DATA: More Than Just Checks on a Clipboard

By Jane Korsten and Terry Foss

Accountability is crucial for one very simple reason … to evaluate the effectiveness of a tool or strategy. Once collected, data can be used to document progress in response to federal and local mandates, guide changes in strategies being implemented, support funding requests, settle differences of opinion, and offer necessary documentation in the event of due process. Unfortunately, there is a tendency to approach data with the philosophy "if a little is good, more is better and too much is just right." When faced with a cumbersome or overwhelming data collection system, data simply may not be collected at all. Poorly planned data collection interferes with, rather than enhances, a program. It is possible to collect the 'wrong' kind of data and fail to document change. Happily and contrary to popular belief, one doesn't have to be a rocket scientist to collect, analyze and respond to meaningful data.

> *"However beautiful the strategy, you should occasionally look at the results."*
>
> – Winston Churchill

Quality Indicators for Assistive Technology (QIAT) guides the provision of quality AT services. QIAT includes quality indicators, intent statements and common errors for eight areas important to the development and delivery of assistive technology services. The eight areas are Consideration, Assessment, Inclusion on the IEP, Implementation, Evaluation of Effectiveness, Transition, Administrative Support and Professional Development. The area of Evaluation of Effectiveness lists seven indicators critical to evaluating outcomes. These indicators are:

- Team members share clearly defined responsibilities to ensure that data are collected, evaluated and interpreted by capable and credible team members.
- Data are collected on specific student achievement that has been identified by the team and is related to one or more goals.
- Evaluation of effectiveness includes the quantitative and qualitative measurement of changes in the student's performance and achievement.
- Effectiveness is evaluated across environments, including during naturally occurring opportunities, as well as structured activities.
- Data are collected to provide teams with a means for analyzing student achievement and identifying supports and barriers that influence assistive technology use to determine what changes, if any, are needed.
- Changes are made in the student's assistive technology services and educational program when evaluation data indicate that such changes are needed to improve student achievement.
- Evaluation of effectiveness is a dynamic, responsive, ongoing process that is reviewed periodically.

The discussion that follows is rooted in these indicators and provides a context for considering how these apply to the process of collecting worthwhile data.

In order to ensure that data is being collected on what counts, consideration needs to be given to developing meaningful goals, criteria, implementation strategies and data collection systems. Data must be analyzed and adjustments in implementation strategies made in response to the analysis.

> *"Not everything that can be counted counts and not everything that counts can be counted."*
>
> – Albert Einstein

GOAL

One must start with a meaningful goal. How can meaningful strategies be determined, implemented and evaluated for effectiveness without a meaningful goal to guide the process? Some of the most common errors in selecting goals include lack of clarity; poor match between goal and the individual's needs, interests and abilities; conflict between intention and goal; and inappropriate criteria.

The goal must focus on the "task" rather than the "tool." Tools are a means to an end and the data is collected on the successful completion of the task while recognizing that successful completion of the task may require the use of a tool. For example, an individual may be presented with a switch to access a literacy activity and the goal needs to reflect the student's participation in that activity rather than the student's switch interactions. In such a situation, the goal might be to "deliver the repetitive line in the story at the appropriate time" rather than "hit the switch X number of times".

Data may be measuring something that is unrealistic, unrelated to, or in conflict with the goal. Consider a goal that the student communicate to let someone know s/he is hungry "with 80 percent accuracy on five consecutive data days?" Now consider that the data is going to be collected at a predetermined time during the day when the student may or may not be hungry. Is the goal truly achieved when food is requested and thrown in response to prompting or when spontaneously requested food is consumed? In this case, collecting data not only on the specific performance of the task, e.g. "requesting food," but also on the student's satisfaction with the results of this request may be important.

CRITERIA

Determining the criteria necessary for the task at hand is critical. Even the professional athlete doesn't have to hit a home run 100 percent of the time he steps up to bat or make every basket he shoots! Undoubtedly, someone is counting what counts to determine his ability and funding value. However, if a child is working on orientation and mobility and the task is to safely cross the street, 100 percent may mean the difference

between being hit by a car or not. Accuracy of 100 percent would not often be expected in other activities of life, but would be necessary when the skill is crossing the street. It is important to identify what the expectation is for the particular activity rather than selecting an arbitrary percentage.

Data that reflects only the number of times a request was made may not be an accurate measure of mastery. A goal with criteria that allow for the absence of a response, leading to less than 100 percent, may be a better indicator. That is to say that if the individual "consistently and predictably" asks for more to eat when hungry (as judged by consequence satisfaction) and does not request food at other times, then the response is reliable in concert with the intended goal. A 'consistent and predictable pattern' of requesting 'more' provides a better indication of mastery since it allows for the INTENT of the goal. The pattern of the response and the satisfaction with the consequence may actually demonstrate goal achievement and, therefore, must be captured in the data.

IMPLEMENTATION

Implementation strategies are the plans designed to address the achievement of meaningful goals. These strategies are developed in response to assessment or baseline data on which an implementation plan is developed. Assessment data can be gathered following the SETT (Zabala) framework, which defines the student's interests and abilities, the environment's strengths and weaknesses and the task to be achieved. *Developing a Written Productivity Profile* (de Coste) also offers strategies for gathering both baseline and implementation data. The result of this careful compilation of information drives the implementation of the plan or strategies that lead the team to support the student's efforts in the IEP.

Implementation strategies must be carefully thought out, written down and clearly communicated to the IEP team. As the strategies are implemented, the data collection system monitors progress and the effectiveness of the strategies and tools. The process is ongoing and as diligent monitoring and analysis takes place, adjustments need to be made to goals and/or strategies.

DATA COLLECTION SYSTEMS

Check marks and tallies are not the only way to collect data. Video examples of the student performing the task, samples of a 'product' and student or staff interview can also provide documentation of change. It is necessary to consider the individual, the task and the potential barriers when developing a measurement method. Meaningful data must provide a means by which to do error analysis in order to identify obstacles that may be preventing the student from reaching the desired goal.

ANALYSIS

An IEP demands an IMP or an Individualized Measurement Plan. The IMP must provide a means by which progress can be effectively and efficiently monitored for a particular individual doing a specific task in certain environment(s) with varying potential barriers. Each of these factors can be different for each student, even though they may be working on a similar skill.

In developing a data collection format that will support error analysis, consider what might prevent the individual from reaching the goal and how the data collection format can be structured to identify not only whether the criteria is achieved, but also, if it is not, which of the obstacles might be the reason? What information will you be able to glean from the data that will support problem solving the obstacles to progress? *How Do You Know It? How Can You Show It?* (Reed, Bowser and Korsten) provides samples of data collection strategies and formats to answer a variety of AT questions.

In the development of meaningful data collection systems, consider the following:

- What is the goal?

"When you plant lettuce, if it does not grow well, you don't blame the lettuce. You look for reasons it is not doing well. It may need fertilizer, or more water, or less sun. You never blame the lettuce.
Yet if we have problems with our friends or our family, we blame the other person. But if we know how to take care of them, they will grow well, like the lettuce. Blaming has no positive effect at all, nor does trying to persuade using reason and arguments.

…That is my experience.

… No blame, no reasoning, no argument, just understanding."

– Thich Nhat Hahn
Peace Is Every Step

• What is the 'minimum performance criterion' for the task at hand?

• What would it take to convince you that the strategy was successful?

• What are the possible obstacles to success?

• How and/or what can you measure that will allow you to identify not only whether criteria is achieved – but also, if not – why not?

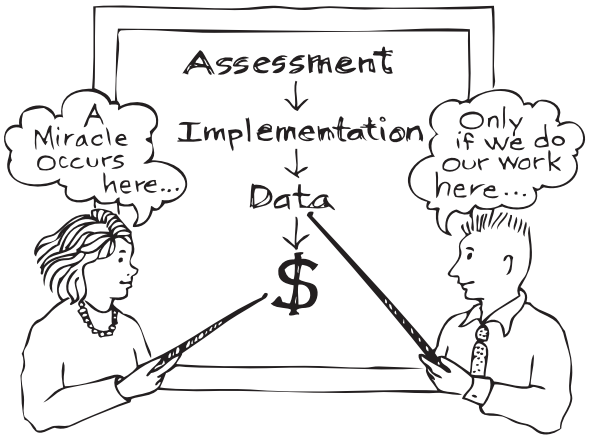
• Who will collect the data? When? Where? How often?

• Who will analyze, summarize and share the data?

Lack of progress signals a need for change and, as with the lettuce, it is necessary to understand what needs to be changed. Failure to do this is a sign that the student is being blamed for his lack of progress.

Everyone can learn *when the appropriate strategies are employed*. For example, given the importance of frequent experience with a technology tool, perhaps the first data point is not with respect to the consumer's production, but rather to his environment. How often does the environment provide opportunities for the use of the identified technology? Does the absence of progress reflect an absence of experience or opportunity? What needs to be changed to accelerate growth? Data should provide not just a 'score', but also the information necessary to make the appropriate changes in implementation strategies and support for funding requests.

Goals and objectives or benchmarks that continue unchanged from one IEP to the next, indicate that no error analysis has taken place. When properly collected, analyzed, reviewed and shared, the data will document progress, identify barriers and guide changes in strategies and tools. It is not enough to merely collect data; it is necessary to analyze and respond to that analysis by making adjustments to implementation strategies. Good data collection systems ultimately depend on unique variables for a specific individual, in a particular situation,



with the targeted skill. Your setting and your knowledge of the individual should determine the type and frequency of the necessary data collection system. Rarely is one strategy or tool 'clearly' better than the alternatives and final decisions are seldom made without consulting the 'available data' with respect to several key aspects of the choice at hand. Yet, how often does one recognize that these decisions have involved 'data' of some kind?

Federal and state guidelines demand 'evidence' and data is evidence. Teaching with technology can be challenging, exciting, rewarding and fun or frustrating, discouraging, disappointing and difficult – for all concerned! The direction taken from the beginning will determine the outcome. The time, thought and systematic planning invested at the outset can yield a successful solution. Meaningful goals, criteria, strategies, data analysis and response are crucial to the evaluation of the effectiveness process. Good data provides the answer to well framed questions and guides changes in implementation.

RESOURCES

Brinker, R.P. and Lewis, M. (1982). Making the World Work with Microcomputers: A Learning Prosthesis for Handicapped Infants. Exceptional Children, 49,2,pp.163-170

Bowser, G. and Reed, P. (1995). Education Tech Points for Assistive Technology Planning. Journal of Special Education Technology, 7,4, 325-338.

DeCoste, D., (2004), Developing a Written Productivity Profile. Don Johnston

Heiman, Don . Kansas' former chief information technology officer and director of the state's information technology voice, data and video infrastructure.

Korsten, J., Dunn, D., Foss, T. and Franke, J.K. (1993). Every Move Counts: Sensory Based Communication Techniques. San Antonio, TX: Therapy Skill Builders.

Reed, P., Bowser, G. and Korsten, J. (2002) How Do You Know It? How Can You Show It? Making Assistive Technology Decisions. Oshkosh, WI: Wisconsin Assistive Technology Initiative.

Thich Nhat Hahn – Peace Is Every Step: The Path of Mindfulness in Everyday Life.

The QIAT Consortium Leadership Team. (2000). Quality Indicators for Assistive Technology Services in School Setting. Journal of Special Education Technology, 15(4), 25-36.

Quality Indicator / Evaluation of Effectiveness (2001). www.QIAT.org

Zabala, J. S. (1994). The SETT framework: Critical questions to ask when making informed assistive technology decisions. (on-line). Available: www.sac.uky.edu/~jszaba0/JoySETT.html

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