

## **A Case Study: Follow-Up Assessment of Facilitated Communication<sup>1</sup>**

**Elliott W. Simon,<sup>2</sup> Patricia M. Whitehair, and Donna M. Toll**

*Elwyn Inc., Elwyn, Pennsylvania*

*A 6-month follow-up of an individual reported to engage in validated facilitated communication (FC) is presented. Three main issues are addressed: the current status of the individual's FC use, the effect of food reinforcers on his communicative ability, and a comparison of FC to the Picture Exchange Communication System (PECS). Results indicated that the individual did not engage in any validated FC, that performance was equivalent on food and nonfood trials, and that PECS was the preferred mode of communication, yielding 100% accuracy in a message-passing, object identification task. Implications of these findings are discussed in the context of an individual's right to communicate by objectively validated methods.*

Facilitated communication (Biklen, 1993), also known as FC, has generated considerable controversy regarding its validity and reliability (Green, 1994). The FC technique involves a facilitator providing physical support and other cues to an individual with a communication impairment as "communication" occurs through typing on a keyboard or pointing to letters or words on a communication board. The controversy centers around whether the communication stems from the individual or the facilitator. Many controlled studies have revealed that facilitators influence or completely control the letter selection (see Green, 1994, for a review). A few controlled studies have reported apparently valid communication on the part of a few

<sup>1</sup>The authors especially thank Student 7, his family, and staff for agreeing to participate in this follow-up study. We also thank Sherrie Schlecker and Carole Nebhut for serving as judges, Joyce Lentz for assistance in literature review and David Rappaport for commenting on this manuscript. This study was supported by Elwyn, Incorporated.

<sup>2</sup>Address all correspondence to Elliott W. Simon, 111 Elwyn Road, Elwyn, Pennsylvania 19063.

individuals with disabilities (Crews et al., 1995; Simon, Toll, & Whitehair, 1994; Vasquez, 1994).

One such individual was Student 7, Michael (a pseudonym), in the Simon et al. (1994) study. Michael and his facilitator appeared to produce valid communication for 3 of a possible 10 responses. Specifically, "wentkitchen" was typed after Michael experienced an activity in which he put dishes into a dishwasher in a kitchen area. In addition, "weatvending-machineslletmepoutdollarinlotoforidldl" and "foritos" were spelled after Michael went to the vending machine, put a dollar in the machine, and purchased Fritos. In both instances the facilitator was given no information about the specific activity Michael experienced (naive condition). When the facilitator was given false information (misguided condition), FC output with Michael reflected the false agenda for 4 out of a possible 10 responses, indicating guiding by the facilitator for at least some responses. No accurate information appeared in the output during the misguided condition, suggesting a possible inhibitory effect of facilitator knowledge as performance appeared better when the facilitator had no knowledge as opposed to false knowledge of the activities.

These results have been questioned on several counts. Green (1994) noted that the facilitator could have made educated guesses due to a familiarity with the student's preferences. This is a strong possibility since the facilitator knew the student well, and most of Michael's validated responses were food-related. It may also be that the output was valid and that Michael was more motivated to communicate about food than the topics of other parts of the evaluation. Another criticism of these results (C. E. Spalding, personal communication, May 11, 1994) is that the trial involving Fritos resulted in a lingering odor on Michael's breath which provided a contextual cue to the facilitator, enabling guiding by the facilitator to occur.

The present study was a 6-month follow-up of Michael's communication abilities. Discussions with Michael's parent and teachers revealed that 6 months following the conclusion of the initial study, FC had stopped due to Michael's refusal to participate. Specifically, Michael had been taking paper out of the typewriter, crumpling it, and throwing it away before any messages had been typed on it. Michael also turned the typewriter off and walked away from it. His classroom environment at the time of this follow-up study was structured to encourage communication by a variety of means including speech, manual signs, and the use of pictures as visual aids for comprehension and for expression via the Picture Exchange Communication System (PECS; Bondy & Frost, 1994, Frost & Bondy, 1992). PECS is an interactive system of communication which promotes social exchange. The communicator selects and gives a picture/word symbol to a communicative partner to relay a message. This program emphasizes the

social interaction aspect of communication by requiring a communicative exchange to take place. The action of "giving" the picture/word symbol(s) followed by the response from the communication partner highlights the cause and effect aspect of communication. At the start of this follow-up study, Michael was using PECS to request preferred items during structured activities in his classroom.

Michael's parent had questioned why his homework was not as complex as it had been the previous school year when FC was used frequently. Michael's previous teacher/facilitator was concerned that Michael had been refusing FC. Michael's current teacher was not a trained facilitator and was not comfortable using the technique in her classroom. After discussions with Michael's parent and teachers, a decision was made to reintroduce FC and design a study to test the efficacy of FC as compared to PECS for Michael. Michael's ability to communicate concerning food versus non-food items is also assessed in each mode of communication.

## METHOD

### *Student Description*

Michael had previously participated in a validation study of FC in which FC appeared to be validated at a level higher than previously assessed communicative abilities (Simon et al., 1994). At the start of the present study Michael was a 14-year-old male living at home with his mother. His diagnoses include attention deficit hyperactive disorder and moderate mental retardation. Standardized assessment revealed an IQ of 34 on the Leiter International Performance Scales (Leiter, 1982). Communication assessment indicated functional verbalization of single words with poor intelligibility. When given a visual cue Michael was able to combine 2 manual signs and had an overall vocabulary of at least 25 signs. He could point to or exchange requested pictures from a field of at least 20 pictures in structured activities.

### *FC Reintroduction*

For a 2-week period prior to the commencement of experimental trials FC was reinstated by his former teacher/facilitator for 2 half-hour sessions per day in his previous classroom. The facilitator provided physical support at the level of the palm. The keyboard was an electric typewriter. The facilitator consistently provided an open hand cue to initiate the FC procedure. In the initial session Michael at first refused to participate by

Table I. Output from First FC Session

Facilitator	Michael
Why did you crumble the paper?	asdfg jolkgeadijkl jouthkl; 1
Do you want to type with me?	ryu erryop asdfghjknk'K xasdjmf yip (verbalizes "dog")
(Shows Michael picture of dog) his name is Sammy. What color is he? (Verbalizes "I have an idea.")	fgujop1/2 asdfhjkl
Are you angry?	Yes
Why?	:nokuhill no kknoghjlp
Do you want to type with me?	wer no
Who do you want to type with?	uuio girl *r****fm (**** = name of current teacher)
You have to type with me first.	top1/2
Are you angry with me?	yres
Why?	bgwiki doyoufriendlobvemse
Yes I am your friend and I do love you!!!	
Are you angry that you are not in my class this year?	6yui yuop vuo
	gotoiprtyuirhjkl; fh11/2imnntheckll,ass
Do you want to come in my class?	yes
Why?	jouop gjop
What do you want to do in my class?	rewasdf rt readfhui
do you want to read?	yesertyverydfdastyu

Table II. Selected FC Output from Subsequent Sessions

Session	Facilitator	Michael
2	DID YOU GO TO SCHOOL LAST Thursday? Where were you?	ert no homeforbushoftk;/
4	What do you think we will do this afternoon?	jo mlofvkp gotomovie
6	What did you do this week-end	iwenttofoodstore tobuyduo, nyuty
9	What do you do with your homework? Do you do it first? Do you lose it on purpose?	ionotlou ilooseit no yesbecauseihateit looseit
15	What time does mom go to sleep?	1000forbergu guotobed

crumpling the paper, throwing the paper away, and turning off the typewriter. The facilitator reinserted the paper and cued Michael again with an open hand. Michael then placed his hand in the facilitator's hand; the output from this session is provided in Table I. In subsequent sessions Michael did not display any refusal to participate. Table II provides selected

output from subsequent FC sessions to illustrate the linguistic level of the typed text.

### *Procedures*

Consent to participate in the study was obtained from Michael, his mother, his previous teacher/facilitator, and his present teacher. To control for possible sensory cuing of the facilitator (specifically odor) and to assess the motivational effects of food on Michael's behavior, a variation on the message-passing procedure used in Simon et al. (1994) was developed. Twenty-two common objects, 11 food and 11 nonfood, were selected. Two of the objects, 1 food and 1 nonfood, were used for task orientation and were not scored. A communication board composed of the 20 Mayer-Johnson (1981-1992) picture/word symbols (2-inch size) corresponding to the remaining objects was prepared in a 5 row by 4 column arrangement. Symbols were attached to the communication board by hook and loop tape. Mayer-Johnson picture symbols were selected because they were being utilized in Michael's current classroom as visual aids and in his PECS. At the start of each session Michael was taken to a familiar room (domestic skills area) by the second and third authors, two speech pathologists known to Michael. Each session was videotaped by the second author. On each trial Michael was given a paper bag containing one of the actual items. The order of presentation of the items was random.

The communication board was also present in the room as a visual aid for comprehension. The third author told Michael to look in the bag and tell her what the object was. Michael was to name the object through manual sign, verbalization, or choosing the correct picture/word symbol from the communication board. If Michael was unable to name the object correctly by any one of these means, that item was dropped from the study. This procedure was necessary to ensure that Michael knew the symbol for the object and had seen the spelling of the word for the object.

*Phase 1.* In this phase of the study, a trial consisted of Michael engaging in the above procedure for 1 of the 22 items in one room, then immediately going to one of two other designated classroom. Michael then completed a message-passing activity to a communication partner naive to the identity of the object in the bag, with either FC or PECS as the sole means of communication available. The paper bag containing the object accompanied the speech pathologists and Michael to a designated classroom. Once in the classroom, Michael was verbally directed by the third author to tell a communication partner the contents of the bag. In the

classroom designated for FC, the facilitator was the communicative partner, was seated at the typewriter, and was allowed to cue Michael to use FC. In the classroom designated for PECS, Michael's current teacher was the communicative partner, was seated at the table, and the communication board was in close proximity.

Michael participated in 2 trials for each them, 1 involving FC and 1 involving PECS for a total of 44 trials. Two trials, 1 FC and 1 PECS, were completed each school day. Trials were completed in the morning or in the afternoon with an equal number of PECS and FC trials completed during each time of day. The first 4 trials, 2 PECS and 2 FC were viewed as practice and were not scored.

*Phase 2.* Trials in Phase 2 commenced after the completion of all 44 Phase 1 trials. Twelve objects, 6 food and 6 nonfood, from the 22 used in Phase 1 were randomly selected to serve as stimuli. Two objects, 1 food and 1 nonfood were again used for task orientation and were not scored. A trial in Phase 2 included the same precommunication experience of the object as in Phase 1. Phase 2 differed from Phase 1 in that when Michael entered the classroom designated for communication, both the facilitator and his current teacher were present. In addition, a third party known to Michael and naive to the identity of the object in the bag was present to serve as the communication partner. Michael was directed by the third author to tell this third party what was in the bag. No cuing was allowed during Phase 2. The teacher was seated near the communication board and the facilitator was seated near the typewriter. This phase allowed Michael the choice of communication mode when faced with the task of communicating the name of a just-experienced object.

*Phase 3.* Phase 3 was identical to Phase 2 except that cuing using an open hand was allowed from the facilitator, the current teacher, and the communication partner. This phase assessed Michael's preferred mode of communication and whether this mode was influenced by cuing.

*Phase 4.* This phase of the study commenced after the completion of Phase 3 and a 10-week summer break. Phase 4 was identical to Phase 3 except that the communication board was not present during the precommunication experience and the 10 items that were not used in Phase 3 were utilized. This phase was included to assess Michael's ability to retain knowledge of the real object without having the picture/word of the object present as a visual aid for comprehension. This ensured that Michael was not simply repeating a picture selection task that was just experienced in the domestic skills area.

### *Scoring*

PECS exchange responses were scored for correct selection of the target object by direct observation during the trial by the second and third authors. To corroborate the PECS scoring, the videotapes were jointly reviewed by the second and third authors. FC responses were scored by two independent judges who were given the name of the target object and the total FC output for each trial. Judges were asked to determine the presence or absence of the name or a description of the object. Correct spelling was not necessary.

## **RESULTS**

This study involved a total of 70 scored trials of object identification across four phases. In all phases Michael received a precommunication experience with the object. In Phases 1, 2, and 3 Michael was asked to identify the object in the precommunication experience. In each of the Phase 1, 2, and 3 precommunication experiences, he identified the object by correctly selecting the picture/word symbol of the object. In Phase 4, the communication board was not present during the precommunication experience.

Phase 1 involved 40 trials in which the mode of communication was selected for Michael, 20 trials by FC and 20 trials by PECS. The remaining 30 trials (10 trials in each of Phases 2, 3, and 4) involved Michael making a choice between FC and PECS. On the 20 Phase 1 trials in which PECS was the preselected mode of communication, both judges agreed that Michael performed with 100% accuracy, always selecting the picture/word symbol that matched the object in the bag. On the 20 Phase 1 trials in which FC was the predetermined mode of communication, both judges agreed that Michael did not type any words that were judged to name or describe the object in the bag. Typed output during these 20 trials contained recognizable words, but in no case were the words judged to be related to the target object. Examples of this were "dresstuodkouojh" when the target object was popcorn, and "ppotholder;" when the target object was a hat. Given the 100% accuracy for the PECS trials and the 0% accuracy for the FC trials, the suspected positive influence of a preference for food items on FC performance was not supported by the results of this study.

Phase 2 was designed to give Michael a choice between using PECS or FC to communicate what was in the bag. For all Phase 2 trials, Michael chose PECS as his means of communication. On these trials, Michael entered the classroom, sat between the facilitator and his teacher, scanned the communication board and correctly chose the target picture. In other

words, Michael achieved 100% accuracy through the use of PECS. In no instance did Michael attempt to communicate through FC. These results indicated that when Michael was expected to communicate and was given the option of using PECS or FC, he consistently chose to use PECS. The results also suggested that the availability of FC did not inhibit his ability to communicate through PECS.

After the completion of the Phase 2 trials, the facilitator suggested that the structure of the Phase 2 trials could have inhibited Michael's use of FC as cuing was not allowed during these trials. In all prior use of FC with Michael the facilitator cued the start of the FC session by outstretching her hand toward Michael. This cue was allowed in Phase 3. For 9 of the 10 Phase 3 trials, Michael did not engage in any typing (FC) but did select the correct target picture (PECS). On one trial Michael started to type with the facilitator using his preferred (left) hand and with the right hand reached over and selected the correct target picture from the communication board and gave it to the naive communication partner. For this trial the FC output was judged not to contain the target word or description. The addition of a cue to start FC did not increase Michael's use of FC in this situation.

Phase 4 was designed to assess whether Michael grasped the communicative aspect of PECS. In the preceding phases, Michael was exposed to the picture/word symbol during the precommunication experience. Therefore, when asked to communicate the identity of the object to the naive communication partner, he could have simply been selecting the picture/word symbol that matched the symbol he had just been shown. In Phase 4, Michael was not shown the picture/word symbol prior to the test trial but was only shown the target object. For 9 of the 10 Phase 4 trials, Michael selected the correct picture/word symbol of the object and did not choose to engage in any FC. For the remaining Phase 4 trial, Michael selected the correct symbol and then proceeded to engage in FC. The FC output from this trial was not judged to communicate the target object or description by either judge. The results of this phase indicated that Michael was using PECS to communicate the object that was in the bag.

## DISCUSSION

This was a 6-month follow-up study of the communication skills of Michael, an individual who had been reported to engage in validated FC (Simon et al., 1994). In designing this follow-up study, the authors were particularly interested in determining the present status of the student's FC use and the effect of food on his communicative ability as well as com-



paring FC to PECS. The results of this study indicate that Michael did not engage in any validated FC, that performance was equivalent on food and nonfood trials, and that PECS was not only his preferred mode of communication but also resulted in 100% reliable and valid performance in an object identification task.

These results cast doubt on Michael's three apparently valid FC responses reported in Simon et al. (1994). One reason for the absence of correct FC messages in the current study may be the absence of any contextual cues to the facilitator. As pointed out by Green (1994), when conducting FC validation testing it is crucial to eliminate visual, olfactory, auditory and other cues that may enable the facilitator to guide responses. The fact that no validated FC was revealed in this study points out the need for validation checks at routine intervals. We are in agreement with the New York State Office of Mental Retardation and Developmental Disabilities (OMRDD, 1994) policy advisory and American Psychological Association resolution (Foxy, 1995) that classes FC as an experimental procedure with no scientific support. As such, the use of FC should be subject to the same informed consent and oversight procedures as other experimental techniques (Jacobson & Mulick, 1995).

This student's perfect performance on all trials involving PECS suggests that it is a valid and reliable mode of communication for him. The authors recognize that the student was required to perform only one communicative function, labeling. Labeling has been cited (Biklen, 1993) as a difficult task for many FC users. For the individual in the present study, labeling was accomplished with great speed, accuracy, and independence via PECS and was only "difficult" when FC was involved and the facilitator was unaware of the correct labels.

The illustrative case in this paper points out the pitfalls of relying on a single-point validation of a single mode of communication. One should not rely on single, possibly spurious, results as evidence that FC is a generally valid and reliable communication mode for a specific individual. The decision to use FC needs to be made from an informed perspective. If FC is used, the authors recommend that FC not be the only means of expression available. People may use many forms of communication (speech, gestures, facial expression, sign language, pictures, writing, etc.) for a variety of communicative purposes. Individuals with communication difficulties should be afforded the same opportunity. It is imperative that repeated validation of any communicative mode be performed routinely. Relegating individuals to a single invalidated mode of communication, no matter what that mode of communication is, impinges on that individual's freedom and right to communicate.

The position statements of the American-Speech-Language-Hearing Association (1995) and the American Psychological Association (Foxx, 1995) caution that negative consequences of using FC can be suppressing genuine communication and that basing clinical decisions on information gained through FC is a threat to an individual's civil and human rights. One way that suppression may occur is if a listener does not recognize and heed the messages being conveyed by a person's other means of communication. The communication needs of Michael and other individuals with severe communication difficulties would be best met by emphasizing proven augmentative communication techniques such as PECS as opposed to highly suspect and questionable practices such as FC.

## REFERENCES

- American-Speech-Language-Hearing Association. (1995, March). Position statement facilitated communication. *Asha*, 37 (Suppl. 14), 22.
- Biklen, D. (1993). *Communication unbound*. New York: Teachers College Press.
- Bondy, A. S., & Frost, L. A. (1994). The picture exchange communication system. *Focus on Autistic Behavior*, 9, 1-19.
- Crews, W. D., Sanders, E. C., Hensley, L. G., Johnson, Y. M., Bonaventura, S., Rhodes, R. D., & Garren, M. P. (1995). An evaluation of facilitated communication in a group of nonverbal individuals with mental retardation. *Journal of Autism and Developmental Disorders*, 25, 205-213.
- Foxx, R. (1995). APA passes facilitated communication resolution. *Psychology in Mental Retardation and Developmental Disabilities*, 20, 18-20.
- Frost, L. A., & Bondy, A. S. (1992, August). *The picture-exchange communication system (PECS): An interactive communication method for young nonverbal children*. Paper presented at the meeting of the International Society for Alternative and Augmentative Communication, Philadelphia, PA.
- Green, G. (1994). The quality of the evidence. In H. C. Shane (Ed.), *Facilitated communication: The clinical and social phenomena* (pp. 157-225). San Diego, CA: Singular.
- Jacobson, J. W., & Mulick, J. A. (1995). Ethical dilemmas for practitioners posed by facilitated communication. *Psychology in Mental Retardation and Developmental Disabilities*, 20, 14-18.
- Leiter, R. G. (1982). *Leiter International Performance Scale*. Los Angeles, CA: Western Psychological Services.
- Mayer-Johnson, R. (1981-1992). *The picture communication symbols* (Vols. I-III). Stillwater, MN: Mayer-Johnson Co.
- Office of Mental Retardation and Developmental Disabilities. (1994, February). *Advisory to the field regarding facilitated communication*. Albany, NY: Author.
- Simon, E. W., Toll, D. M., & Whitehair, P. M. (1994). A naturalistic approach to the validation of facilitated communication. *Journal of Autism and Developmental Disorders*, 24, 647-657.
- Vasquez, C. A. (1994). Brief report: A multitask controlled evaluation of facilitated communication. *Journal of Autism and Developmental Disorders*, 24, 369-379.

Copyright of *Journal of Autism & Developmental Disorders* is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.