

Improving information sharing and interpretation among care teams

Gabriela Marcu Allison Spiller

Kenneth B. Nimley

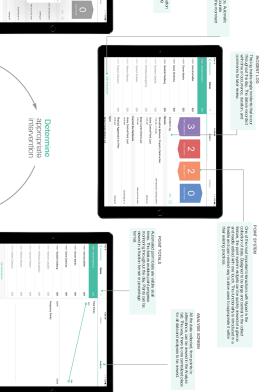


conducting field studies with Lilypad in special education settings to evaluate its impact on coordination collaborative system designed to improve communication among intervention teams (behavioral of behavioral data in the moment, and analysis of data to identify trends over time. Lilypad is a monitor behavioral data. Monitoring this data over time can be difficult because it is often not collected specialists, aides, psychiatrists, educators, administrators, parents, and children themselves). We are needs to complement intuition and face-to-face communication. The Lilypad system supports recording support for capturing representative data, decision makers need access to informative data, and data accurately or easy to interpret. To address this problem, we have designed and validated the Lilypad Behavioral intervention for children with autism and other special needs requires specialists to record and The design of Lilypad was based on three key barriers to the use of data: record keepers need

and help them to be more connected for ad hoc collaboration. that data and initiate discussion. Team members' Lilypads are connected, iPad) to record and reflect on her data, she also has the ability at her data that also belong to an interconnected ecosystem for data management. system Lilypad to convey the notion of independent points of interaction with We have developed a system to support collaborative reflection through a fingertips to connect with other practitioners to corroborate interpretations of In other words, a practitioner is aware that while she uses her Lilypad (or network of iPads used by members of a collocated team. We named this

to each room and one staff supervisor overseeing activities. classroom has between 12-15 students, with 3 program staff assigned design and development of Lilypad. The program is comprised of seven elementary school in a rural area, which had previously participated in the staff memebrs in total and broken down into two classrooms. Each This deployment study focused on a behavior disorder program within an

the system. and commentary surrounding their thoughts on usage and efficiency of integrated the tool into their daily activities. We also logged discussions able to document their interactions with the device and how they observations to monitor device functionality and staff behaviors, we were and collect student behavior data. By conducting weekly classroom Each participant was giving a Lilypad enabled tablet device to monitor



Conclusions / Future Work •

the hallways during transitions from periods, inside the lunchroom when the kids were eating and also outside during recess time while the kids participants were able to effortlessly collect behavioral data outside of more routinely through out the day. With the mobility of the iPad During our observations we witnessed participants were collecting data were playing. typical classroom instruction time. We observed data being logged within

to the Liypad system, minimal anectodal evidence was documented. activity taking place throughout the day. It was also indicated that previous incident log feature of the system. For staff to be able to document anecdotal data in real-time, allowed them to have accurate accounts of design of the system. They communicated how they were pleased with the Within discussions, staff members expressed their apprication for the

student point calculations were performed manually at the end of each feature saves them a lot of time and energy. Prior to Lilypad, individual Participants also commented on how the automated point calculation

staff, but not used as a tool to get a better understanding of behavior We found the 'Analyze' feature on the system was viewd on occassion by collaboration among staff arround the data being collected. data collection taking place, we did not observe a significant increase in While we did notice staff members engaged in the technolgy and more

members improved relationships with data collection. Based on the attitudes and readiness to use our technology, we have observed team Our deployment study is on going and we are still doing observations to determine how participants interact with our system and how they plan to use the data they are collecting.

relection in mind. different perspectives, we aim to achieve a more defind area of inquiry with 'collaborative purpose of intelligent understanding and outlook from different perspectives. And with theses intelligent analysis (information: representation | behavior | retrieval I organization), for the collaborative discussions- backed by reasoning (different professional expertise), driven by expand the Lilypad system by incorporating multi angle visual displays geared to improving more with the practicalities of the environment. We also intend to put forward research to Drawing on our findings, we will focus on elaborating the Lilypad interface design to align

Disseminate information on progress

Apply intervention consistently

The treatment teams reflect on a child's data together by sharing their knowledge and understanding of that child's progress, in order to corroborate their interpretations and make decisions about how to adjust interventions going forward.

to caregivers or family members disseminate information on the patient's progress to others on the team, to practitioners not on the team, or evaluate the effects of an intervention by reflecting on the patient's data over time. Fourth, practitioners sharing successful strategies for applying the intervention and working with that patient. Third, practitioners for example by comparing patient responsiveness and immediate progress with different practitioners, or with an intervention, so reflecting on patient data can help practitioners apply the intervention consistently determine an appropriate intervention to move forward with. Second, multiple practitioners may be involved interdependence. First, practitioners reflect on patient data to understand the needs of the patient and The long-term outer loop shows four collaboration points over time, where team members have reciprocal

intervention

effects

Evaluate

shared understanding, which they draw on to make ongoing treatment decisions. Team members record The short-term inner loop shows how interdependent team members work together everyday to develop a data, reflect on the data both individually and collaboratively, and corroborate interpretations of the data with