AHFE International

Findings of a Usability Study of Family Portal in Eastern Maryland Among School-Going Children Caregivers

Miselta W. Tita[1], Mona A. Mohamed[2], and Joyram Chakraborty[1]

[1]Towson University, Department of Computer and Information Science, Towson, MD 21252, USA

[2]Towson University, Department of Business Analytics & Technology Management, Towson, MD 21252, USA

ABSTRACT

In the realm of educational innovation, family portals (online platforms for information sharing and communication between families and schools) represent a promising tool for enhancing parental engagement by providing real-time access to students' information, such as attendance records, assignments, and grades (Mac Iver et al., 2021). However, the effectiveness of these portals depends on user awareness and utilization of their features. This study investigates the awareness and frequency of use of the attendance chart feature within family portals among parents and guardians in Eastern Maryland. It assesses the extent to which these technologies are fulfilling their intended role and identifies the factors contributing to their successes and failures. Data from a survey of 55 participants: eight educators who are also parents in the school system and forty-seven parents/guardians of high school students in a public school in Maryland, highlights disparities in awareness and usage, revealing significant barriers related to discoverability and usability. The findings underscore the need for improved design and communication strategies to maximize the impact of such technologies. This research offers valuable insights for stakeholders aiming to optimize the deployment of educational technologies and ensure equitable access and engagement for all families.

Keywords: Parents, Family portal, Attendance, Technological solutions, School, Education

INTRODUCTION

In recent years, emerging technologies have significantly influenced the educational landscape, offering solutions to enhance learning and engagement (interactive whiteboards and smartboards, learning management systems, educational apps and software, and digital assessment tools) (Yakubova & Taber-Doughty, 2013). Family portal, an online platform that connects schools and families, is among these educational apps and software. Despite the potential of these technologies, challenges persist in ensuring these tools are effectively utilized. A critical feature within this portal is the attendance chart, which intends to keep parents informed about their children's school attendance. However, the extent to which this feature is known and used by

parents remains unclear, raising questions about its effectiveness. This paper aims to explore the awareness and usage of the attendance chart feature within the family portal. Understanding users' interaction with the portal is crucial for educators, developers, and policymakers to enhance the design and implementation and foster better educational outcomes and engagement.

LITERATURE REVIEW

The integration of digital platforms in education has transformed the way families engage with school activities, including monitoring attendance. Users' awareness of digital tools, such as attendance charts in family portals, plays a crucial role in their adoption and utilization. Research suggests that awareness often depends on effective communication from schools, user training, and the perceived value of the feature (Davis, 1989). For example, Rogers' Diffusion of innovation theory demonstrates that awareness is the first step in the adoption process, where users must first recognize the existence of a feature before assessing its relevance (Rogers, 2003). Schools' communication strategies, such as newsletters, parents-teacher meetings, and tutorials, significantly impact parents' awareness of portal features by making information accessible, timely, and actionable (Graham-Clay, 2005; Mac Iver et al., 2021).

Concerns about data privacy influence awareness and utilization (Prior & Coull, 2020). Parents are concerned about who has access to their child's data and how securely that information is stored. Parents may hesitate to use school portals if they feel uncertain about how attendance data is handled or shared (Williamson, 2017). If families do not trust privacy protections, they are less likely to explore or use all portal features (Creel & Dixit, 2022; National PTA, 2015). Schools must address these concerns by ensuring transparency and providing clear explanations of data security measures.

METHODOLOGY AND RESEARCH QUESTIONS

This research seeks to answer three key questions:

1. What percentage of users are aware of the attendance chart feature in the family portal?
2. How frequently do families who are aware of the family portal access the attendance chart?
3. What factors influence users' utilization of the attendance chart feature?

The research questions were addressed through a questionnaire provided to school stakeholders. Approval to carry out the study was granted by Towson University's Institutional Review Board (IRB) and the Department of Research and Evaluation of a public school in Eastern Maryland. The study included 55 participants who were parents, guardians, or educators in a public school system in Maryland. A comprehensive approach was employed to recruit participants, including distributing flyers, sending emails, and conducting in-person presentations. Flyers were strategically posted around

schools in the approved county and placed in school staff mailboxes. They were also distributed to parents and guardians during after-school pick-up times, at Parent Teacher Association (PTA) meetings, and in the surrounding communities. Emails were sent to school staff to ensure broad awareness of the study. While there were fewer in-person interviews, participants who agreed to participate were provided with a link to the survey questions. To ensure diverse representation, demographic data were collected, including age, gender, role, computer proficiency, and smartphone ownership.

The demographic data highlight the diversity of the sample, with most participants falling between 31 and 50 years old (38 participants) and identifying as female (41 participants). Most participants were parents or guardians (47 participants), and a significant number reported intermediate (20 participants) or advanced (22 participants) computer proficiency. Additionally, nearly all participants (54 out of 55) owned a smartphone, underscoring the relevance of technology-related questions in the survey. These demographics ensured that the study captured meaningful insights from a broad range of stakeholders with varying levels of technological experience and backgrounds.

The questionnaire included a structured survey designed to assess participants' awareness, usage, and perceptions of the attendance chart feature with the family portal. Multiple-choice questions were utilized to capture behaviors, patterns of access, and influencing factors. For example, participants were asked whether they were aware of the attendance chart feature and directed to follow-up questions based on their responses. Those who indicated awareness and usage were prompted to answer questions about the frequency of access, with options such as "Once a week," "2-3 times a week," "4-5 times a week," "More than once a day," and "Other (please specify)." Participants who were aware but had not used the feature were asked to identify reasons for non-usage, with response options including "I prefer other methods of communication," "I find the portal difficult to use," "I haven't felt the need to check my child's attendance," or "I was not sure where to find the attendance chart within the portal," along with an open-ended "Other" category. This branching design ensured that only relevant questions were presented based on prior responses, allowing the survey to gather nuanced insights into participants' engagement with the attendance chart effectively. Standardized response options facilitated consistency in data collection and analysis, while the inclusion of open-ended responses allowed for richer qualitative input when needed.

ANALYSIS

Of the 55 participants, 76.4% were aware of the attendance chart feature in the family portal: 47.3% had used it, 29.1% had not used it. 21.8% were unaware of the attendance chart feature, while 1.8% had no access to the family portal and thus awareness could not apply to them, see Table 1. Of the 42 participants who were aware of the attendance chart feature, 61.9% had used it and 38.1% had not. The 61.9% who actively use it indicates that once users are aware of the feature, a majority find it valuable and adopt it.

16.7% prefer other methods of communication over using the attendance chart, 2.4% find the portal difficult to use, 9.5% have not felt the need to check their child's attendance, and 9.5% wait until their child's teacher or the school contacts them before checking it. Most users (61.9%) are effectively utilizing the attendance chart, while others face barriers such as communication preferences (16.7%) or lack of perceived necessity (9.5%). Usability issues are minimal (2.4%).

Table 1: Awareness of attendance chart.

Did you know that you have access to this (your child's) attendance chart through the family portal?

	Frequency	Percent	Valid Percent	Cumulative Percent
A. Yes, and have used it	26	47.3	47.3	47.3
B. Yes, but have not used it	16	29.1	29.1	76.4
C. No, not aware	12	21.8	21.8	98.2
D. I don't have access to family portal	1	1.8	1.8	100
Total	55	100.0	100.0	

Of the 26 participants who were aware of the attendance chart feature and have used it, the majority (61.6%, combining A and B) check the attendance chart at least once or 2-3 times a week, see Table 2. 11.5% of the participants check the chart 4-5 times a week or more than once a day. Others (26.9%), check the chart sporadically or when prompted by specific events such as attendance concerns or school notifications.

Table 2: Frequency of checking attendance chart.

In a normal week, how often do you visit the chart to find out about your child's attendance?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	2	7.7	7.7	7.7
A. Once a week	10	38.5	38.5	46.2
B. 2-3 times a week	4	15.4	15.4	61.5
C. 4-5 times a week	2	7.7	7.7	69.2
D. More than once a day	1	3.8	3.8	73.1
E. Other (please specify)	7	26.9	26.9	100
Total	26	100.0	100.0	

From the data, awareness, usability, communication preference, and perceived value influence the awareness and utilization of the attendance chart feature. The data reveals that 61.6% of families use the attendance chart regularly (once or 2-3 times a week), while 11.5% engage more frequently (4-5 times a week or multiple times daily). However, 26.9% fall into irregular and unspecified usage patterns.

DISCUSSION

Studies show that awareness of the family portal is typically higher among younger families, those with higher digital literacy (Mac Iver et al., 2021; Swoboda et al., 2021). Though the majority of the participants in this study reported an intermediate level of computer proficiency, many were unaware of the family portal and/or did not utilize it to check their child's attendance frequently. Targeted, accessible information and training will help broaden awareness. The effective use of educational portals is sometimes hindered by technical issues, lack of training, and limited time (Selwyn et al., 2011).

Most users (76.4%) are aware of the attendance chart feature in the family portal, with nearly half actively using it (47.3%). However, 21.8% remain unaware, emphasizing a need to enhance communication and outreach to ensure all users are informed about this feature. In addition, the 1.8% with no access suggests that access equity should also be addressed.

Participants who check the chart frequently (B, C, and D) likely view it as valuable for staying informed about their child's attendance. In contrast, those who use it rarely or not at all might not perceive it as necessary or relevant to their needs. Participants who access the chart less frequently (A or E) may prioritize convenience and only check it as part of a routine or when specific issues arise, rather than for active daily monitoring.

Though awareness impacts utilization, personal preference for different communication channels also influences utilization, even when users are aware of the feature. Usability issues and navigation challenges could also deter some users from fully utilizing the feature. Also, an individual's perceptions of the feature's relevance influence their acceptance of it. A lack of perceived value in the feature discourages users. If individuals do not see value in the feature, they are unlikely to use it. Lack of time and technical barriers could also impact the adoption of the feature. While the attendance chart is widely used, targeted improvements in user-friendly design, clear communication, and demonstrating its value could further enhance awareness, adoption, and engagement. As discovered in the frequency data, convenience and urgency influence behavior. To increase consistent usage, schools could improve accessibility and communicate the chart's value in helping parents stay informed about their child's attendance.

LIMITATIONS

The study's sample size was relatively small (55 participants), which limited the extent to which the findings generalized to the broader population. Additionally, the sample for this research was drawn from a single public school system in Eastern Maryland; therefore, the results may not reflect

the experiences of families and educators in different regions or educational settings. The survey primarily focused on the attendance chart feature, which may not fully capture participants' overall engagement with the family portal or their perceptions of other features. Future research could expand on these findings by exploring additional features of the portal to gain a more comprehensive understanding of its effectiveness and usability.

CONCLUSION

The study aimed to explore awareness and usage patterns of the attendance chart feature within family portals, examining where responsibilities lie for its successes and failures. Grasping how users engage with the portal is essential for educators, developers, and policymakers to improve its design and deployment, ultimately promoting stronger educational results and increased participation. Proactive efforts such as targeted communication and support for diverse families are significant in enhancing awareness and promoting meaningful use.

REFERENCES

Creel, K., & Dixit, T. (2022). Privacy and Paternalism: The Ethics of Student Data Collection. *MIT Case Studies in Social and Ethical Responsibilities of Computing*, *Summer 2022*. https://doi.org/10.21428/2c646de5.b725319a

Davis, Fred D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

Graham-Clay, Susan. (2005). Communicating with Parents: Strategies for Teachers. *The School Community Journal*, *15*(1), 117.

Mac Iver, Martha Abele, Sheldon, Steven, & Clark, Emily. (2021). Widening the portal: How schools can help more families access and use the parent portal to support student success. *Middle School Journal*, *52*(1), 14–22. https://doi.org/10.1080/00940771.2020.1840269

National PTA. (2015). *Position statement: Student data privacy and security*. https://www.pta.org/home/advocacy/ptas-positions/Individual-Position-Statements/Position-Statement-Student-Data-Privacy-and-Security

Prior, S., & Coull, N. J. (2020). Parents unwittingly leak their children's data: A GDPR time bomb? In A. Moallem (Ed.), *HCI for Cybersecurity, Privacy and Trust: Second International Conference, HCI-CPT 2020, Held as Part of the 22nd HCI International Conference, HCII 2020, Copenhagen, Denmark, July 19–24, 2020, Proceedings* (pp. 492–512). Springer. https://doi.org/10.1007/978-3-030-50309-3_31

Rogers, E.M. (2003). *Diffusion of innovations* (5th ed). Free Press.

Swoboda, C. M., DePuccio, M. J., Fareed, N., McAlearney, A. S., & Walker, D. M. (2021). Patient Portals: Useful for Whom and for What? A Cross-Sectional Analysis of National Survey Data. *Applied clinical informatics*, *12*(3), 573–581. https://doi.org/10.1055/s-0041-1731339

Williamson, Ben. (2017). *Big Data in Education: The digital future of learning, policy and practice* (1st ed.). SAGE Publications. https://doi.org/10.4135/9781529714920

Yakubova, Gulnoza, & Taber-Doughty, Teresa. (2013). Brief Report: Learning Via the Electronic Interactive Whiteboard for Two Students with Autism and a Student with Moderate Intellectual Disability. *Journal of Autism and Developmental Disorders*, *43*(6), 1465–1472. https://doi.org/10.1007/s10803-012-1682-x