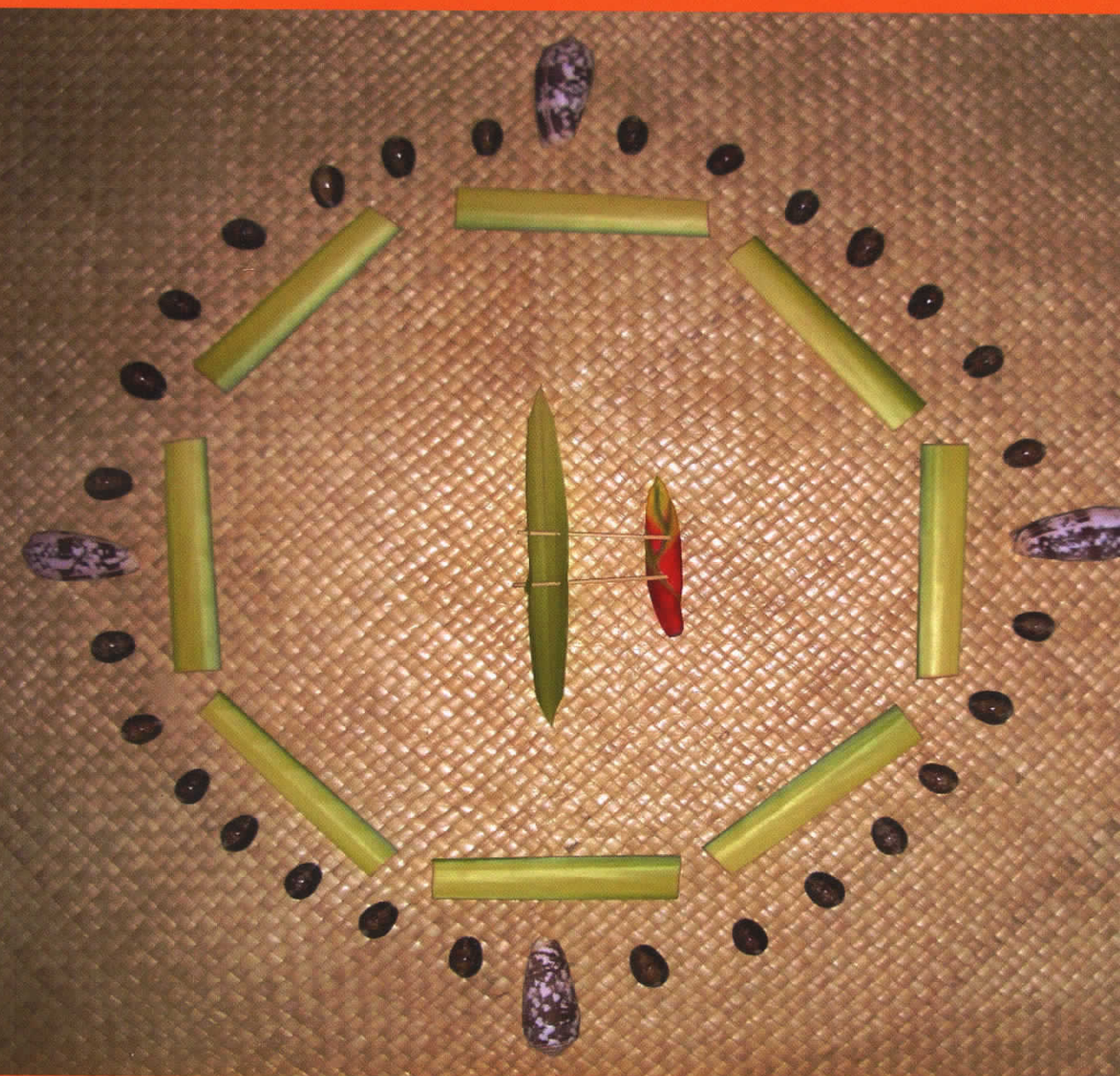


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Facilitating Program Improvement for Students with Significant Cognitive Disabilities: Baseline Documentation of Instructional Programs in Six Pacific Entities

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Abstract

This article provides a documented baseline description of the responses of 6 American-affiliated Pacific Island entities (American Samoa, Commonwealth of the Northern Mariana Islands, Guam, Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau) to U.S. mandates for access of students with significant cognitive disabilities to general curriculum instruction and academic assessment. Evidence was gathered by administering an observation instrument that focused on contextual and educational processes experienced by 114 individual students. A promising indication was that students had access to age-appropriate instruction. The majority of students were not observed inside regular classes half or more of the time, although some students in self-contained classrooms received age-appropriate instruction in reading and math. Results defined specific management and professional development needs for all 6 entities and Individualized Education Program teams within 5 effective practice themes. Particular attention is needed to appropriate supports, high expectations for student performance, placement in integrated learning environments, and aspects of standards-based age-appropriate curriculum. The most pressing research needs are for studies that examine the effectiveness of specific approaches to achieving effective practice profiles for the 3 largest disability categories (i.e., intellectual disabilities, multiple disabilities, and autism) and professional development for educators, including undergraduate and graduate educator preparation.

Keywords: effective practices, inclusion, severe disabilities, Micronesia, special education

Introduction

This article provides a documented baseline description of the responses of six American-affiliated Pacific Island entities (American Samoa, Commonwealth of the Northern Mariana Islands, Guam, Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau) to U.S. mandates for access of students with significant cognitive disabilities to general curriculum instruction and academic assessment. Although not specifically covered by No Child Left Behind (NCLB, 2001) requirements, each Pacific Island entity receives Special Education funding framed by requirements of the Individuals with Disabilities Education Improvement Act (IDEA, 2004). Beginning in 2006, the U. S. Department of Education (DOE) provided funding to assist a consortium of these Pacific entities to gain technical support from the University of Guam Center for Excellence in Developmental Disabilities Education, Research, and Service (Guam CEDDERS) to develop inclusive¹ and age-appropriate curriculum, instruction, and assessment capacities. Provided here, as an essential step in improving programs and bringing them into compliance with DOE requirements, are evidence-based insights of national relevance regarding the status of instruction for students with significant cognitive disabilities and the professional development needs in the consortium entities. This strategy follows the example of documentation-to-improvement research with similar student populations in other educational systems (e.g., Idol, 2006; Towles-Reeves, Kearns, Kleinert, & Kleinert, 2009; Kearns, Towles-Reeves, Kleinert, Kleinert, & Kleine-Kracht Thomas, 2011).

Central to the professional support goals of the six Pacific Assessment Consortium (PAC6) entities was training with and implementation of an observation tool developed by the National Alternate Assessment Center (NAAC) for observing instruction of students with significant cognitive disabilities. The observation process revealed how the Pacific entities inaugurated effective practice learning opportunities, built and sustained motivation for this endeavor, and developed a foundation for assessing student learning outcomes in the future. The system, *NAAC-PAC6 Student/Program Observation Tools* (NAAC-OT), which is available online (NAAC, 2010; PAC6, 2011³), was used with individual students in Spring 2010 and focused on five types of information: (1) an inventory of student learning characteristics; (2) identification of the student's curriculum and instruction characteristics (classroom environment, learning activity, student response task); (3) an analysis of student work samples within a content area; (4) general and special education teacher interviews; and (5) an Individualized Education Program (IEP) analysis.

The observations also sought to document the status of five overlapping effective practice themes: (1) instruction on age-appropriate, grade level specific general curriculum; (2) learning in integrated environments; (3) use of appropriate supports; (4) high expectations for student performance; and (5) use of evidence-based instructional practices. The items on the observation instrument were based on effective practice research with students with disabilities and underwent validity reviews by nationally recognized special education experts. In examining instruction in integrated environments and access to the age-appropriate content standards in reading, math, and science (Themes 1, 2, 3, and 4), repeated administration of the NAAC-OT items over time has the potential to supply evidence of continuing improvement in the learning conditions for students with significant cognitive disabilities.

For two years prior to conducting observations, PAC6 members participated in large group training events, combined with onsite technical assistance visits to each entity by consultants and Guam CEDDERS staff, designed to develop entity competencies in validly and reliably administering the NAAC-OT. The training also encompassed major strands addressing improving educational opportunities of students who met the participation guidelines for Alternate Assessments based on Alternate Achievement Standards (AA-AAS). Sessions provided information on using the 4-Step Process for accessing the general age-appropriate, standards-based curriculum of each entity (Burdge, Clayton, Denham, & Hess, 2010). The sessions included strategies for achieving integrated access to instruction, infusing instruction with communication methods appropriate to individual student needs, early childhood education approaches, and video documentation methods to enable extended training.

The underlying rationale for pre-observation training and technical assistance for the Pacific entities on curriculum, instruction, and support was research-based. Stodden, Jones, and Chang (2002; cited by Stodden, Galloway, & Stodden, 2003) found that students with disabilities who are placed in restricted versus integrated learning environments often have little access to instruction on core concepts that can be characterized as complete and up to standards. Moore (2002) cited several studies supporting standards-based and support-enriched inclusive learning environments as a means of advancing academic achievement.

Students in inclusive schools have been found to progress toward their IEP goals and to gain as much as two to three years growth on academic achievement indicators within one year (Fishbaugh & Gum, 1994). Deno, Maruyama, Espin, and Cohen (1990) found that students with disabilities in inclusive classes achieved higher levels of reading achievement than did comparison groups in integrated classrooms or resource classrooms. Similarly, Jenkins, Jewell, Leicester, O'Conner, Jenkins, and Troutner (1992) found that both typical students and students with IEPs made greater gains in reading achievement than students in pull-out programs – whose achievement scores actually decreased. Although a small number of studies report unsuccessful outcomes for attempted inclusive or integrated initiatives, Burdge and Clayton's (2004) review of these studies concluded that positive results would have been more likely

had proper supports been provided to the students with disabilities and if pretest achievement levels had been better controlled across placement conditions.

All members of the PAC6 desired the guarantee that inclusion and curriculum innovations would sustain efforts toward IEP goals and would be beneficial to or would not detract from educational efforts made on behalf of their school systems' typical student population. IEP goals, which often identify functional skill needs for students (e.g., self-help, communication, adaptive behavior, gross and fine motor skills) have been shown by some investigators (e.g., Hunt & Farron-Davis, 1992) to garner increased gains when delivered in inclusive settings. Regarding typical students, numerous studies verify that students without disabilities who are educated in inclusive environments either demonstrate increased achievement rates (Fishbaugh & Gum, 1994; Hunt, Staub, Alwell, & Goetz, 1994; Sharpe, York, & Knight, 1994) or do not suffer ill effects; e.g., their instructional time on curriculum was maintained (Hollowood, Salisbury, Rainforth, & Palumbaro, 1995; Rafferty, Piscitelli, & Boettcher, 2003; Kalambouka, Farrell, Dyson, & Kaplan, 2007).

This study addressed six research questions regarding efforts in the American-affiliated Pacific Islands, following professional development, to comply with IDEA requirements for providing students with significant cognitive disabilities with access to age-appropriate academic curriculum, instruction, and assessment; and the extent to which these students have access to inclusive educational environments: (1) What are the characteristics of students with significant cognitive disabilities in the six Pacific entities, and how are these characteristics related to their assigned classroom settings and grade placement? (2) What are the characteristics of the educational contexts? (3) How do instructional characteristics relate to the IEPs? (4) In what ways do the observations differ for reading, mathematics, and science content areas? (5) What evidence do the observations provide of the application of effective practices for the student sample? and (6) What additional research is needed to enhance effective applications of these?

Method

Participants

There were three interacting types of participants in the study: (1) all or a sample of students identified as eligible for the AA-AAS in each of the entities; (2) the special education and general education educators assigned to each of the participating students; and (3) the educational entity as a whole.

Student participants. Table 1 describes the portions of the study sample from each educational entity. The number of AA-AAS participating students in the study from each entity is shown relative to the total number of AA-AAS participating students in each respective entity. Of all 361 AA-AAS students in the six entities combined, 114 (32%) participated in the study. Two of the entities (RMI and ROP) identified fewer than 10 AA-AAS eligible students at the beginning of the study and opted to include all of them in the study. FSM, which encompasses four distinct school systems (Chuuk, Kosrae, Pohnpei, and Yap States), identified fewer than 10 AA-AAS eligible students in two states (Chuuk and Kosrae), 13 in Pohnpei, and none in Yap, and opted to include all 22 in the study. Each of the other three entities had more than 25 AA-AAS-eligible students; of which AS selected 28, CNMI 25, and GU 24 for the study. Though not random, these selections constitute the largest numbers of AA-AAS students from these three entities ever included in research. In making their sample selections, AS, CNMI, and GU consciously included students representing a range of grades, disability categories, and settings in order to develop a window onto the nature of instruction under multiple conditions. This approach to sampling is best described as "purposive sampling" (e.g., Medin, Unsworth, & Hirschfield, 2007, p 619³).

Table 2 shows that the disability categories of intellectual disabilities, multiple disabilities, and autism accounted for the majority of participating students. Neither FSM nor RMI reported having any AA-AAS students in the autism category. The number of participants was balanced across the grade groups (56 in

grades 1-6, 29 in grades 7-9, and 29 in grades 10-12). Table 3 shows that the observed educational settings of participating students were most frequently found to be segregated special education settings (47%), closely followed by general education settings (40%), with a minority of homebound (11%).

Educator participants. Table 4 provides an overview of the type of educators who participated in inclusion and best practice training, and who were the agents of the instruction observed. Because the NAAC-OT focuses observations on the classroom experiences of each student participant, the special education and general education teachers can both be included in the observation data. Other related personnel or family members may also be present at the time of observation. It is made clear to all that the observation is not an evaluation of educators. Entity educators are also participants because they receive extensive training in how to establish best practice conditions for instructional environments for students identified for AA-AAS, and that provide access to the age-appropriate, standards-based curriculum.

Educational Sites. Because the placement, lesson planning, school settings, and observation sites are representative of and involve multiple role players in the students' schools, each participating student's school and school system are also participants. Characteristics of the educational settings of the study are displayed in Table 1.

Procedure

Materials. The NAAC-OT is a validated document describing the collection protocol for five components that assist a state or district to better understand access to the general curriculum and elements of effective practice instruction provided to students with significant cognitive disabilities.⁴ It is to be administered by trained school personnel. The five components of the NAAC-OT are: (1) *The Student Profile*. Developed earlier by Kearns, Kleinert, Kleinert, and Towles-Reeves (2006) as the *Learner Characteristics Inventory* (LCI), this 12 point, teacher report checklist elicits a profile of characteristics that may influence the student's responses or ability to respond (e.g., NAAC & Guam CEDDERS, 2010). (2) *The Student Observation Protocol* consists of 27 items in three components: classroom environment, learning activity, and student response and task. In concordance with NAAC's (2010) procedures, each observation focused on one student per observation period, with several parameters in force: each student was observed for a minimum of 20 minutes or until the task or activity was completed; one of the three focal academic activities (reading, math, and science) or a life-skills activity was observed; the observation was rescheduled if the student was having health or behavior difficulties. (3) *The Student Work Protocol* is a systematic examination of a collection of student work that should relate to the observation period or content area. The student work protocol was designed to judge, but not to score, whether or not specific indicators exist in three to five work samples within a single content area. Indicators are applied to the total collection of work, not to individual pieces. (4) *The 13-item Teacher Interview* is administered to both the special education and the general education teachers where appropriate. The observer inquires about the observed student activities and tasks and seeks teacher input on the student's expected performance level. Information is sought on the teachers' training, technical assistance activities, and other support for assisting the student's access to the general curriculum and the influence of accountability assessments in reading, math, and science upon IEP development. (5) *The IEP Analysis* investigates the extent to which academic objectives, goals, and benchmarks, as well as life-skills objectives, occur in student IEP's and the presence or absence of selected effective practice indicators.

Data Collection, Submittal, Coding

The Special Education Director of each of the programs selected observation trainees from their respective professional staffs. From this trainee group, 22 educators established acceptable observation reliability (75% or more agreement on all five NAAC-OT components compared to the standards of an expert observer) in NAAC-OT administration training conducted in Spring 2010 with students selected for the study. Following completion of observations, observers submitted each completed NAAC-OT form to Guam CEDDERS. Each observation was given an identification code in order to protect student

identities, and included in the digital database. A data coding system was uniformly applied to each observation in order to capture both closed-ended and open-ended responses to all items.

Data Analysis

Observation data for each entity and NAAC-OT item were organized and a series of descriptive data analyses were performed in order to answer the research questions. The first round of analyses consisted of developing practical action-oriented reports for entities, separately and combined, on each item in each of the five best practice themes: (1) instruction on age-appropriate, grade level specific, general curriculum, (2) learning in integrated environments, (3) use of appropriate supports, (4) high expectations for student performance, and (5) use of evidence-based instructional practices. Then descriptive analyses were prepared to answer all research questions.

Results

Student characteristics, setting, and grade

In addition to student representation across the disability categories, disability category representation across grades, and type of educational setting (Tables 1, 2 and 3) reported above, Table 5 describes the age and grade assignments observed for participating students. A close correspondence is shown. When examined in a more detailed format that focuses on the instances of access deficiency in the age to age-appropriate grade assignment, including disability categories, the most frequent access deficiencies in age-appropriate grade assignments occur at ages 9, 13, and 17, and low frequencies of students at some ages does not completely account for these access deficiency clusters. Due to the naturally small student populations of some of these island entities, the student numbers are too small when disaggregated to the age-grade-disability category cells to speculate on a relation between access deficiencies and disability category; however, this would be an analysis of interest in larger school system populations.

In addition to the instructional setting information reported earlier for Table 3, Table 6 displays the estimated proportion of instructional time that students experience in each type of educational environment. Considerable difference could be observed across entities regarding the proportion of students that spend most of their school day in the regular classroom, ranging from a high of 56% to 0% at the time of the study. An examination of the instructional setting for students of the three most populous disability categories, although disaggregated cell numbers are low, suggests that about 40% of the students in the intellectual disabilities and autism categories were reported to be in a regular class 80% or more of the time; whereas students with multiple disabilities were much less likely to be in that setting (18%), and more often homebound (24%).

Instructional Characteristics

When instructional arrangements within the students' classrooms were observed and classified (Table 7), the frequency across entities was 1-to-1 instruction (53% of observations), small group instruction (25%), large group instruction (18%), independent work (4%), and cooperative group instruction (< 1%). The observed agent of instructional delivery for the entities (Table 8) was most often the special education teacher (50%), followed by the general education teacher (21%), the paraprofessional (13%), collaboration between the special education and general education teachers (8%), and a peer tutor (8%). No related service providers were observed providing service. Observed age-appropriateness of content area instruction was reported for reading, math, science, and "other." Of the 114 instances of content area instruction observed, 73 (64%) were judged to be age-appropriate and 41 (36%) were not, with approximately 60% or more being age-appropriate for each of the three content areas.

Best Instructional Practices

Table 9 provides descriptive data on five overlapping best practice themes relative to integrated instruction with access to age-appropriate, standards-based instruction for students eligible for AA-AAS.

Table 10 shows results regarding the association of IEP objectives with each of the five best practice themes. For both tables, the observed presence of a best practice item during a student's observation receives one point. Sums are developed for each type of item and for the total for each theme, and then aggregated across all participating students.

Theme 1 addresses the degree to which instruction on age-appropriate, grade level specific, general curriculum is made accessible. The observed mean across individual student participants was 6.19 points (52% of all possible points for this theme). The students' mean percent scores of positive items for the activity, student, and work item clusters, respectively, were 58%, 63%, and 46%. The two items observed least often indicate that students do not often have work samples that include performance on more than one academic content standard and that work samples usually lack grading that includes percent, number of correct, or independent responses related to the content standard and/or level of prompting required. The most frequently observed item reveals that students have communication systems appropriate for their communication level and these include the appropriate content. Also true for a majority of students is that options are available for demonstrating what they know or are learning about the grade level content via methods such as eye-gaze, pointing, adaptive switches, or adapted keyboards. A perfect individual score would indicate that an observed student has access to the same curriculum provided to students who do not have disabilities; in particular, to the grade-specific general curriculum linked to the entity's academic content standards in reading, math, and science. This status is indicated in part by the presence of conforming materials, activities, and settings relative to typical students, as well as to the availability of a communication system allowing the student to communicate about the academic content.

Theme 2 addresses the degree to which the student has learning opportunities in an integrated environment. The observed mean across individual student participants was 2.06 points (52%). The students' mean percent positive for activity, student, and work item clusters was 39%, 82%, and 46%, respectively. The least often observed item reveals that the instruction and activities provided to students rarely facilitate their interactions with chronologically age-appropriate, general education peers. Highly likely, however, is that students will be observed demonstrating social behavior appropriate to the task and environment. A perfect individual score would reveal a physical environment, as well as instructional grouping, interactions, and a person delivering the content area instruction that include students with disabilities in integrated settings and activities.

Theme 3 addresses the degree to which the student is provided with appropriate supports. The mean across individual students was 5.97 points (60%). The students' mean percent of observed positives for activity, student, and work item clusters was 58%, 69%, and 52%, respectively. The three items observed least often indicate that only about half of the observed students give responses demonstrating understanding of content that is designed for the student's abilities (e.g., eye gaze, pointing, etc.) and possibly reduced in complexity, but without the intent of performance changed; have materials that look substantially similar to the materials being used by general education peers, yet not changing the intent of the content standards; or had work samples designed for the student in terms of performance on the grade level content (e.g., eye gaze, drawing, dictation, word prediction). The two most frequently observed items reveal that the majority of the students maintained appropriate attention to the instruction, and have communication systems that are appropriate for their communication level and includes the appropriate content. A perfect individual score would indicate that content has been presented so the student can understand it, that appropriate support has been provided to ensure that the student can do what is expected and communicate what s/he knows, that the content has been made interesting to the student, and that steps have been taken to maintain interest in the instruction.

Theme 4 addresses the degree to which the student's learning context is characterized by high expectations for performance. The observed mean across individual students was 3.60 points (45%). The students' mean percent positive, observed for activity, student, and work item clusters, was 39%, 56%,

and 42%, respectively. The item observed least often indicates that the work sample rarely includes performance on more than one content standard in reading, math, or science. The most frequently observed item reveals that the majority of the students have communication systems that are appropriate for their communication level and includes the appropriate content. Also true for more than half of the students is that the work sample requires the student to perform at least one application or generalization. A perfect individual score would reveal a curricular focus manifesting high expectations for learning academic content rather than a traditional, functional skills curriculum alone. The observed student's instructed content would be in the context of what all students are doing, related to the grade specific, general curriculum and the observed student would be expected to achieve some degree of success on the grade level curriculum, with supports, at a range of levels of depth of knowledge.

Theme 5 addresses the degree to which evidence-based instructional practices are observed. The observed mean across individual student participants was 2.48 points (50%). The students' mean percent positive for activity, student, and work item clusters was 63%, 32%, and 46%, respectively. The item observed least often indicates that students do not often evaluate their own performances and that students are unlikely to evaluate task completion, correct work independently, or monitor progress. The most frequently observed item reveals that the majority of the students had traditional functional skills (e.g., communication, social/behavioral, motor, or self-care) embedded within naturally occurring classroom routines (e.g., academic activities, transition activities, daily class routines). Also true for a majority of students is that instruction provided options to interest students and to maintain their participation in the lesson about the grade level content (e.g., positive behavior supports, consideration of personal interests and preferences in terms of look, feel, personal space, goal setting, and self-assessment). A perfect individual score would reveal that instructional strategies are being used that have been proven through research to be effective; i.e., that students are receiving the best instructional strategies currently available from both the special education and general education domains (e.g., embedding functional skills, communication skills, and related services in academic instruction; setting goals; cooperative learning), and that their teachers have access to high quality professional development opportunities.

Individualized Educational Programs (IEPs)

The majority of students in the entities have IEPs that specify one (62%) or two (58%) learning objectives, and half (50%) with three objectives. Reports of observable/measurable benchmarks for these first three objectives were relatively high (77%, 64%, and 54%). Fewer than half of the students have four to 10 specified objectives [four (35%), five (26%), six (24%), seven (18%), eight (16%), nine (14%), 10 (9%)]. Across the 10 possible objectives for the 114 students, reading was cited most frequently (155 times), followed by math (85), other [social science or social science plus science (22)], and science (4). Functional skills were cited sporadically for a total of 99 times, with communication being the most frequently cited (24), followed by self-care (15), vocational (14), language arts (10), behavior (9), and writing (7).

For the first and second objectives, where reading was the focal content area and math accounted for most of the remaining content area choices, Table 10 summarizes the strength observed for each theme relative to the possible outcomes. For the first IEP objective, the observed range is 45% to 59% of possible points, with Theme 3 (provision of appropriate supports) weakest (45%) and Theme 5 (evidence-based instructional practices) strongest (59%). For the second IEP objective, the observed range is 43% to 49% of possible points with Theme 3 and 4 (high expectations for high student performance) weakest and Theme 5 strongest, although differences between themes were small. Most obvious is that there is room for improved performance across all themes for both IEP objectives, although Theme 5 was observed to be more positive than Theme 3 and Theme 4. Theme 1 (access to age-appropriate, grade level specific, general curriculum) and Theme 2 (learning in integrated environments) were both at levels near half of the possible points.

Observation results also revealed the amount of time per week specified in the IEPs for participating students to be with chronologically age-appropriate, general education peers (ranging from 0 to 1,800 minutes). Estimates for time to be in general education reading, general education math, and general education science ranged from 0 to 1,422 minutes for each content area, summed across all 114 students. Thus, some students have plans calling for no such experiences while many have plans for minimal content area time with age-appropriate, general education peers, and a small number are expected to have more abundant time exposures. If averaged, the maximum planned exposure with chronologically age-appropriate, general education peers would be approximately 12 minutes per content area per week.

Observers reported that 91% of participating students' IEPs specified supplementary aids and services (72 of 104 responses), and 89% (84 of 94 responses) of observations reported that IEPs specified the need for AA-AAS.

Discussion

The present study sought to describe the characteristics of a group of 114 participating students with significant cognitive disabilities, and their educational contexts, in the American-affiliated Pacific Islands of American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Through the application of the NAAC-OT observation instrument, it was possible to reveal contextual features for AA-AAS students. These factors included access to academic content and functional instruction, grade level standards and benchmarks, instructional personnel characteristics and processes, the nature of student work, and the presence of effective practice instructional processes. Co-occurring with the study was a multi-year training and technical assistance program involving all of the educational role players in the lives of the participating students; the purpose of which was to build collaborative skills for developing and practicing the methods necessary to provide these students with integrated, age-appropriate, standards-based instruction and assessment in reading, math, and science. The observations documented the status of these conditions in each of the six Pacific entities and of the region as a whole. These findings are the basis of conclusions regarding future steps toward best practice for students with significant cognitive disabilities in the American-affiliated Pacific Islands. Building Pacific Island capacity to implement evidence-based best practices to the fullest extent will serve the goal of system transformation for this group of students in which policy, procedures, practices, and attitudes affecting the education of students with significant cognitive disabilities are optimized.

The most frequently identified disability categories of participating students in each entity were intellectual disabilities, multiple disabilities, and autism and less frequently, specific learning disabilities, other health impairments, developmental delays, or orthopedic conditions. There were promising indications that educational entities are exposing students with significant cognitive disabilities to age-appropriate instruction. Participating students ranged across grades 1 through 12, with higher frequencies at grades 3, 6, 8, and 10. Further, the majority of students were placed in age-appropriate grades. Students were most likely to be placed in either general education classes (40%) or segregated special education classes (47%). The majority of students were observed inside regular classes less than half of the time. Therefore, in addition to access to age-appropriate instruction, integrated classroom instruction is a practice area still in need of much work. The priority for providing increased access to integrated learning environments in the Pacific Island entities is justified by several studies that found integrated settings are conducive to growth on both academic achievement and IEP goals (e.g., Fishbaugh & Gum, 1994; Deno et al, 1990; and Jenkins et al, 1992).

Examining instruction at a more granular level, age-appropriate instruction was indicated for participating students in the majority of observations of reading and math, suggesting that even some of the students in segregated classroom placements are receiving age-appropriate curriculum assignments. This is an

encouraging finding in view of Stodden et al.'s (2002) conclusion that students with disabilities placed in segregated versus integrated learning environments have little access to standards-based instruction on core concepts. One-to-one instructional arrangements were used in about half of the observations, followed by small group and large group instruction in about one quarter or less. Independent work and cooperative group instruction were rare. Observations indicated that the most frequently cited agent of instructional delivery was the special education teacher (50%), followed by the general education teacher (21%), paraprofessional (13%), special education and general education teacher collaboration (8%), and peer to peer tutoring (8%). Taken together, these results indicate that a promising focus for future professional development training for Pacific Island entities would be options and strategies for teacher collaboration and effective instructional grouping arrangements in reading and math. The lack of related service professionals in the observations justifies current regional efforts to develop these professional resources.

The thematic profiling format of the observation instrument described the status and development needs of each Pacific entity on five best practice themes. The entities were similar across the themes, scoring near half of the positive indicators for each theme. Observation results clearly defined specific management and professional development needs for all entities within each theme, and provided direct feedback to guide planning for progress.

Separate analyses of observed IEP items revealed that most participating students have IEPs that specify one to three learning objectives, and that the majority of these incorporate observable/measurable benchmarks. For the majority of the objectives, reading was cited as the focal content area, followed by math, and "other" (which often connoted social studies content). Functional areas were cited considerably less often than academic content as the focus of objectives, and the most frequent functional area specified was communication, followed by self-care, vocational, language arts, behavior, and writing. The frequency of student observations on the first learning objective (predominantly focused on reading) that conformed with IEP best practice were near the halfway mark for all themes. Observations for the second objective (also typically focused on reading), yielded somewhat lower best practice scores. Overall, observations of IEP-related matters suggest that professional development with IEP teams should enable greater coordination of the IEP specifications with all of the best practice instructional features for students with significant cognitive disabilities. Particular attention is needed on appropriate supports, high expectations for student performance, instruction in integrated learning environments, and aspects of standards-based, age-appropriate curriculum.

The U.S. federal IDEA and NCLB policies for providing students with significant cognitive disabilities with access to general curriculum, academic assessment, and access to integrated instructional environments, have been in place for 14 and 9 years, respectively. As demonstrated in this study, the American-affiliated Pacific Island entities have succeeded to a considerable degree in the initial phase of establishing the recommended instructional conditions for these students. New initiatives are needed to enhance the quality and completeness of these efforts in order that performance relative to the five best practice themes is observably high. Future directives for research and development would include continued professional development on these principles for all educational providers who serve students with significant cognitive disabilities, including members of IEP teams. In the American-affiliated Pacific Islands, the most pressing need for research is student outcome studies that examine the relative effectiveness of specific approaches to achieving the best practice profiles. Given the high frequency of students with significant cognitive disabilities in the disability categories of intellectual disabilities, multiple disabilities, and autism, participation in such research of students representing these categories is a priority. Expanded benefits of future training and technical assistance work are likely if these efforts become institutionalized in the full range of Pacific Island regional training and technical assistance formats (i.e., in-service; community-based; 2-year, 4-year, and graduate college programs for all levels of the educational career ladder, as well as for related service providers). The effectiveness of training and

technical assistance options designed to improve implementation of integrated instruction based on age-appropriate content standards is another pressing research direction.

Author Note

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Footnotes

- ¹ "Inclusion" will be used to refer to the membership of a student into chronologically age-appropriate classes so that he or she is considered to be a full member of that particular classroom community; "integration" will refer to the placement of a student part-time into chronologically age-appropriate classes which does not always promote full membership. For the purposes of this article, both practices assume that a student should receive the supports necessary to facilitate learning within the general curriculum, specialized instruction designed to achieve his or her IEP goals, and support as necessary to facilitate the development of typical social relationships.
- ² Authors recommend that readers download a copy of the instrument to aid in understanding the nature of the observations and the findings.
- ³ Medin et al. remarked, "Trying to establish a truly random sample may be much less useful than selecting a sample that is most likely to reveal cultural processes of interest." This was true of the present study.
- ⁴ NAAC-OT developers conducted an expert-based validation process on the instrument, as follows (M. Burdge and J. Kearns, personal communication, September 9, 2011): They first reviewed the research literature in the areas of effective practices indicators for students with significant cognitive disabilities, program indicators for this population of learners, as well as classroom walk-through tools developed for general education classrooms. The basic format for the NAAC-OT was borrowed from the classroom walk-through tools, with some content supplemented by the other sources reviewed. The student profile consisted primarily of the previously researched and validated Learner Characteristics Inventory (Kearns, Kleinert, Kleinert, & Towles-Reeves, 2006) and the IEP analysis was designed to parallel the work of Hunt, Goetz, and Anderson (1986). An initial draft of the instrument was sent to nationally recognized experts on the education of students with significant cognitive disabilities, requesting them to review and critique each indicator present in the instrument rating: (a) the importance of the item; (b) the salience of the item; and (c) any other considerations. The instrument was revised based upon the

expert feedback. Field testing was conducted in elementary, middle, and high school programs in Kentucky, the Territory of Guam, and Yap State, Federated States of Micronesia. Three basic types of classrooms were observed during the field testing: (a) self-contained; (b) resource rooms; and (c) inclusive general education classrooms. Minor revisions to wording of several items were made to ensure higher levels of reliability between observers, moving the initial reliability from 87% to 94% inter-rater agreement. The items were then analyzed and sorted into five effective practice themes by four nationally recognized special education consultants and trainers. Sorting was done independently, followed by the resolution of discrepancies through collaborative discussion leading to consensus.

- ⁵ These labels refer to settings for the observation, not to educational placements. This particular label may seem unusual until one remembers that it is not uncommon for students who are placed by their IEP teams into self-contained special education classrooms to be joined occasionally by general education students who have come in to either work with those students as peer tutors or to sometimes participate in an academic lesson as co-equals. An example of the former is a science lesson being taught to students with IEPs in a special education class, who are joined by some general education students who have come just to help them out, but who have no learning goals of their own. An example of the latter would be an art lesson on lines of symmetry in the special education classroom in which students without IEPs might come in just for that lesson. In this case, both groups of students have learning goals for the lesson.

Table 1. Characteristics of the six participating Pacific Islands' public school systems and sample

School System	Type of American Affiliation	School – Grade Configuration	All Students; Special Education	AA-AAS Students/Sample Size
AS	U.S. Territory	Pre-K – 12; 24 ECE centers; 23 elementary, and 6 high schools	Over 14,150; 1,108 SpEd	28 AA-AAS/28 Sample
CNMI	U.S. Commonwealth	Pre-K – 12; 0-3 early intervention Special Education, 10 Head Start centers, 12 elementary, 4 junior high, 5 high schools	Over 11,601; 822 SpEd	115 AA-AAS/25 Sample
GU	U.S. Territory	Pre-K – 12; 1 early intervention Special Education, 20 Head Start centers 27 elementary, 8 middle, 5 senior high, and 1 alternative school	31,095; 1,947 SpEd	181 AA-AAS/24 Sample
FSM Chuuk Kosrae Pohnpei Yap	Freely Associated State of U.S. (FAS); former member, U.S. Trust Territory of the Pacific Islands (TTPI)	Chuuk: 98 grade 1-8, junior and/or senior high schools.* Kosrae: 6 Grade 1-8 schools; 1 grade 9-12 school Pohnpei: 32 Grade 1-8 schools; 2 grade 9-12 schools* Yap: 33 public schools (including 3 high schools)*	Chuuk: 13,909; 607 SpEd Kosrae: 2,546; 188 SpEd Pohnpei: 10,990; 728 SpEd Yap: 2,800; 157 SpEd FSM Total: 30,245; 1,680 SpEd	Chuuk: 5 AA-AAS Kosrae: 4 AA-AAS Pohnpei: 13 AA-AAS Yap: 0 AA-AAS FSM Total: 22 AA-AAS/22 sample
RMI	U.S. FAS; former TTPI	76 elementary schools, 6 high schools	Over 11,300; 735 SpEd	6 AA-AAS/6 sample
ROP	U.S. FAS; former TTPI	18 elementary schools, 1 high school	3,000; 177 SpEd	9 AA-AAS/9 Sample

* Many islands do not have intermediate or senior high schools, limiting access to grades 9 and higher for many general and special education students.

Table 2. Categories of AA-AAS student participants in each grade

Student Categories/Grades	1	2	3	4	5	6	7	8	9	10	11	12	Total
1. Developmental Delay	0	0	2	1	0	0	0	1	0	0	0	0	4
2. Deaf/Blind	0	0	0	0	0	0	0	0	0	0	0	1	1
3. Other Health Impairment	0	0	0	0	0	2	1	1	0	1	0	0	5
4. Orthopedic	0	0	0	0	0	2	0	0	1	0	0	0	3
5. Specific Learning Disability	0	1	0	0	1	1	1	1	0	1	0	1	7
6. Intellectual Disabilities	0	0	1	2	5	4	4	5	2	9	2	3	37
7. Multiple Disabilities	1	3	4	1	3	9	1	7	0	8	0	1	38
8. Autism	1	0	4	3	0	5	2	1	1	1	0	0	18
9. Visual Impairment	0	0	0	0	0	0	0	0	0	0	0	1	1
10. Speech/Language Impair.	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Hearing Impairment	0	0	0	0	0	0	0	0	0	0	0	0	0
12. Deafness	0	0	0	0	0	0	0	0	0	0	0	0	0
13. Emotional Disability	0	0	0	0	0	0	0	0	0	0	0	0	0
Grade Frequency	2	4	11	7	9	23	9	16	4	20	2	7	114

Table 3. Characteristics of AA-AAS student participants in observed educational settings

Student Characteristics/Setting	General Education Class	Special Education Class - No Peers with Disabilities ⁵	Special Education Class - Only Peers with Disabilities	Homebound or Hospital	Total
1. Developmental Delay	4	0	0	0	4
2. Deaf/Blind	0	0	1	0	1
3. Other Health Impair.	3	0	0	2	5
4. Orthopedic	1	0	1	1	3
5. Specific Learning Dis.	1	0	6	0	7
6. Intellectual Disabilities	20	1	15	1	37
7. Multiple Disabilities	7	0	22	9	38
8. Autism	10	0	8	0	18
9. Visual Impairment	0	0	1	0	1
10. Speech/Language Impairment	0	0	0	0	0
11. Hearing Impairment	0	0	0	0	0
12. Deafness	0	0	0	0	0
13. Emotional Disability	0	0	0	0	0
Setting Frequency	46 (40%)	1 (<1%)	54 (47%)	13 (11%)	114

Table 4. Type of educators participating in AA-AAS delivery training and technical assistance

School System/Type of Educator	Entity Special Education Director	Principals of Observed Schools	Special Education Teachers of Observed Students	General Education Teachers of Observed Students	Related Personnel (Para, OT, PT, VI, SLP, CS,TAS)*	Parents and Guardians
AS	✓	✓	✓	✓	✓	
CNMI	✓	✓	✓	✓	✓	
GU	✓	✓	✓	✓		✓
FSM						
Chuuk	✓	✓	✓	✓	✓	✓
Kosrae	✓	✓	✓	✓	✓	✓
Pohnpei	✓	✓	✓	✓	✓	
Yap	✓	✓	✓	✓	✓	
RMI	✓	✓	✓	✓		
ROP	✓	✓	✓	✓	✓	

*Paraprofessional, occupational therapist, physical therapist, vocational instructor, speech and language pathologist, curriculum specialist, testing and assessment specialist

Table 5. Age-grade placement correspondence of participating students

Participant Age	Grade												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
7	2	1	0	0	0	0	0	0	0	0	0	0	3
8	0	2	2	0	0	0	0	0	0	0	0	0	4
9	0	1	8	5	1	0	0	0	0	0	0	0	15
10	0	0	0	2	4	0	0	0	0	0	0	0	6
11	0	0	1	0	1	4	0	0	0	0	0	0	6
12	0	0	0	0	2	13	0	0	0	0	0	0	15
13	0	0	0	0	0	2	8	3	0	0	0	0	13
14	0	0	0	0	0	1	1	10	1	0	0	0	13
15	0	0	0	0	0	0	0	0	3	2	0	0	5
16	0	0	0	0	0	0	0	3	0	10	0	0	13
17	0	0	0	0	0	0	0	0	0	5	1	3	9
18	0	0	0	0	0	0	0	0	0	0	1	1	2
19	0	0	0	0	0	0	0	0	0	3	0	2	5
20	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	2	4	11	7	8	20	9	16	4	20	2	7	110*

* Age unavailable on four students

Table 6. Instructional time in different educational settings and school locations for the six participating Pacific Islands' public school systems

Educational Setting/School Location/Entity	AS	CNMI	FSM	GU	RMI	ROP	Total/ Subtotal
In regular class 80% or more	9	14	5	2	6	0	36
In regular class 40-79%	6	4	0	7	0	1	18
In regular class less than 40%	9	3	3	15	0	2	32
In a separate school	1	1	4	0	0	6	12
Home primarily	3	3	9	0	0	0	15
Information unavailable	0	0	1	0	0	0	1
Entity Sample Size	28	25	22	24	6	9	114

Table 7. Instructional group arrangement for each Pacific Islands' educational entity

Instructional Arrangements	AS	CNMI	FSM	GU	RMI	ROP	Total
Large Group Instruction	10	2	1	2	6	0	21 (18%)
Cooperative Group	0	1	0	0	0	0	1 (<1%)
Independent Work	0	2	0	2	0	0	4 (4%)
Small Group Instruction	8	2	6	8	0	4	28 (25%)
1-to-1 Instruction	10	18	15	12	0	5	60 (53%)
Total	28	25	22	24	6	9	

Table 8. Agent of instructional delivery

Instructional Delivery	AS	CNMI	FSM	GU	RMI	ROP	Total
General Education (GE) Teacher	7	6	4	3	4	0	24 (21%)
Special Education (SE) Teacher	18	7	9	14	0	9	57 (50%)
Collaboration of GE and SE Teachers	3	4	0	0	2	0	9 (8%)
Paraprofessional	0	8	0	7	0	0	15 (13%)
Peer/Peer Tutor	0	0	9	0	0	0	9 (8%)
Related Service Provider	0	0	0	0	0	0	0 (0%)
Total	28	25	22	24	6	9	114

Table 9. Summary of best practice theme results across all entities

Item Clusters	No of Students	Sum	Student M
Theme 1: Access to age-appropriate, grade level curriculum			
Activity (items 12, 13, 14)	114	197	1.73 (58%)
Student (items 20, 21)	114	144	1.26 (63%)
Work (items 37, 38, 39, 41, 42, 44, 45)	114	365	3.20 (46%)
Sum and M of Clusters	114	706	6.19 (52%)
Theme 2: Access to integrated environment			
Activity (items 12, 19)	114	88	0.77 (39%)
Student (item 24)	114	94	0.82 (82%)
Work (item 37)	114	53	0.46 (46%)
Sum and M of Clusters	114	235	2.06 (52%)
Theme 3: Provision of appropriate supports			
Activity (items 13, 14, 15, 16)	114	265	2.32 (58%)
Student (items 20, 21, 25)	114	237	2.08 (69%)
Work (item 39, 41, 42)	114	179	1.57 (52%)
Sum and M of Clusters	114	681	5.97 (60%)
Theme 4: High expectations for high student performance			
Activity (item 18)	114	45	0.39 (39%)
Student (items 20, 22)	114	127	1.11 (56%)
Work (items 37, 38, 40, 43, 44)	114	238	2.09 (42%)
Sum and M of Clusters	114	410	3.60 (45%)
Theme 5: Evidence-based instructional practices			
Activity (items 16, 17)	114	142	1.25 (63%)
Student (item 23)	114	36	0.32 (32%)
Work (items 39, 45)	114	105	0.92 (46%)
Sum and M of Clusters	114	283	2.48 (50%)

Table 10. Thematic results across entities for the first and second learning objectives of IEPs

Items	Theme 1 48, 49, 51, 53	Theme 2 48, 50, 51	Theme 3 52	Theme 4 50, 51, 53, 55	Theme 5 47, 52, 54
Number Possible Points	4	3	1	4	3
First Objective:					
Mean	2.21	1.62	.45	1.89	1.78
Number Observed Points	(55)%	(54%)	(45%)	(47%)	(59%)
Second Objective:					
Mean	1.73	1.35	.40	1.54	1.48
Number Observed Points	(43%)	(45%)	(40%)	39%	(49%)