Improving Educational Planning for Students With Severe Disabilities: An Evaluation of School-Based Professional Learning

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The components of quality educational planning for students with moderate and severe intellectual disability are well established, but schools and special educators may not always achieve a desirable standard. This article reports on the change in quality of documentation related to individual planning and programming over a span of 4 years in a special school enrolling high-school-aged students with moderate to severe intellectual disability. The school implemented a program of professional learning, led by school staff, directed at improving planning and programming. There were significant changes in the quality of short-term goals and documentation of teaching programs. There was an increase in the quality of long-term goals but this did not reach significance. Instructional objectives were introduced in the final year of the study, and were not part of previous documentation. There was no evidence of implementation of formal monitoring procedures over the time span of the study. The difficulties observed and the changes as a result of the professional learning reflect those reported elsewhere in the literature, and demonstrate that a school commitment to improving program quality can have positive results.

Keywords: special education teachers, individual education programs, inservice teacher education, severe intellectual disability

It has been generally accepted that the education of students with moderate to severe intellectual disability should be individually planned in consultation with the student (where this is possible) and caregivers (Baine, 2003; Browder & Spooner, 2011; Snell & Brown, 2000; Westling & Fox, 2009). The planning process should result in the identification of age-appropriate, functional goals and objectives from initial assessment, procedures for explicit and precise teaching, and procedures for monitoring and regularly evaluating educational programs (Bateman, 2011; Foreman, 2009). It is a legal requirement in the United States (US), and accepted good practice that goals and objectives should be measureable and that regular monitoring of behaviour should occur to measure progress (Bateman, 2011; Lignugaris/Kraft, Marchand-Martella, & Martella, 2001).

Once the content of the educational program has been established, instructional programs should be designed and implemented, drawing on the range of evidence-based

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practices available. Accepted best practices include systematic instruction for acquisition, fluency, maintenance, and generalisation (Browder & Spooner, 2011; Snell & Brown, 2000; Westling & Fox, 2009). Systematic instruction draws on the principles of applied behaviour analysis, and includes the careful selection of cuing, prompting and prompt-fading (both stimulus and response prompts), materials, and feedback, error correction, and reinforcement procedures. Ideally, instruction is embedded in everyday, functional routines and activities, and where needed, individualised positioning and handling procedures and the use of assistive technology are implemented (Browder, Spooner, & Jimenez, 2011; Bruce, 2011; Drasgow, Wolery, Halle, & Hajiaghamohseni, 2011).

Chalmers, Carter, Clayton, and Hook (1998) surveyed teachers of students with high support needs in Australian special schools using a set of best practice indicators. Teachers generally agreed that practices such as documenting instructional programs, including strategies for generalisation and maintenance, writing objectives that include generalisation criteria, collecting data on student performance, and using instructional programs that specify teacher behaviour and prompt fading procedures were desirable. In the same survey, teachers were asked to report how often they implemented each practice on a 3-point scale (1 = *never*, 2 = *sometimes*, or 3 = *most of the time*), and for the practices noted, the ratings were between 2.49 and 2.61, which is close to 'most of the time'. In a follow-up study, Stephenson and Carter (2005), using the same set of best practice indicators, found that student teachers who had completed a practicum in a high support need setting reported their perceptions of lower implementation rates (between 1.94 and 2.21 for the practices noted), which is closer to 'sometimes'. On a broader level, Carter, Stephenson, and Strnadová (2011), based on a teacher survey, reported that teachers of students with severe/profound disability indicated that they used strategies drawn from applied behaviour analysis, direct instruction, and formative evaluation around once a week. It appears, according to the limited evidence available, that in Australian special schools, although teachers are sympathetic to good practices, consistent implementation is still problematic.

The current study arose when a school for high-school-aged students with moderate to severe disabilities wished to improve individual programming and instruction. The school embarked on a major improvement project that included developing a school curriculum document to support the selection of functional and age-appropriate individual learning plan (ILP) goals, the development of programming and planning processes, proformas, documentation, and support documents to bring a consistent school-wide approach to program and instructional planning. The first version of the school's functional curriculum was developed as part of the 2006–2008 school plan. The 2009–2012 plan saw the further development of the curriculum, support materials, and planning and programming procedures and proformas. Regular professional learning sessions around the use of the documents, supported by coaching and mentoring, were instituted progressively to introduce the changes. The authors provided feedback on some of these materials and provided some professional learning sessions as part of the change efforts. The school wished to have a formal evaluation of the impact of these developments on planning and programming.

As this was not an experimental research study with ongoing observational data collection, but an evaluation of the results of the efforts of the school to improve practice, we took the approach of evaluating the quality of the documentation produced and used by teachers. Although actual program implementation may not reflect written documentation (DePaepe, Reichle, Doss, Shriner, & Cameron, 1994; Sigafoos et al., 1993), clear goals,

objectives, and documentation of instructional procedures are a first step to quality service delivery and to consistency in program implementation. It is also unlikely that quality programs could operate without clearly documented goals, objectives, and teaching procedures (DePaepe et al., 1994; Drasgow, Yell, & Robinson, 2001; Pretti-Frontczak & Bricker, 2000; Sigafoos, Kigner, Holt, Doss, & Mustonen, 1991). The aim of the study was thus to evaluate the quality of programming and planning documentation over a 4-year period, and to identify any changes that occurred over this time in the documentation of long- and short-term goals, instructional objectives, documentation of teaching procedures, and monitoring procedures.

Method

Setting

The school in which the study took place was a segregated special school in a major Australian city and enrolled students of secondary school age with moderate to severe disabilities. The intent of the school's curriculum was to prepare students for adult life in the community, and there was a focus on skills related to self-care, independent living, accessing the community, and vocational skills. The school staff included both teachers with qualifications and experience in special education and those with neither special education qualifications nor experience when they began at the school. Over the years of the study, the percentage of teachers with special education qualifications ranged between 43% and 54%.

Program Documentation

Once ethics approval and approval for the study by the relevant education authority had been obtained, school staff chose a sample of 12 students from across the school. The staff selected students for whom it was likely a program would be available for 2007 through to 2010 and who they thought were representative of the school population. Parents were given the opportunity to indicate if they wished de-identified programming documentation for their child to be withheld. Similarly, teachers were given the opportunity to indicate if they wished any documentation they had been or would be responsible for to be excluded. Neither parent nor teacher took this option. A research assistant at the school collected all the relevant documents electronically, de-identified them by removing all student, teacher, and family names, and any other identifying information, and forwarded them to the researchers on disc. The researchers thus had no knowledge of student identity or the identity of any teachers who completed the documentation. The relevant documents included ILPs, ILP goal progression records, program forms, and mid- and end-of-year reports. The nature and format of some of these documents changed over the course of the study as the school improved existing forms and introduced new forms. There were two rounds of document collection: one for programs from 2007 to 2009 and one for 2010.

The student programs were produced by different teachers over the 4 years, with four students having programs written by four different teachers, five having programs written by three different teachers, and the rest having programs written by two different teachers. Seven programs were written by beginning teachers (two in 2007, one in 2008, three in 2009, and one in 2010). Five teachers who had written programs in 2007 or 2008 left at the end of 2008.

Student Characteristics

The students selected were in the early years of high school (years 7 to 10, aged 12 to 17 years) when the project began because of the need to collect 4 years of programming documentation. The sample was drawn from classes across the school within that range and included 10 males and two females. The level of disability ranged from students with severe and multiple disabilities who were dependent for care (including tube feeding) to those who had functional language skills and were involved in vocational preparation programs off the school site and were learning to use public transport independently. The sample included some students who used wheelchairs, some who used augmentative and alternative communication strategies (gestures, pictures, signing, speech-generating devices), some who were independent in basic self-care (meal times and personal hygiene), and some who needed considerable support.

Professional Development Program

The professional learning implemented over 2007 to 2010 included a range of topics and was designed and implemented by school staff, led by the school executive. The authors provided advice and some professional learning sessions, but did not design the program or oversee its implementation. During 2006 to 2008, the school identified best practice pedagogical strategies for high school students with moderate to severe intellectual disability, including systematic instruction and a functional-ecological approach to setting individual goals. From 2007 to 2008, the school developed a functional curriculum document and developed and refined a planning process for setting student priorities and developing long- and short-term goals. During 2009, small groups of teachers and executives developed, implemented, and refined a series of 11 staff induction modules (some modules contained several parts) that covered topics relevant to program documentation, such as writing goals and instructional objectives, program planning, and planning teaching strategies that were relevant to the school practices evaluated, as well as other content. Table 1 provides more detailed information about the content of staff training.

The modules were delivered by school staff members in 30–40-minute sessions or in shorter 15-minute sessions during regular teaching meetings. Presentations were accompanied by PowerPoint® slides. Where necessary, topics were revisited if teachers requested this or seemed to be having difficulty. Also during 2009, the curriculum document and planning guide was revised based on teacher feedback, and programming proformas to document long- and short-term goals were introduced and teachers were shown how to use them during teaching meetings. Worked examples of all the planning and programming proformas were provided. During 2010, the professional learning modules were re-presented. Data collection and monitoring were discussed in more detail, and some additional programming forms were trialled with staff. Data collection skills had been briefly addressed in 2009, but there was no sustained focus on them. As well as these school-based activities, one of the authors provided professional learning sessions during 2009 and 2010 on the same areas of focus (writing goals and objectives, program planning, and data collection).

Data Coding

In order to evaluate change over time, we developed a quality coding system for elements of programming including long- and short-term goals, instructional objectives, program procedures, and monitoring procedures. We coded every element in every program for the 4 years of documentation, drawing on all the available documentation to extract as

TABLE 1

Content of Staff Training Modules

Topic	Content
Functional curriculum	Functional skills and use of functional curriculum as best practice; capacity building; differentiating form and function of skills.
Common learning characteristics of students with moderate to severe intellectual disability/ASD: Implications for teaching	Causes of intellectual disability; value of natural environments; implications for teaching of poor attention to task, level of cognitive development, poor skill maintenance, language and communication difficulties; latency; imitation and external mediation of cognition.
Evidence-based practice and the school pedagogical toolbox and quality teaching	Use of a high standard of evidence to select curriculum and teaching strategies, to assess ILP goals, and to adapt the Quality Teaching model; instructivist and constructivist teaching; attributes of strong evidence; experimental research; the school pedagogical toolbox and included best practices.
Stages of learning and ILP processes	Acquisition, fluency, generalisation, and maintenance; factors to consider when selecting ILP goals; overview of planning process; school documentation required; writing specific instructional goals and objectives; assessment and data collection; measurement strategies.
Systematic instruction and applied behaviour analysis and community-based instruction	Empirical evidence for systematic instruction; using natural cues; prompting strategies; error correction; shaping; reinforcement, including reinforcement sampling; community-based instruction; lesson formats, including discrete trials and chaining; teaching for generalisation.
Systematic instruction and school programming forms	Documenting teaching programs with the school forms.
Systematic instruction and assessment, data collection display and analysis.	Operational definitions, taking reliable data, fitting data collection into the school day; baseline and intervention data; rationale for data collection.
Positive Behaviour Support	Functions of behaviour; functional assessment; functionally equivalent behaviour; differential reinforcement; non-aversive strategies.
Augmentative and alternative communication (AAC)	Types of AAC; stages of communication; visual supports; teaching communication skills.

Note. ASD = autism spectrum disorder; ILP = individual learning plan.

much information as possible. For example, if prompting procedures were described in a progress report but not in a programming form, they would have been assessed and coded. The elements we coded were drawn from standard texts (Browder et al., 2011; Snell & Brown, 2000; Westling & Fox, 2009), and from previously developed coding rubrics that included quality indicators for documentation (Baine, 2003; Boavida, Aguiar, McWilliam, & Pimentel, 2010; Codding, Skowron, & Pace, 2005; DePaepe et al., 1994; Pretti-Frontczak & Bricker, 2000; Ruble, McGrew, Dalrymple, & Jung, 2010; Sigafoos et al., 1993; Sigafoos et al., 1991).

Features of goals and objectives and some program procedures were coded as present (1 point) or absent (0 point). Some features of programming documentation were scored as present (2 points), partially present (1 point), or absent (0 point). The coding system resulted in a numerical score for each element of programming for each program examined, as detailed below.

The school goal-setting structure included three components: long-term goals, short-term goals, and instructional objectives. Long-term goals were to be a general statement of what was to be achieved over a period of one or more years and were given a score out of four. One point was allocated for each of the following: inclusion of active student behaviour, allowing for development of instructional objective, being age-appropriate for

TABLE 2

Scoring of Instructional Objectives

Criterion	Scoring
Relate, and be subordinate, to related short-term goal	1
Include active student behaviour	0 if no active behaviour 1 if some behaviour is active 2 if all behaviour is active
Behaviour must be measureable (observable)	0 if not measurable at all 1 if some of the behaviour is measurable 2 if all the behaviour is measureable
Criterion including a standard for how well the behaviour must be performed and how often it must be performed at that standard	Elements must match the behaviour. *How well* must be measurable. If the behaviour itself is unclear, not defined, not active, or not measurable, no score is possible for how well. 1 point *How often* must be a clear end point. Doing the behaviour once is not acceptable. 1 point
Conditions: where, when	*Where* might include information on the location where the behaviour is to happen and/or the positioning of the student. 1 point. *When* may describe the time or the activity during which the behaviour will happen, the natural cue that should trigger the behaviour, or may describe how the behaviour is part of a routine. 1 point.
Required equipment/materials	0 if equipment/materials are not described 1 if equipment/materials are partially described 2 if equipment/materials are fully described
Partner behaviour (instructions, assistance or prompts, prompt fading strategies, such as time delay)	Must explicitly describe the instructions and assistance to be provided, must clearly specify the nature of any prompting and prompt fading systems. 0 if no partner behaviour is described 1 if some required behaviour is described 2 if all behaviour is described
Generality	The criterion describes generalised behaviour (e.g., across untrained people, places, or activities). 1 point.

high-school-aged students, and for evidence of initial assessment relevant to the goal in the documentation. Short-term goals were to be a general statement of what might be achieved over one to four school terms and were scored out of 5, with the same criteria as for long-term goals with an additional point for being related and subordinate to the related long-term goal. The criteria for specific instructional objectives, scored out of 14, were more complex and are shown in Table 2. Instructional objectives needed to include a behaviour with conditions and criteria. As well as coding these elements, the numbers of goals and objectives were recorded for each student for each year, and also the location in the documentation of information relating to each coded element.

The program documentation for the teaching of each instructional objective was scored out of 9, with 1 point for each of the following: clear and complete descriptions of the position of the student, materials or equipment used, the context or setting, the inclusion of a task analysis for activities or tasks, or a curriculum sequence for single skills, or inclusion of the name of a specific program documented elsewhere, the cues for the behaviour (such as a teacher instruction, presentation of a stimulus or a natural cue), specific description of the form of any prompting strategies, specific description of how prompts were to be faded, responses for correct performance, and specific error-correction

TABLE 3

Scores for Long-Term Goals

Year	Range of mean scores	Overall mean
2007	2–3	2.8 (70%)
2008	2.75–3	2.9 (72.5%)
2009	2.75–3	2.9 (72.5%)
2010	2.75–4	3.1 (77.5%)

procedures. Criteria for monitoring procedures were developed, but as no documentation included monitoring these are not described.

After coding criteria and guidelines were developed, the long- and short-term goals, objectives, program documentation, and monitoring for four students for each of the 4 years (33.3% of the programs) were coded independently by two research assistants. Initially, the coding for instructional objectives was unreliable, so the criteria and coding guidelines were discussed and revised and the objectives were recoded. Intercoder reliability was calculated as agreements divided by agreements plus disagreements multiplied by 100. Intercoder reliability for long-term goals was 85.1%, for short-term goals, 90.4%, for objectives, 80.8%, and for program procedures, 84%. There was 100% agreement that no information on monitoring procedures was included.

Once scores were generated for each element for each student for each year, we calculated a mean score for each student and then for each year as summary statistics. Comparison of the scores for each programming element across years was carried out using a Friedman two-way analysis of variance, which is appropriate as parametric assumptions were not justified given the sample size and the variables (scores for each program element) were repeatedly measured at different times. When a significant p value was found, Conover post-hoc comparisons were conducted to determine which pairs of years were significantly different from one another.

Results

Long-Term Goals

In 2007, the mean number of goals per student was 7, but this reduced to 4 in 2008 and 2009, and increased slightly to 4.75 in 2010. This reflects the introduction of programming guidelines during 2007 to encourage teachers to focus on a smaller number of goals and program for them more carefully. Long-term goals were scored out of 4 and data are summarised in Table 3. The most common element missing was evidence of initial assessment. A Friedman two-way analysis of variance was conducted for long-term goals. No differences were significant at the .05 level, χ^2 (4, $n = 12$) = 4.74, $p = .19$.

Short-Term Goals

In 2007, the mean number of short-term goals per student was 13.8, and as the number of long-term goals decreased, short-term goals also decreased to a mean of 6.7 in 2010. Short-term goals were scored out of 5 and the results are summarised in Table 4. As for long-term goals, the omission of assessment information was the most common problem. The Friedman test for the short-term goals was significant, χ^2 (4, $n = 12$) = 8.24, $p = .03$, so Conover post-hoc comparisons were conducted. These revealed significant differences between 2007 and the years of 2008 ($p = .02$), 2009 ($p = .01$), and 2010 ($p = .02$).

TABLE 4

Scores for Short-Term Goals

Year	Range of mean scores	Overall mean score
2007	2.7–3.9	3.6 (72%)
2008	3.8–4	3.9 (78%)
2009	3.8–4	4.0 (80%)
2010	3.4–5	4.0 (80%)

TABLE 5

Scores for Program Documentation

Year	Range of mean scores	Overall mean score
2007	2.2–4.5	3.5 (38.9%)
2008	3.8–4.9	4.4 (48.9%)
2009	3.8–5.7	4.8 (53.3%)
2010	2.7–6.25	4.2 (46.7%)

Objectives

All coders agreed that there were no objectives in any of the documentation reviewed until the final year, 2010. The mean number of objectives per student in that year was 6.7. Objectives were scored out of 14, and the overall mean score was 10.5 (75%), with a range of student mean scores from 7.3 to 12.6. Low scoring areas included the generalisation component, descriptions of partner behaviour, and criteria for mastery.

Program Documentation

Up until 2010, program documentation related to short-term goals, and thus there was a fall in the number of programs documented from a mean of 13.5 per student in 2007 to a mean of 6.6 in 2010. At this point, teachers were not using a single school-wide programming proforma (this was introduced in 2011), so information about program procedures was located across a range of documents. In 2010, the number of programs was very close to the number of objectives. Programs were scored out of 9 and the results are summarised in Table 5. Low scoring areas were documenting the program sequence, documenting prompt fading, and responding to errors. For program documentation, the Friedman test was significant, χ^2 (4, $n = 12$) = 13.50, $p = .001$. Conover comparisons indicated that the year of 2007 was significantly different from the years of 2008 ($p < .01$), 2009 ($p = < .01$), and 2010 ($p = .03$).

Monitoring

No systematic records were found.

Discussion

Overall, the results show that there was a modest increase in the quality of documentation over the years of the project. As a condition of the study was that programs be totally de-identified, we do not know how representative the teachers who wrote the programs for the students included in the study were of the whole school staff. The principal verified that the programs were produced by teachers, who ranged from beginning teachers without special

education qualifications to experienced teachers with special education training. Some teachers who wrote programs left the school during the time covered by the study. The improvement could perhaps be best viewed as representing whole-school improvement in the face of staff turnover.

The improvement in long-term goal scores was not statistically significant. This may be because the area of weakness that was consistent across years was the omission of any reference to initial assessment. Changes in short-term goals and programming documentation were significant, showing improvement over 2007 levels. The increase from 2007 to 2008 most likely reflects the initial school improvement efforts from 2006, the introduction of a school curriculum and planning guide, and the initial emphasis on setting long- and short-term goals and documenting teaching procedures. Objectives were only included in the 2010 programming documentation after the implementation of the professional learning modules during 2009, and this inclusion in itself is a major improvement in program documentation. Clear instructional objectives are generally regarded as an essential component of an individual education plan (IEP) and allow for focused instruction, precise monitoring of student learning, and clear communication to parents and professionals (Browder & Spooner, 2011; Lignugaris/Kraft et al., 2001). Areas that remained of concern included assessment and monitoring in general, writing objectives that covered generalisation, setting clear mastery criteria and documenting teacher behaviour as part of the conditions in an objective and within-programming procedures documentation, providing program sequences, documenting prompt fading, and responses to student errors.

The introduction of the school curriculum would appear to have ensured that the goals selected were age appropriate, as this was an area of strength not found in other studies of IEP goals (Lynch & Beare, 1990). Unlike Billingsley (1984), who had intended to evaluate long-term goals, as well as objectives, in the IEPs of students with severe disabilities, but who found the goals so vague and general as to 'preclude meaningful interpretation' (p. 192), we found goals across all years were generally clearly stated active behaviours.

This study confirms the findings of other studies that professional learning activities can improve the quality of documentation. Pretti-Frontczak and Bricker (2000) found that the quality of goals and objectives improved significantly for preschool teachers who participated in a 2-day training session. Although this improvement included elements not addressed by the school in the current study, such as the functionality of goals and objectives, several elements we measured were included, such as having a generalisation component in objectives, the hierarchical nature of goals and objectives, and measurability of goals and objectives. Shriner et al. (2013) showed that a web-based tutorial system combined with a short on-site training session improved the writing of goals and objectives, including measurability and the inclusion of conditions and criteria. Although the IEPs they evaluated were focused on academic skills and the findings are preliminary, they also found an improvement in student academic outcomes that was related to the improvement in quality of IEP documentation. Sigafoos et al. (1991) implemented a training program over 3 months for staff in a service for adults with disabilities. As well as content on writing goals and objectives, this training included content on writing program implementation descriptions. They found an improvement in quality after training, but they also found that skills of trained staff decreased in the months afterwards. With the exception of program documentation, which decreased in the final year of the analysis, gains in the current study were maintained, even with staff turnover. Nevertheless, it is likely that the

ongoing training implemented by the school will continue to be needed to maintain staff skills.

It is probable that the primarily school-based provision of ongoing professional learning and supervision/mentoring of teachers by executive staff contributed to the improvement in documentation. What has been established, both here and overseas, is that one-off staff development sessions are unlikely to change teacher practices (Foreman, Arthur-Kelly, & Pascoe, 2007; Gersten, Vaughn, Deshler, & Schiller, 1997). Gersten and his colleagues (1997) have distilled from the literature a set of six principles they believe promote sustained use of new teaching practices. The first of these is the 'reality principle': teachers must see the new practice as practical and concrete, as something that can be done within their own classrooms. Second, teachers require clear guidelines and examples of how the practice will work in their classroom. Third, the degree of change required must be realistic, neither trivial nor radical. Fourth, teachers need to receive some form of feedback on their efforts to implement a new practice. This feedback should address both the technical and conceptual aspects of the innovation. Fifth, it is important that teachers see the changes in students brought about by improved practice and this means researchers may have to assist teachers in gathering and interpreting quantitative assessment data. Finally, teachers should be part of a collegial network where participants provide mutual support (Gersten & Dimino, 2001; Gersten et al., 1997). The process at the school has provided this practical approach, with a measured introduction of change and increased expectations, clear examples and support materials, and ongoing professional learning for all staff. The final step for the school is to introduce effective and practical systems for monitoring student learning to provide teachers with a means to see the changes they bring about and to develop new objectives and program procedures as students progress. The processes also reflect to some extent the more recent findings from implementation science in that the change process was planned over several years, and ongoing professional learning, where there was repetition of professional learning sessions, and ongoing staff supervision allowed for sustainable change even though there was some staff turnover. Supportive administrative structures and procedures were also introduced and there was a commitment to evaluation of progress, as evidenced by this study (Cook & Odom, 2013; Fixsen, Blase, Naoom, & Wallace, 2009).

The areas of difficulty for teachers in the study reported here have been reported elsewhere. Boavida et al. (2010) reported on the quality of goals in IEPs in Portugal and also found that setting measurable criteria for goals/outcomes was problematic, as did Lynch and Beare (1990) and Shriner et al. (2013), who evaluated IEP objectives for students with mild disabilities. Sigafoos et al. (1991) reported poor performance on setting observable goals with criteria and poor documentation of intervention procedures before training for people working with adults with disabilities. DePaepe et al. (1994) also measured program components (for adult habilation) and similarly found high levels of age appropriateness but much less documentation of prompting procedures, including fading procedures, clear criteria in objectives, and task analyses. Sigafoos et al. (1993) evaluated IEPs in two Queensland schools enrolling students with severe disabilities that were considered to be good representatives of such schools. They found the majority of goals were measurable, but criteria for adequate performance were only present for 10–20% of goals. Information about monitoring was also uncommon in these schools. Of interest is that in one school, 90% of goals had the method of implementation described, whereas in the other school, only 36% goals had implementation described. We found some evidence of program procedures in all the samples we examined, but there was considerable variation in quality. More recently, Ruble et al. (2010) examined the IEPs

of young students with autism and found them of generally poor quality, with problems with measurable behaviour and clear conditions in objectives and lack of descriptions of instructional procedures. They found no associations between child and teacher variables, and indeed they reported an almost significant association between experience in teaching students with autism and IEP quality.

One area that was a consistent weakness in the IEPs examined in the current study was the absence of any initial assessment information related to setting long- and short-term goals. In the US, the IEP is a legally mandated document and must contain a current assessment of performance to establish a baseline against which student learning can be measured as well as methods for collecting data and reporting progress (Christle & Yell, 2010; Drasgow et al., 2001). Despite this requirement, failure of IEPs in the US to include assessment information has been common (Drasgow et al., 2001; Lynch & Beare, 1990), although Ruble et al. (2010) reported that this was an area of relative strength for the sample of IEPs they examined.

Closely related to the lack of documentation of initial assessment, was the lack of monitoring information, and that too has been a common weakness in US IEPs (Drasgow et al., 2001; Etscheidt, 2006). The introduction of instructional objectives to the programming process, as per the 2010 programs, will allow the school to develop monitoring processes further, as well as develop skills for writing clear criteria for mastery. As Boavida et al. (2010) noted, measurable criteria are especially critical for learners with more severe disabilities, as these students are likely to progress in small steps and careful measurement is essential to ensuring progress. Careful monitoring will likely lead to more frequent changes in instructional objectives (and thus more objectives per student per year) and changes in the related documentation of teaching procedures.

Weaknesses in planning for generalisation have also been reported elsewhere. Billingsley (1984) found that very few of the 499 objectives written for students with severe disabilities that he assessed included a criterion for generalised performance of the skill. As Billingsley pointed out, generalisation may be addressed in the criteria of an instructional objective, or in a sequence of objectives where behaviour is targeted in a number of different contexts. In our sample, both generalisation criteria in objectives and program sequences were weak areas.

Overall then, the school has made considerable progress towards improving its documentation, and the areas that present difficulties have been consistently found to present problems for teachers. This progress has been achieved in the context of ongoing staff turnover and with a staff composition that includes beginning teachers and teachers without special education qualifications. This study shows that it is possible with a sustained and focused effort for a school to introduce and maintain the implementation of research-based practices as measured by objective criteria. The coding scheme developed for this study may be helpful for other schools that wish to evaluate or improve their planning and program documentation procedures.

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