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Best Practices for Health Literacy Education for English Language Learners

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Abstract

Health literacy is the ability to retrieve, understand, and utilize health information. Poor health literacy is associated with diminished participation in primary and secondary disease prevention strategies, worsened mental health outcomes, and difficulties navigating the healthcare system—especially for English Language Learners (ELLs) who have language barriers. Pre-health undergraduate students at Georgetown University worked in partnership with the Alaska Literacy Program in 2021 to deliver two virtual health literacy courses titled "Health in the English Language" to 28 adult ELLs. This paper aims to detail key takeaways regarding best practices for virtual learning, teaching strategies, and the significance of health literacy experiences within pre-health education. Virtual learning increased course accessibility for students and instructors, supported the engagement of students' family members and friends, and increased practice in digital literacy. Studying health literacy and engaging in experiential learning provides an important foundation for pre-health undergraduates to learn about how health can be influenced by one's culture. Pre-health undergraduates gain insight into the importance of communicating with and advocating for non-native-English speaking patients. Observed success in virtual health literacy education supports developing partnerships for future implementation of health literacy courses in rural, under-resourced, and/or immigrant communities by pre-health college students.

Keywords: health literacy, ELL (English Language Learner), pre-health education

1. Introduction

Health literacy, otherwise known as an individual's ability to gather, understand, and use health information, contributes to improved healthcare outcomes.[1] Only 12% of adults in the United States are categorized as having proficient health literacy skills, and 35% of United States adults have basic or below basic health literacy skills.[2] Low health literacy (LHL) is associated with worse health outcomes and poorer health care service utilization. This includes lowered participation in primary and secondary prevention strategies, such as influenza immunizations and mammogram screenings, and higher emergency care usage.[3] Additionally, LHL is correlated with poorer mental health outcomes and an increased rate of depression symptoms.[4] Immigrants in particular express challenges in navigating the healthcare system created by language barriers. This includes understanding insurance coverage, finding healthcare providers, making appointments, filling out paperwork, communicating with healthcare providers, and finding information about a diagnosis.[5,6]

Disparities in health literacy levels exist across demographic factors. Immigration status and English proficiency levels are two crucial health literacy predictors. Individuals with limited

English proficiency (LEP) are less likely to interact with health professionals than other immigrants who are proficient in English.[7] Across many ethnic groups, individuals with LEP report higher rates of LHL than those who are English proficient.[8] Those with LEP are also less likely to ask questions to their healthcare providers than people with more advanced English speaking skills.[9] Although the gap in health literacy could potentially be alleviated through clearer communication between the patient and provider, the lack of patient-initiated questions from LEP individuals suggests that healthcare providers need to be more proactive when working with this community to prevent unnecessary health risks.[10]

2. Methods

Given the importance of health literacy in facilitating positive health outcomes, Georgetown University (GU) undergraduate students volunteered at the Alaska Literacy Program (ALP) in 2021 to provide a health literacy course titled "Health in the English Language." This represented the fourth year of partnership between GU and ALP. Founded in 1974, ALP provides a variety of literacy services including English classes, test preparation, citizenship classes, and career pathway training to residents in Anchorage, the city with the highest immigrant population in Alaska.[11] Students can enroll in multiple courses and may progress through course levels over time. The health literacy course was designed to help ELL students understand and use health terminology to protect their health, prevent health problems, better manage health concerns when they arise, and navigate the healthcare system—including making medical or dental appointments and understanding one's health insurance.

Among all students participating in programs at ALP in 2020-2021, 22 language backgrounds and 27 countries and territories of origin were represented. On average, 44% of the student population held a regular, full-time job. The remaining 56% were either part-time workers, unemployed, or not in the labor force.[12]

Three virtual class sections were offered depending on English literacy level and provided at various times and days of the week. The 2021 course was the first year that multiple class sections were offered through this partnership to allow for the creation of two intermediate courses and one advanced course. This paper will only describe ELL students' and instructors' experiences in the two intermediate-level sections. Instructors for these sections were pre-health undergraduate students at the time of the course. Eighteen ELL students were enrolled in the intermediate evening class, and ten were enrolled in the intermediate morning class. There were 12 class sessions for each section, spanning six weeks from June to July 2021.

Table 1. Course overview. Topics and corresponding learning objectives that were discussed during the health literacy course.

Course Topics	Learning Objectives
Going to the Doctor	• *Describing symptoms* • *Making an appointment* • *Advocating for oneself in health settings* • *Asking questions about one's health*
What to do in Emergencies	• *Describing emergencies* • *Calling 911*
Healthy Eating & Exercise	• *Understanding macronutrients and nutrition labels* • *Sharing cultural attitudes towards food* • *Types of exercise* • *Importance of exercise*
Medication Safety and Use	• *Types of medications for common ailments* • *Getting prescriptions filled* • *Medication safety* • *Reading medicine labels*
Health Insurance	• *Types of care* • *Types of insurance* • *Importance of insurance coverage* • *Enrolling in private insurance*

Course topics included: Going to the Doctor, What to do in Emergencies, Healthy Eating &

Exercise, Medication Safety and Use, and Health Insurance (Table 1). Topics were selected based on student interests reflected in a pre-course survey, previous years' curriculum, and advising from ALP staff. The original curriculum was developed in 2018 based on health problems identified in the *Healthy Alaskans 2020 Scorecard, Health Literacy: Guidance and Tools,* and through collaboration with community health leaders.[13,14,15] Exercises that built reading, writing, speaking, and listening skills were incorporated into each class. Both intermediate-level class sections followed the same lesson plans and materials. Instructors participated in the ProLiteracy Education Network's training for ESL instruction. Staff from ALP offered feedback on educational content and delivery throughout the course.

The course activities included student-led discussions, dialogues, vocabulary learning, practice questions such as practicing and reading medication or nutrition labels, writing activities, and games. For instance, during the "What to do in an Emergency" and the "Medication Safety and Use" units, dialogues allowed students to practice making emergency calls (Figure 1) and practice questions strengthened the students' ability to read prescription labels (Figure 2), respectively.

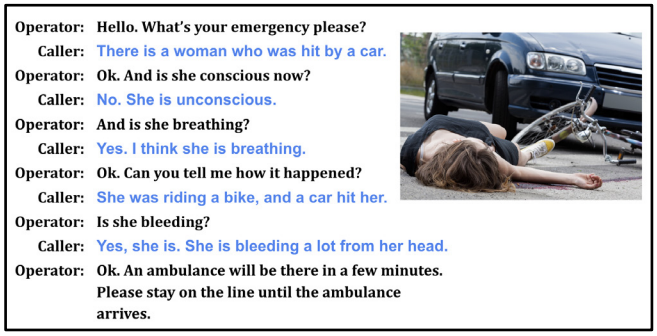

Figure 1. Example slide drawn from the "What to do in an Emergency" portion of the course. The slide depicts an example dialogue that allowed the students to simulate a conversation with an emergency operator. All text shown in blue are transcriptions of student responses for each question given and were not provided to students when initially presenting this slide.

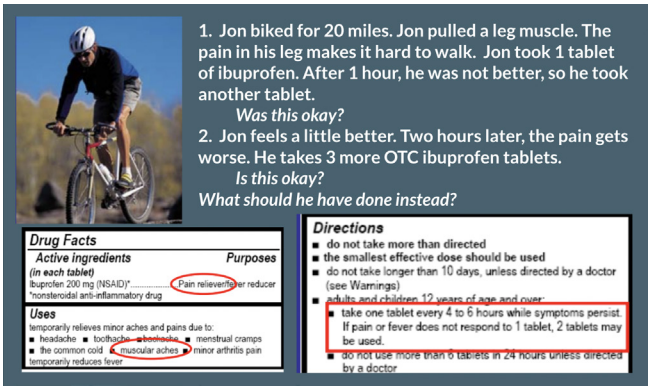

Figure 2. Example slide from the "Medication Safety" portion of the course. The slide depicts example questions used to test the students' ability to draw information from medication labels.

ELL students in both sections were at one of two English as a Second Language (ESL) levels: ESL 3 (High-Beginning) or ESL 4 (Low Intermediate) English proficiency level, as determined by ALP testing. The National Reporting Systems (NRS), Educational Functioning Level (EFL), Center for Applied Linguistics (CAL), and Student Performance Level (SPL) provide further information on how these levels are delineated.[16,17] Students at these levels can read and write short sentences or paragraphs with familiar words, understand common words and sentences when spoken slowly, and speak about familiar topics using simple language.

3. Results and Discussion

3.1. Virtual Learning for ELL Students

Amidst the physical limitations of the COVID-19 pandemic, the *Health in the English Language* course was taught entirely online via Zoom and supplemented with communication platforms Remind and Work Ready Mobile to disseminate course materials and to serve as offline modes of communication between students and instructors.

Despite concerns with navigating the non-traditional, virtual class structure, online education increased ease of accessibility. Students engaged in

health literacy education while concurrently performing other obligations; during class sessions, students were observed taking care of their children and driving to work. Students had access to nearby family members and friends, who were often observed supporting students in pronouncing terms and facilitating a deeper understanding of topics by communicating with students in their native/first language. A post-course survey found that all students preferred the online course format over the traditional in-person course structure. This was also reflected in an ALP student-wide survey—when ALP reopened for limited in-person classes, many students wanted to remain online.[12] All five instructors in 2021 resided out of state during the course, as opposed to previous years when instructors were required to find funding to support living on-site for the time of the course. Finally, the number of students and instructors involved increased compared to past years. The convenience of virtual learning for both students and instructors supports the further development of online ELL courses to allow participants with time or transportation constraints to engage in health literacy education without interference in their routine schedule.

Online teaching also posed undeniable challenges. Disparities in technology access and digital literacy posed an additional barrier to health literacy learning. ALP reported that 85% of students had internet access at home, while 15% relied on cellular data or hotspots.[12] While 70% of ALP students had access to computers at home, many had trouble using them.[12]

Course instructors attempted to reduce disparities in digital literacy by including a single 30-minute lesson at the start of the course that taught how to use the basic features of Zoom; however, some problems persisted. Many students had trouble unmuting themselves to participate in class activities and connecting devices to the Zoom audio. Additionally, many students could not correctly type in the Zoom chat, which raised additional concerns about modern health literacy and students' ability to fill out online forms and questionnaires. These aspects of digital literacy made it hard to gauge students' comfort level with the course material, and technological constraints may have impeded learning.

3.2. Culture and Health Systems

Discussions of health insurance revealed the diversity of experiences in students' interactions with the healthcare system. Students were from many different countries of origin, including Russia, the Philippines, Samoa, Mexico, China, and more. This represented an array of high, middle, and low-income countries, each with unique health systems. According to ALP staff, the students primarily accessed healthcare through the Alaska state Medicaid program; however, some individuals did not have insurance.

Some students expressed a preference for their country of origin's healthcare system instead of that of the United States. For instance, one student suggested that it would be preferable to access care in Russia and that they would return to Russia if they became very sick. Another student described that they could simply talk with a doctor for free, even when there were no serious medical concerns, in their country of origin, but this is not financially possible in the United States under their current insurance plan.

Others indicated that the United States offers more accessible services than their countries of origin. One student described financial barriers to seeking health care in their country of origin, stating that "when you have money, you see the doctor. You die before you see the doctor [if] you don't have money." Others expressed similar sentiments about having to pay upfront before accessing medical care in their countries of origin.

It was evident that students had differing levels of understanding about United States healthcare. Taking these differences in knowledge into consideration, the class sessions on health insurance emphasized the role of primary care in disease prevention and the differences between urgent and emergency care. Additionally, classes highlighted the types of insurance available to

students (including Medicaid, Medicare, CHIP, options in the Health Insurance Marketplace, and private insurance), how to sign up for plans, and the resources available at a local community clinic. The content was designed to foster a deeper understanding of the full breadth of health resources available to students by providing the website to enroll for Marketplace insurance coverage, phone numbers and addresses to local medical, dental, and pharmaceutical clinics, and the website and handbook for the Anchorage Neighborhood Health Center.

3.3. Nutrition

Diet and nutrition have critical influences on health and disease. Multiple studies have found associations between low diet quality and chronic diseases such as cardiovascular disease, cancer, and type 2 diabetes.[16]

To provide tools to support nutritional health literacy, nutrition labels were integrated into the two 'Nutrition and Healthy Eating' class sessions to highlight important vocabulary and teach key components on the label. Lessons included defining serving size, calories, % Daily Value, and nutrients—including fats, cholesterol, sodium, carbohydrates, and protein. Additional lessons allowed for the application of vocabulary into practical exercises. For instance, one activity involved comparing the nutrition labels of two different dessert items, and students had to determine which food was the healthier option.

Upon reflection, the accessibility of foods introduced as healthy options during these sessions should have warranted more careful consideration. There is evidence that immigrants from low and middle-income countries, where some ALP students were from, to high-income countries such as the United States may experience a low post-resettlement socioeconomic status. This has been shown to limit access to desired healthy foods and remove autonomy over food choices.[17] Lesson plans for the nutrition unit included highlighting the differences between healthy and unhealthy fats. Fish and avocado were provided as examples of healthy unsaturated fats that can lower cardiovascular disease risk; however, such food items are generally more expensive and thus less accessible than food items containing saturated or trans fats. Students mentioned that accessing nutritious foods in the United States is more difficult than in their countries of origin. One student from the Philippines reported easily obtaining home-grown fruits and vegetables from farms, contrasting this to the inaccessibility of fresh produce in the United States, where fruits and vegetables are much more expensive. Many students reported having limited incomes thereby resulting in the consumption of more unhealthy foods or skipping meals since moving to the United States.

To better support ESL students amid the rising cost of eating healthy, future health literacy courses should incorporate additional teachings for accessing affordable and healthful meals. For instance, students could be informed of the health benefits of purchasing additive-free and unseasoned canned and frozen foods. In a study conducted by Miller and Knudson, nutrient scores for canned (with no syrup additives) and frozen vegetables (with no seasoning or sauces) were similar to their fresh counterparts while possessing the additional benefits of a lower cost and longer shelf life.[18] Additionally, students may benefit from understanding the nutritional power of low-cost ingredients such as beans, lentils, and peas, which are high in protein and help reduce the risk of chronic conditions such as obesity and heart disease. Indeed, in a paper by Garden-Robinson and McNeal, food and nutrition specialists at North Dakota State University scored beans using the Nutrient Rich Foods Index as having the most amount of nutrients relative to price compared to other foods.[19]

Beyond the issue of the price of healthy eating, studies have also found distinct differences in perceptions of healthy eating among individuals belonging to diverse cultural groups.[20] It became evident that the Nutrition and Healthy Eating segment of the Health Literacy course fell short of

adequately considering cultural differences among students. Because food is deeply intertwined with cultural traditions, childhood, family, and friends, several discussion-based questions were incorporated to engage the students, including a conversation about the types of cultural food they enjoyed most at the beginning of the nutrition unit.

In communities centered around food production and agriculture, there is a deep significance of certain foods that is incomparable to the practical role of food in urban societies, where food is purchased rather than produced.[21] Regrettably, the course material focused on normative American nutrition standards, including understanding nutrition labels, the recommended food pyramid, and explanations of nutrition-based terminology. It became clear that while these nutritional topics may influence how American doctors communicate health to patients, they may not be the sole frameworks of thought regarding food consumption in different communities.

This experience highlighted the gap between standardized American nutritional literacy standards and the value of food in other countries that relate to personal, group, and cultural identities. Future health literacy curricula should aim to incorporate and be created with consideration for the students' cultural food backgrounds.

3.4. Health Literacy in Pre-Health Education

During the health literacy course, the pre-health student-instructors learned about the importance of grasping the cultural dimension of health to best support non-native English speakers, whether it be understanding how to best communicate, provide a safe space, or advocate for these students—all of which are strongly tied to caring for non-native English-speaking patients.

American pre-health education heavily revolves around natural science courses in biology, chemistry, and physics, among others. Unfortunately, for many pre-health undergraduates, this focus on the natural sciences leaves little room for exploring the humanities, which gives way to understanding health's psychological, cultural, and social dimensions. A more in-depth health literacy curriculum through coursework or experiential learning in a student's pre-health journey would provide them with tools to better comprehend the vast complexities of health beyond the sciences.[22] Because LHL is strongly correlated with the development of disease, increased mortality risk, and higher hospitalization rates, pre-health education should guide its students toward understanding the best practices to increase health literacy amongst patients. This would effectively work towards actualizing preventative health practices in everyday life.

While teaching this course, one fundamental takeaway was the importance of speaking slowly, utilizing plain language, and implementing the teach-back method to allow students to comprehend what is being said comfortably and to exercise their recall memory for deeper content retention. The teach-back method involves asking patients or students to explain taught information back in their own words. A 2018 study found its efficacy by encouraging the clarification of information and correction of misunderstandings about health information, including medication use and skill-based treatments.[23] Throughout the health literacy course, instructors used the teach-back method through discussion-based sessions by asking students to summarize previously learned information and offer any personal experiences related to the topic at hand. This lesson structure not only allowed students to evaluate the depth of their understanding of the course content but also gave way to stronger retention due to the new correlations made between the course content and their own or other students' lived experiences. Moreover, one of the sections within the course emphasized the importance of advocating for oneself as a non-English speaking patient by requesting an interpreter or for family members to be present during health appointments, remembering that treatments and tests can be

refused if one is uncomfortable with the procedure, or asking for one's health records.

A study conducted by Milford et al. investigated a year-long, community-focused learning opportunity offered to medical students to engage in and learn about health literacy and effective communication strategies. The medical students participated in a 5-month intervention program titled 'Eat Healthily, Stay Active!' targeting pediatric obesity amongst Head Start children.[24] The medical students who joined this program reported a heightened awareness and understanding of the barriers of poor social determinants of health and poor health literacy and an increased sense of comfort and confidence in communicating with patients in a way conducive to patient-centered care. Other studies have found that physicians with patient-focused training are more likely to exhibit more compassion and form better physician-patient relationships.[25] Being able to engage in health literacy, whether through a standard course or by serving in a health literacy-related program, allows for the promotion of a patient-centered mindset and could subsequently improve health outcomes for all patients.

3.5. Recommendations

3.5.1. Expanding Health Literacy-Centered Service-Learning Opportunities

Engaging in this health literacy teaching opportunity was a pivotal experience for the volunteer instructors. Health literacy-centered service-learning allowed for a deeper appreciation of the importance of health literacy and communication for the promotion of health outcomes as a healthcare provider. Skills gained included practicing plain language communication, advocating for non-native English speakers, and considering cultural dimensions of health. The value of this course to both pre-health undergraduate volunteers and ELL students suggests that future partnerships between colleges/universities and community-based organizations to provide health literacy programming may be mutually beneficial. For pre-health undergraduates to have the chance to fully gauge the significance of health literacy and learn to advocate for and support patients of all backgrounds, pre-health curricula should take further steps to encourage the study of health literacy or participation in programs such as the Alaska Literacy Program. The possibility of high-quality virtual programming suggests that more partnerships can exist between colleges/universities and communities that may be traditionally underserved by health literacy and health promotion programs.

Though service-learning pedagogy has expanded in recent years, college and university faculty could receive further professional encouragement to participate in this work. In a study by Hou and Wilder, faculty from a public research university in the Southeast United States expressed that others perceive participation in service-learning as "less academic" than traditional research and publication, and less valuable in the promotion and tenure processes. They have also expressed that less funding is available to create service-learning opportunities such as the health literacy course described in this article.[26] Greater incentivization to establish these experiential opportunities from university leadership and grant-makers may help increase involvement in such activities.

3.6. Best Practices when Teaching Health Literacy Education

Through this experience, several reflections and recommendations about teaching methods for a health literacy class have emerged.

3.6.1. Value of Student-Led Dialogues and Discussions

Incorporating teaching methods that reflect the spectrum of English literacy skills—reading, writing, listening, and speaking—facilitates the development of a more comprehensive grasp of health literacy. Using dialogue and vocabulary exercises, audiovisual components, and games throughout the class period appeared to have

higher engagement and were more helpful for ELL students. In a post-class survey, ELL students indicated that their favorite learning activities were "Dialogues" (100%) and “Practice Questions” (63%) (Figure 3).

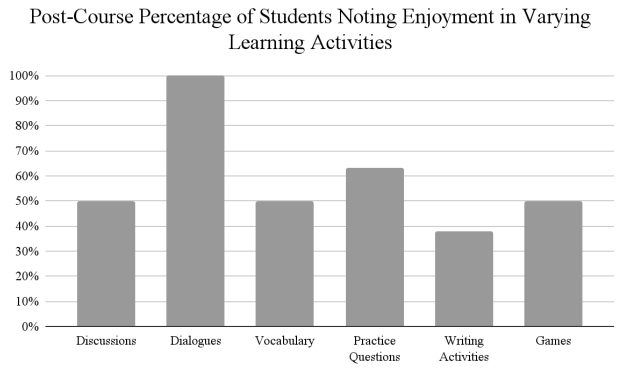

Figure 3. Post-course survey of eight respondents revealing interest in the different learning mechanisms utilized throughout the course. The highest to lowest interest was reported in: Dialogues (100%), Practice Questions such as practicing and reading medication or nutrition labels (63%), Discussions (50%), Vocabulary (50%), Games (50%), and Writing Activities (38%).

Another strategy was encouraging conversations and class discussions to be largely student-led rather than instructor-driven. As commonly seen in pre-health education, the instructor is highly involved in speaking during class in traditional lecture-based learning. To better engage students, this course emphasized ELL student responses and conversations over lecture-based learning. By implementing this teaching style, students were given greater autonomy over course content and increased opportunities to practice their English-speaking skills.

Throughout the course, it became evident that exercises such as dialogues and discussions that taught practical skills were more valued by students than learning vocabulary terms. This became abundantly clear in the ‘Going to the Doctor’ unit, which included a mixture of vocabulary and advocacy. Vocabulary and pronunciation were taught to equip students with skills on how to describe their symptoms effectively. The emphasis on advocacy taught students how to ask their doctors important questions about their health, explain any concerns or discomfort they may have regarding treatment plans or other health topics, and request a translator.

Student engagement and participation were the highest during the discussion- and dialogue-based portions of the classes. An end-of-course survey confirmed this observation— every student reported dialogues as their favorite type of learning activity (Figure 3). This affirms that health literacy in the United States goes far beyond merely knowing the vocabulary but also being able to communicate with healthcare professionals in English regarding health concerns, as practiced in dialogue-based activities. Future health literacy courses should be taught with an emphasis on life skills and self-advocacy to make students comfortable with asking questions, identifying concerns, and ensuring patient-centered health visits.

3.6.2. Significance of Dividing Courses Based on Literacy Levels

Previous years of implementing this course at ALP involved students with a broader range of literacy levels and resulted in sentiments of frustration from the instructors. They found it difficult to effectively meet each student’s demands in the past. As a result of ALP’s separation of courses by English proficiency level, the course was better adjusted to the students' literacy levels to prevent students from experiencing disengagement from too minimal academic stimulation or stress from too challenging course material. Due to students' shared English backgrounds, instructors were best able to provide a high level of support and a high challenge level, allowing for the students' maximum growth.

3.6.3. Gaps in Knowledge across Varying Student Demographics

This course highlighted the importance of considering the demographics of students and the resources and knowledge they have had access to throughout their lives when teaching health literacy classes. It was evident that many enrolled in the course had gaps in their knowledge that went beyond their knowledge of the English language—there was a lack of knowledge about resources in their community, cultural aspects of the United States, and health systems. A deeper understanding of the cultures and baseline knowledge of the student population would provide helpful context for their current perspectives, leading to a more effective development of class content and better learning.

4. Conclusion

The relationship between increased health literacy and positive health outcomes highlights the value of offering health literacy programs to ELL and immigrant populations, who often face disparities in health literacy levels. The 2021 intermediate-level "Health in the English Language" course led in partnership with Georgetown University and the Alaska Literacy Program helped ELL students gain essential vocabulary and practical skills related to preventing disease, health promotion and maintenance, and navigating the US health system. Instructors made efforts to incorporate discussions of how one's identity influences their health status and care experience. However, instructors could have further considered the effect of students' socioeconomic status and varying cultural perceptions of health on the accessibility of health measures.

Future health literacy education programs should also emphasize student-led dialogue activities, divide courses based on literacy levels for maximum efficacy, and continue adapting content based on student demographics. Additionally, despite some challenges in digital literacy, the virtual course format was overall successful and could be sustained in future programming. The convenience of a virtual learning model for both instructors and students suggests that colleges/universities can forge additional partnerships with community organizations to facilitate mutual learning opportunities for pre-health students and ELLs. For the pre-health students leading the courses, their experiences allowed them to learn valuable lessons regarding the importance of health literacy, health communication strategies, and cultural aspects of health that will certainly shape their future patient interactions.

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