behaviors.

In relation to the second research question, the understanding of food literacy through mobile applications like Google Fit positively impacts students' communication behaviors. Students not only become more informed about their dietary habits but also feel more confident in sharing this knowledge with others. Many participants reported discussing food literacy and health habits with their peers, which suggests that the app serves as a catalyst for constructive and supportive communication. These interactions align with Leontovich's theory of positive communication, which emphasizes the importance of constructive, supportive, and intentional interactions aimed at mutual understanding and shared progress. Students used their knowledge of food literacy to offer advice, initiate conversations, and encourage healthier behaviors among their peers. This supportive approach to communication indicates that the app fosters a positive communication environment where individuals help each other make healthier choices.

Thematic analysis of the data also revealed that students' communication was not only more informed but also more proactive. The knowledge gained from Google Fit empowered students to take initiative in promoting healthier food habits, thus facilitating positive communication within their social networks. This aligns with the concept of positive communication, which involves the active sharing of information with the goal of fostering mutual understanding and development. Additionally, the supportive nature of these exchanges reflects the nurturing communication styles described by Leontovich, where participants engage in empathy-driven dialogues that foster well-being.

## 5. CONCLUSIONS AND SUGGESTIONS

In conclusion, Google Fit significantly contributes to students' understanding of food literacy by offering tools that enhance awareness of nutrition and physical activity. This improved understanding of food literacy, facilitated by mobile applications, has a direct and positive impact on students' communication behaviors. Through their newfound knowledge, students engage in constructive and supportive interactions, helping others adopt healthier habits. These findings underscore the role of technology in promoting not only individual health literacy but also positive communication practices, as students take an active role in fostering health-conscious conversations. By applying Leontovich's theory of positive communication, it is evident that the use of mobile applications like Google Fit cultivates a collaborative environment where individuals share knowledge and support one another in achieving shared health goals. This highlights the importance of integrating digital tools into educational practices to enhance both food literacy and communication skills.

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