

ABSTRACT

STEINBRUNNER, P.J. Assessment tools used by elementary level adapted physical educators in Wisconsin. MS in Exercise and Sport Science-Special Physical Education, August 1995, 58pp. (P. DiRocco)

School districts (N = 417) in Wisconsin were surveyed at the elementary level to determine what assessments tools were being used. A total of 131 surveys with responses were returned. These 131 surveys accounted for 175 districts and a 42% return rate. Of the 131 teachers responding 84% had the state of Wisconsin 860 add-on certification in Adapted Physical Education. Data were analyzed by grade level (early childhood, K-3 & 4-6). Results showed that the three most frequently used tools were Bruininks-Oseretsky Test of Motor Proficiency, Test of Gross Motor Development, and the Peabody Developmental Motor Scales. No single test was found to be used for any specific disability. Early childhood students were assessed most frequently with the Peabody Developmental Motor Scales for IEP objectives, programming services, or both. Kindergarten through 6th grade students were assessed with the Bruininks-Oseretsky Test of Motor Proficiency most often for IEP objectives, programming services, or both. There appeared to be a different variety of assessment tools used for early childhood than for the elementary students. However, at each level, three tools were predominantly used. Given the number of variables that should be attended to (e.g., age level, disability, and curriculum needs) there appeared to be a lack of well defined criteria used by districts to determine appropriate assessment tools for each student.

ASSESSMENT TOOLS USED BY ELEMENTARY
LEVEL ADAPTED PHYSICAL EDUCATORS
IN WISCONSIN

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INTRODUCTION

In 1975, The Education of All Handicapped Children Act, (PL 94-142), designated physical education as a direct service. This required that all specially designed physical education needs be documented within the individualized education program (IEP). In order to do this, an appropriate assessment of a student's motor capabilities needs to be conducted (United States Statutes at Large, PL 94-142, 1975).

Assessment instruments should be tests that are age appropriate and are sensitive to the students' disability (Bagnato & Neisworth, 1981; Werder & Kalakian, 1985; & Wessel & Kelly, 1986). In addition, all instruments used should be valid and reliable for the population being tested. Moreover, the results obtained from the assessment should provide an educational link to the district's physical education curriculum. For example, if physical fitness is taught in the curriculum, then physical fitness levels should be assessed.

Public Law 94-142 has been amended through the years, and recently was amended in 1990 to Public Law 101-476, Individuals with Disabilities Education Act, or IDEA, (United States Statutes at Large, PL 101-146, 1990). The law still requires that children with disabilities be assessed

for their present levels of motor performance; however, the current law has extended services to children ages birth through 21 years. Since no assessment instruments have been validated to encompass the total age range of 0-21 years, APE specialists should have age appropriate instruments for each physical component (i.e., physical fitness, fundamental motor skills, etc.) that they need to assess.

APE specialists should select appropriate assessment tools that have educational links. This can be accomplished in two ways. First, they can select an instrument that has a predesigned curriculum, such as I CAN Fundamental Motor Skills Program (Wessel, 1976). Secondly, if the district has designed their own curriculum, then an assessment tool that contains those skills being taught could be used. If an assessment tool does not have an educational link, then the development of appropriate IEP goals and objectives and subsequent placement decisions would most likely be inadequate. An adequate understanding of what assessment tools are specifically designed to measure is necessary for an APE specialist to link assessment data with instructional programming.

Appropriate selection of APE assessment tools was previously addressed in a survey conducted by Holland (1992) (see Appendix A). Based on his findings, Holland suggested teachers were indiscriminately using assessment tools without regard to age, disability, and the potential for an

educational link. He further recommended that a course on motor assessment for students with disabilities be a necessary requirement in order to receive certification in APE.

In order to determine if APE specialists in Wisconsin are appropriately assessing motor capabilities of their students, there is a need to discover what motor assessments are being used throughout the state. The purpose of this study was to determine which psychomotor tests for children with special needs in early childhood through the sixth grade level were being used by APE specialists in Wisconsin. In addition, reasons for test selection were also investigated.

METHODS AND PROCEDURES

Subjects

A list of school districts in the state was obtained from the Wisconsin Department of Public Instruction (see Appendix B). There are 427 districts, with 417 having one or more elementary schools. Each of these 417 districts received a survey.

Surveys returned were from 141 APE specialists and special education directors. Of that 141, 10 responses were sent back by the special education directors from districts where assessment is performed by a person from a Cooperative Educational Service Agency (CESA), physical therapist, or occupational therapist. The 131 replies accounted for 175 of

the 417 school districts which represented a 42% return rate. Data in this study were based on the 131 surveys returned by APE specialists. Fifty-seven percent of the districts responding had less than 2000 students, 19% had between 2,000-5,000 students, 5% had between 5,000-10,000 students, 6% had over 10,000 students, and 13% did not indicate the size of the district. See Table 1 for student population information of the districts returning surveys.

Table 1. Student population of districts represented by respondents

Number of students in district	% of surveys	<u>n</u>	% of respondents in category
0 - 999	34	44	20
1,000 - 1,999	65	34	30
2,000 - 2,999	10	13	34
3,000 - 3,999	5	7	30
4,000 - 4,999	4	5	50
5,000 - 5,999	2	2	100
6,000 - 6,999	1	1	25
7,000 - 7,999	2	3	100
8,000 - 8,999	1	1	33
9,000 - 9,999	0	0	0
+10,000	6	9	100
not marked	9	12	
		<u>Total = 131</u>	

Regarding the 131 APE specialists who responded to the the survey, 29% possessed a graduate degree and 84% had the Wisconsin 860 add-on certification in APE. The majority of

these individuals were female. Table 2 addresses these demographics while Table 3 indicates student case loads.

Table 2. Education background and gender of respondents

	BS Degree 860 Certification*		MS Degree 860 Certification	
	Yes	No	Yes	No
<u>Females</u>				
103 (79%)	66 (64%)	11 (11%)	22 (21%)	4 (4%)
<u>Males</u>				
28 (21%)	13 (46%)	3 (11%)	9 (32%)	3 (11%)
<u>Total</u>				
131	79 (60%)	14 (11%)	31 (24%)	7 (5%)

Note. *State of Wisconsin add-on certification for APE.

Table 3. Student case loads of respondents

Case load	%	<u>n</u>
1 - 10	29	38
11 - 20	13	17
21 - 30	12	16
31 - 40	14	18
41 - 50	12	16
51 - 60	3	4
+ 61	12	16
not marked	5	6
Total =		<u>131</u>

Pilot Study

To develop the cover letter and survey, a pilot study involving three people responsible for assessing

students for physical education programming in Greene County, Ohio were used as subjects. The author asked each person questions over the phone. Responses from the subjects indicated that the questions were understandable, the survey was easy to answer, and the major assessment tools available were represented for each age division. After obtaining their feedback, the survey was revised with one additional item being added to questions 9, 13, and 17 (see Appendix C). Two questions were added in order to determine if a test selected was used for placement purposes or if the results were used to develop IEP objectives, to program for physical education services, or both.

Procedures

After the pilot study was completed and revisions made to the survey, two cover letters (see Appendix D) and the survey were sent to the selected school districts. The envelope was addressed to the special education director. The first cover letter explained the purpose of the study and asked for cooperation in forwarding the next cover letter and survey to an APE specialist in an elementary school in that district. If there was no APE specialist, the director was asked to forward the survey to a person responsible for assessing motor skills of early childhood and elementary level students who were disabled. Each mailing also included a stamped self-addressed envelope for returning the survey. To ensure the confidentiality of the

responses, the survey had no references to location or name of the school district.

Return envelopes were coded so that those schools that did not respond could be identified. After 3 weeks had passed, a postcard was sent to remind each special education director about unreturned surveys. If the survey had been lost, another survey and a stamped self-addressed envelope were mailed to those school districts. A return date of 2 weeks was given for this second mailing. After this 2 week date had passed, follow up phone calls were made to school districts with unreturned surveys.

Data Analysis

The data were grouped according to the degree held by the person responding, age group of the students assessed, student case load, disability(s) of the students being assessed, and the reason for selecting each test. The data collected from questions 1 through 6 were analyzed using percentages. These questions concerned demographics related to the teacher and school districts. Questions 7, 12, and 17 addressed specific instruments used by the APE specialists. Questions 8, 13, and 18 addressed the disabilities of the students being assessed. Questions 9, 14, and 19 addressed the reasons why a test was selected. Questions 10, 15, and 20 involved tools used for placement purposes. Questions 11, 16, and 21 identified tools that were directly used for programming services, developing IEP objectives, or both.

The data were grouped according to early childhood, K-3, and 4th-6th grade levels. For each question, frequencies were totaled and percentages calculated. Responses were then listed in rank order with the most frequent response being the highest ranked.

RESULTS

Assessment Tools

Each test listed per survey was recorded as a single response. The total number of responses recorded for the early childhood level was 281. The three most frequently cited tools reported were the Peabody Developmental Motor Scales (PDMS; Folio & Fewell, 1983), Test of Gross Motor Development (TGMD; Ulrich, 1985), and Brigance:Inventory of Early Development (Brigance, 1978). These three tests comprised 55% of the total responses. Table 4 shows the tests listed for early childhood as well as percentages and frequencies for each.

The tool cited most frequently for assessment purposes for grades K-3 was Bruininks-Oseretsky Test of Motor Proficiency (BOTMP; Bruininks, 1978). The TGMD was a distant second. These two tools combined for 41% of the total responses. The total number of responses for this educational level was 294. Table 5 shows the tests listed for grades K-3 as well as percentages and frequencies for each.

Table 4. Psychomotor tests used for early childhood assessments by respondents

Test	<u>Total</u> N = 281	
	%	n
Peabody Developmental Motor Scales	22	61
Test of Gross Motor Development	22	61
Brigance:Inventory of Early Development	11	32
Learning Accomplishment Profile	8	22
Battelle Developmental Inventory	7	21
I CAN Preprimary Motor & Play Skills	6	18
WAHPERD Gross Motor Assessment	4	12
Bruininks-Oseretsky Test of Motor Proficiency	4	11
Bayley Scales of Infant Development	3	7
Denver Developmental Screening Test	2	5
Teacher Made Test and/or Checklist	1	4
Callier-Azusa	1	2
Gesell Developmental Schedules	1	2
Miller Assessment for Preschoolers	1	2
Milwaukee Public Schools	1	2
OSU Scale of Intra-Gross Motor Assessment	1	2
Project A.C.T.I.V.E.	1	2
Wisconsin Behavior Rating Scale	1	2
AAHPERD Fitness	0	1*
Birth to Three checklist	0	1*
Carolina Developmental Profile	0	1*
DASH	0	1*
Developmental Indicators for the Assessment of Learning-Revised	0	1*
Gross Motor Scale	0	1*
Hawaii Early Learning Profile	0	1*
Hughes Basic Gross Motor Assessment	0	1*
Motor Skill Inventory/Body Skills	0	1*
Motor Sensory Perceptual	0	1*
Milwaukee Public Schools Early Childhood Screening Assessment	0	1*
Playbased Assessment	0	1*
Vineland Adaptive Behavior Scale	0	1*

Note. The tests that were reported only once comprise 3% of the total.

Table 5. Psychomotor tests used for K-3 assessments by respondents

Test	Total N = 294	
	%	n
BOTMP	32	95
TGMD	9	25
AAHPERD Special Fitness Test for the Mildly Mentally Retarded	7	22
Project A.C.T.I.V.E.	7	22
Brigance: Inventory of Early Development	7	20
I CAN Fundamental Motor Skills	7	20
PDMS	5	15
WAHPERD Gross Motor Assessment	5	14
Gesell Developmental Schedules	2	7
Motor Skills Inventory/Body Skills	2	7
Project UNIQUE	2	6
Learning Accomplishment Profile	2	5
Denver Developmental Screening Test	1	4
OSU Scale of Intra-Gross Motor Assessment	1	4
C-TAB	1	3
Hughes Basic Gross Motor Assessment	1	3
Project MOBILITEE	1	3
Teacher Made Test and/or Checklist	1	3
AAHPERD Fitness	1	2
The Purdue Perceptual Motor Survey	1	2
Wisconsin Behavior Rating Scale	1	2
AAHPERD Physical Best	0	1*
A.A.U. Fitness	0	1*
Basic Motor Ability Test	0	1*
Buell	0	1*
Developmental Programming for the Young Child	0	1*
Developmental Indicators for the Assessment of Learning-Revised	0	1*
Fitnessgram	0	1*
Heartland	0	1*
Motor Sensory Perceptual	0	1*
Presidents Challenge for Fitness	0	1*

Note. Tests that were reported once comprise 4% of the total.

The four psychomotor tests most frequently cited for assessment purposes for grades 4-6 were BOTMP, AAHPERD

Special Fitness Test for the Mildly Mentally Retarded Persons (AAHPERD, 1976), Project A.C.T.I.V.E. (Vodola, 1978), and I CAN Fundamental Motor Skills Program. These four tests combined for 68% of the total responses. The total number of responses for this educational level was 203. Table 6 shows the tests listed for grades 4-6 as well as percentages and frequencies for each.

Table 6. Psychomotor tests used for grades 4-6 assessments by respondents

Test	N = 203	
	%	n
BOTMP	44	95
AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons	10	21
Project A.C.T.I.V.E.	7	15
I CAN Fundamental Motor Skills	7	14
Project Unique	4	8
PDMS	3	6
TGMD	3	6
Callier-Azusa	2	5
C-TAB	2	4
Motor Skills Inventory/Body Skills	2	4
Teacher Made Test and/or Checklist	2	4
AAHPERD Fitness	1	3
Gesell Development Schedules	1	3
Hughes Basic Gross Motor Assessment	1	3
Project MOBILITEE	1	3
OSU Scale of Intra-Gross Motor Assessment	1	2
The Purdue Perceptual Motor Survey	1	2
Wisconsin Behavior Rating Scale	1	2
AAHPERD Physical Best	0	1*
A.A.U. Fitness	0	1*
Basic Motor Ability Test	0	1*
Buell	0	1*
Denver Development Screening Test	0	1*
Fitnessgram	0	1*
Heartland	0	1*
Motor Ability Checklist	0	1*
WAHPERD Gross Motor Test	0	1*

Note. Tests reported once comprise 4% of total.

For the total number of responses from early childhood through the sixth grade level the three most frequently cited psychomotor tests were BOTMP, TGMD, and the PDMS. These three tests combined for 45% of the total 778 responses. The BOTMP was the most frequently cited test accounting for 25% of the total responses for early childhood through sixth grade. Table 7 shows the tests listed for early childhood through sixth grade as well as the percentages and frequencies for each.

Table 7. Total for overall tests used by respondents

Test	N=778	
	%	<u>n</u>
BOTMP	25	196
TGMD	12	92
PDMS	11	82
Brigance:Inventory of Early Development	6	52
AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons	6	43
Project A.C.T.I.V.E.	5	39
I Can Fundamental Motor Skills	4	34
WAHPERD Gross Motor Assessment	3	27
Learning Accomplishment Profile	3	27
Battelle Developmental Inventory	3	21
I CAN Preprimary Motor & Play Skills	2	18
Project UNIQUE	2	14
Gesell Developmental Schedules	2	12
Motor Skills Inventory/Body Skills	2	12
Teacher Made Test and/or Checklist	1	11
Denver Developmental Screening Test	1	10
OSU Scale of Intra-Gross Motor Assessment	1	8
Bayley Scales of Infant Development	1	7
Callier-Azusa	1	7
C-TAB	1	7
AAHPERD Fitness	1	6

(table continues)

Table 7. (continued)

Test	%	n
Project MOBILITEE	1	6
Wisconsin Behavior Rating Scale	1	6
The Purdue Perceptual Motor Survey	1	4
AAHPERD Physical Best	0	2*
A.A.U. Fitness	0	2*
Basic Motor Ability Test	0	2*
Buell	0	2*
Developmental Indicators for the Assessment of Learning-Revised	0	2*
Fitnessgram	0	2*
Heartland	0	2*
Miller Assessment for Preschoolers	0	2*
Milwaukee Public School Assessment	0	2*
Motor Sensory Perceptual	0	2*
Birth to Three Checklist	0	1*
Carolina Developmental Profile	0	1*
DASH	0	1*
Developmental Programming for the Young Child	0	1*
Gross Motor Ability	0	1*
Hawaii Early Learning Profile	0	1*
Hughes Basic Gross Motor Assessment	0	1*
Motor Ability Checklist	0	1*
Milwaukee Public Schools Early Childhood Screening Assessment	0	1*
Playbased Assessment	0	1*
Presidents Challenge for Fitness	0	1*
Vineland Adaptive Behavior Scale	0	1*

Note. Tests with 1 or 2 responses comprise 4% of total.

Disabilities

Each age group was next analyzed to see if particular tests were associated with varying disability categories. The disability categories listed were those cited in IDEA. These categories were autism, behavior disorder, cognitive delayed, deaf, deaf and blind, hard of hearing, learning

disabled/attention deficit disorder, multihandicapped, other health impaired, orthopedically impaired, traumatic brain injury, and visually impaired. The BOTMP was cited the most frequently for K-6 levels. For the early childhood level, the TGMD was cited most frequently for seven of the categories and the PDMS was cited for the other six. Table 8 shows the most frequently cited tests used for each disability category at both the early childhood and K-6. In addition the total number of responses recorded for each disability category is listed as well as percentages and frequency for each.

Table 8. Most frequently cited test used for each disability category at elementary and early childhood levels

Disability	Responses <u>n</u>	Total % <u>n</u>
<u>Autism</u>		N = 191
K-6 BOTMP	47	27 51
EC PDMS	16	9 18
<u>Behavior Disorder</u>		N = 230
K-6 BOTMP	69	30 69
EC TGMD	23	14 32
<u>Cognitive Delayed</u>		N = 473
K-6 BOTMP	117	26 124
EC PDMS	45	12 53
<u>Deaf</u>		N = 85
K-6 BOTMP	24	30 25
EC TGMD	7	13 11

(table continues)

Table 8. (continued)

Disability	<u>n</u>	%	<u>n</u>
<u>Deaf and Blind</u>		N =	73
K-6 BOTMP	18	26	19
EC TGMD	5	10	7
<u>Hard of Hearing</u>		N =	117
K-6 BOTMP	37	33	39
EC TGMD	10	14	11
<u>LD/ADD</u>		N =	339
K-6 BOTMP	107	33	111
EC TGMD	34	14	46
<u>Multihandicapped</u>		N =	324
K-6 BOTMP	77	26	83
EC PDMS	36	16	52
<u>Other Health Impaired</u>		N =	285
K-6 BOTMP	93	35	99
EC PDMS	30	14	40
<u>Orthopedically Impaired</u>		N =	324
K-6 BOTMP	83	27	86
EC PDMS	36	16	52
<u>Speech Impaired</u>		N =	198
K-6 BOTMP	62	33	65
EC TGMD	21	19	37
<u>Traumatic Brain Injury</u>		N =	126
K-6 BOTMP	33	28	35
EC PDMS	12	12	15
<u>Visually Impaired</u>		N =	109
K-6 BOTMP	22	24	22
EC TGMD	9	13	14

Reasons for Test Selection

Each survey requested rationale information for using each test. Across the educational levels, the same four

reasons were frequently cited. These included a desire for norm-referenced assessment, convenience of test administration, desire for criterion-referenced assessment, and exposure to a test from a preservice assessment class. Table 9 shows the frequency at which each rationale was listed by educational level.

Table 9. Primary rationales for test selection

Reason	EC N = 433		K-3 N = 435		4-6 N = 362		Total N = 1230	
	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>
Norm-referenced	26	111	34	150	31	114	30	375
Easy to administer	32	138	29	123	28	29	30	360
Criterion-referenced	16	68	15	65	11	39	14	172
Assessment Class	9	41	11	48	12	44	11	133

As can be seen in Table 9, a desire for norm-referenced data and ease of administration were clearly the two most frequently cited rationales.

Use of Assessment Results

Each survey requested information for use of test results in each district. One purpose listed was for placement decisions and the second was that results were used for IEP objectives, development of motor programs, or both. Of the 131 surveys returned, 81 stated that results are used for placement at the early childhood level, 89 for

grades K-3, and 77 for 4-6. Similarly, results are used for IEP objectives, programming, or both by 83 at the early childhood level, 88 for K-3, and 71 for 4-6. The respondents cited 32 different tests used for placement and 43 tests for IEP objectives, programming, or both. Up until the 4th-6th grade level, the assessment tools are primarily developmental and fundamental motor skill oriented, while at the 4th-6th grade level some physical fitness assessment starts to appear. Table 10 shows frequencies of use for placement purposes. Table 11 shows frequencies of use for IEP objectives, programming services, or both.

Table 10. Percent of total responses for BOTMP, PDMS, and TGMD for placement purposes by educational level

Test	EC		K-3		4-6		Total	
	N = 196		N = 171		N = 143		N = 510	
	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>
BOTMP	5	11	46	78	55	78	33	167
PDMS	25	52	8	13	5	7	14	72
TGMD	19	39	7	12	2	3	11	54
Others	48	94	40	68	38	55	43	217

Table 11. Percent of total responses for BOTMP, PDMS, and TGMD used for IEP objectives, programming services, or both by educational level

Test	EC		K-3		4-6		Total	
	N = 158		N = 197		N = 149		N = 556	
	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>
BOTMP	5	11	35	71	48	71	28	158
PDMS	23	47	6	12	5	7	12	66
TGMD	24	44	8	17	3	4	12	65
Others	34	56	50	97	45	67	48	267

Gender, Degree, Certification, and Case Load

The data were analyzed for gender, degree held by specialists, if an individual had the Wisconsin 860 add-on certification in APE and case load. The results were analyzed separately by each educational level and in addition combined overall results are presented. The most often cited test used by specialists in all but one case load category was the BOTMP. The TGMD was the most frequently used test reported by the specialists with a case load of 21-30. Female specialists consistently used the BOTMP, TGMD, and the PDMS most often. On the other hand, the males used a greater variety of assessment tools. Table 12 lists test names under gender and case load across all three age levels.

Table 12. Most frequently cited test by gender and case load

Gender/Case Load	%	n
<u>Females/1-10</u>	N =	154
BOTMP	25	33
PDMS	16	21
TGMD	16	21
<u>Males/1-10</u>	N =	36
BOTMP	31	11
AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons	17	6
PDMS	11	4
<u>Females/11-20</u>	N =	70
BOTMP	29	20
TGMD	14	10
PDMS	10	7
<u>Males/11-20</u>	N =	22
BOTMP	18	4
I CAN Fundamental Motor Skills	14	3
<u>Females/21-30</u>	N =	90
BOTMP	28	25
PDMS	16	14
TGMD	16	14
<u>Males/21-30</u>	N =	11
TGMD	36	4
BOTMP	18	2
Learning Accomplishment Profile	18	2
<u>Females/31-40</u>	N =	110
BOTMP	23	25
TGMD	13	14
Brigrance:Inventory of Early Development	10	11
<u>Males/31-40</u>	N =	10
BOTMP	40	4
I CAN Fundamental Motor Skills	20	2
<u>Females/41-50</u>	N =	61
BOTMP	31	19
PDMS	16	10
TGMD	10	6

(table continues)

Table 12. (continued)

Gender/Case Load	%	<u>n</u>
Males/41-50	N =	29
BOTMP	24	7
PDMS	17	5
I CAN Fundamental Motor Skills	14	4
<u>Females/51-60</u>	N =	32
BOTMP	25	8
PDMS	13	4
Denver Developmental Screening Test	9	3
TGMD	9	3
<u>Females/+61</u>	N =	112
BOTMP	18	20
PDMS	8	9
TGMD	8	9
<u>Males/+61</u>	N =	38
TGMD	26	9
BOTMP	17	6
<u>Females/*</u>	N =	23
Brigance:Inventory of Early Development	17	4
BOTMP	13	3
<u>Males/*</u>	N =	5
AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons	40	2
Project A.C.T.I.V.E.	40	2

Note. * No case load was marked on the survey.

DISCUSSION

Most surveys returned came from school districts with the smallest enrollment figures (see Table 1). Several of the APE specialists from small districts responded that they cover between two to six different districts. This may be due to the small number of students with special needs who

require assessing, which would result in each district not needing a full time APE specialist. Assessments for APE in the smaller districts are also being performed by Physical Therapists, Occupational Therapists, or someone from the Cooperative Education Service Agency (CESA). Those districts with a student population less than 1,000 make up half of the districts in Wisconsin.

The three most frequently cited tests for the early childhood level were PDMS, TGMD, and Brigance:Inventory of Early Developmental. The appropriateness for each test was determined. The PDMS is age correct and could be used with most disabilities, with the exception of those students with mobility problems. This assessment tool comes with activity cards that can be used, so there is some educational linking possible. The TGMD is age appropriate and can be used with most disabilities. Those students with mobility impairments may find it hard to accomplish some of the tasks. This test is criterion-referenced, so educationally the specialists can program to work where deficits are shown. The Brigance: Inventory of Early Development is age correct and may be invalid for some disabilities. This test comes with suggestions for programming so an educational link can be made.

The three most frequently cited test for grades K-3 were BOTMP, TGMD, and AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons. The BOTMP is being used

correctly in regards to the age. Students with disabilities with impaired mobility should not be assessed with this instrument. There is no educational suggestions or curriculum that accompanies this assessment tool. The TGMD is age appropriate and can be used with most of the disabilities. Those students with mobility impairments may find it hard to accomplish some of the tasks. This test is criterion-referenced, so specialists can program to work where deficits are shown. The AAHPERD Special Fitness for the Mildly Mentally Retarded Persons is appropriate in regards to age, but not for disabilities except for cognitive delays because the norms were established with these students. There are no educational links that come with this assessment tool.

The three most frequently cited test for grades 4-6 were BOTMP, AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons, and Project A.C.T.I.V.E.. The BOTMP is being used correctly in regards to the age. Students with disabilities that have impaired mobility should not be assessed with this instrument. There is no educational suggestions or curriculum that accompanies this assessment tool. The AAHPERD Special Fitness Test for the Mildly Mentally Retarded Persons is appropriate in regards to age, but not for disabilities except for cognitive delays because the norms were established with these students. There are no educational links that come with this

assessment tool. Project A.C.T.I.V.E. is age appropriate for this level. This assessment tool is designed for students with disabilities, so this test is appropriate in regards to disabilities. This assessment tool comes with suggestions for activities and games that can be used to enhance student development.

This investigation showed that BOTMP was the most frequently cited test being used by APE specialist in Wisconsin. The same result was reported by Holland (1992) (see Appendix A) and Ulrich (1984) (see Appendix F). Thus it appears either new tests are not being investigated by school districts, since BOTMP was developed in 1978 or there is a need for additional assessment tools with educational links to be developed by the APE field, if APE specialists are not using assessment tools that relate to their own districts curriculum. This study also found the TGMD, the PDMS, Brigance:Inventory of Early Development, Project A.C.T.I.V.E., I CAN Fundamental Motor Skills and WAHPERD GMT were some of the more frequently cited tests. Those instruments were also reported among the most frequently cited tests by Holland (1992).

The results of this study revealed that at the early childhood level 25 different tests were cited in regards to IEP objectives, programming purposes, or both. The two tests most frequently cited are criterion-referenced, which would give the specialists specific skills and components to use

as objectives so that mastery of each skill level can be reached by the student. For students in the grades K-6, 28 different tests were cited. The most frequently cited test, BOTMP, is norm-referenced, so specialists may be using percentiles to determine if improvements are occurring. This author does not feel this is an appropriate test to be using because there is little or no educational links that can be seen from the results. An educational link may be made if the APE specialists curriculum includes those items that are part of the BOTMP. This test would also be appropriate if the results are being used with the Motor Skills Inventory/Body Skills that has a curriculum link. Assessment tools that measure physical fitness levels were cited very infrequently. Thus it would appear for this educational level physical fitness is not a high priority in programming.

Overall when looking at grades EC-6, 28% of the specialists are using the BOTMP which is a norm-referenced test for writing IEP objectives, programming services, or both and placements. This study found the reason for using the BOTMP is because of the norms, but the norms reported are for able-bodied and students with learning disabilities and not for individuals with physical or cognitive disorders. This raises the question of how valid results might be for a child who is not in the groups for whom the test was designed. The information collected in this

investigation did not allow for the determination of why this test is so widely used. This author feels it is used so widely because it was one of the first test developed after the enactment of PL 94-142 and it comes with all necessary equipment in the kit. There is a strong possibility it is used for placement purposes.

According to IDEA, assessment should be used to determine current skill levels and to develop appropriate goals and objectives. After services have been decided the placement where those services are to be delivered should be determined. These services should be conducted in the least restrictive environment. Using results from assessments to determine placement is a misuse of the process.

The factors of gender, educational degree, certification, and case load appear to have no effect on which test is chosen. It appears the same tests are being used across all areas. It would be expected that those specialists having the 860 add-on certification for APE would make better decisions when choosing appropriate tests for educational links. This points to Holland's (1992) suggestion that more in-service is needed regarding assessment selection in Wisconsin.

Results represent what is happening throughout the state, but the low return rate makes this difficult to state with confidence. Two factors that may have contributed to the low return rate were the time of year the survey was

conducted (April-May) and the fact that the initial mailing went to special education directors. Due to several factors, some surveys may not have been appropriately directed to the APE specialists. In the future, it is recommended that surveys be conducted in late fall or early winter, and surveys be sent directly to the APE specialists.

Additional information that could assist in determining how assessments are being performed in APE would included the following: (a) state on the cover letter to the special education directors that if no APE specialists are in the district, please note if assessing is done by PT/OT or CESA for that school district and return the survey; (b) the surveys could be mailed directly to an elementary school in each district; (c) include those specialists from CESA who are doing assessments; (d) ask if the school district specifies which test has to be used at each age level, or can any assessment tool be used; (e) ask more questions regarding how results of a norm-referenced test are used in writing IEP objectives; (f) ask more detailed questions regarding how the results of each test are used for making decisions on placement or programming of service for tests the specialists are using; (g) for those tests that are reported, a question to see if activities, games, or curriculum are included with the assessment instrument might be asked.

SUMMARY

Results of this study showed that when assessing students with special needs there is not one test that is used primarily for early childhood. Results for the grades K-6 showed that the BOTMP was the test cited the most.

The factors of educational degree attained, whether one possesses an APE certification, the APE specialists case load, and gender appeared to have no impact on selection of tests. The results indicated that assessment was being conducted for both programming purposes and placement decisions. The four most frequently cited reasons for test selection were: (a) desire for norm-referenced data; (b) ease of administration; (c) desire for criterion-referenced data; and (d) exposure to a test in a preservice assessment class.

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APPENDIX A

RESULTS OF HOLLAND'S SURVEY

Frequency of Test Use For Specific
Purposes in APE as Reported in
Holland's 1992 Survey
in Wisconsin

Number of Users	Test
<hr/>	
47	Brunininks Oseretsky Test of Motor Proficiency
27	Presidential Fitness Test
25	Gross Motor Test of Wisconsin
18	Project A.C.T.I.V.E.
17	Peabody Developmental Motor Scales
12	Self-made Instruments
10	Brigance Inventory of Early Development
9	I CAN Fundamental Motor Skills
8	Test of Gross Motor Development

Notes. 1. Author reported 56.9% return rate.
2. Total N = 244 school districts

APPENDIX B

LIST OF WISCONSIN SCHOOL DISTRICTS

WISCONSIN SCHOOL DISTRICTS

+10,000

Milwaukee
Madison Metropolitan
Racine
Green Bay Area
Kenosha
Appleton Area
Waukesha
Eau Claire Area
Janesville

9,000-9,999

Sheboygan Area
Oshkosh Area
West Allis

8,000-8,999

Wausau
Stevens Point Area
La Crosse

7,000-7,999

Fond du Lac
Wauwatosa
Beloit

6,000-6,999

Elmbrook
West Bend
Neenah
Wisconsin Rapids

5,000-5,999

Superior
Manitowoc

4,000-4,999

Mukwonago
D C Everest Area
New Berlin
Middleton-Cross Plains
Oak Creek-Franklin
Chippewa Falls Area
Marshfield
Sun Prairie Area
Oconomowoc Area
Mequon-Thiensville

3,000-3,999

Muskego-Norway
Kettle Moraine
Menomonee Falls
South Milwaukee
Watertown
Merrill Area
Rhineland

Verona Area
Beaver Dam
Howard-Suamico
Antigo
Germantown
Menasha
Menomonie Area
Kaukauna Area
Greenfield
Stoughton Area

3,000-3,999

Tomah Area
Franklin
Hamilton
Cudahy
Hudson
Burlington Area
Marinette

2,000-2,999

Pulaski Community
Oregon
Rice Lake Area
Whitefish Bay
Baraboo
Port Washington-Saukville

Sparta Area
De Forest Area
Monroe
Cedarburg
River Falls
Fort Atkinson
Onalaska
Shawano-Gresham
Waupaca
Holmen
Seymour Community
Waupun
New London
Plymouth
Slinger
Milton
Whitnall
Portage Community
Greendale
New Richmond
Ashland
Delavan-Darien
Kimberly Area
Waunakee Community
De Pere
Monona Grove
Whitewater
Grafton
Sauk Prairie
Two Rivers
Shorewood
Reedsburg

1,000-1,999
Elkhorn Area
Ellsworth Community
Hortonville
Black River Falls
Mosinee
Adams-Friendship Area
Platteville
Oconto Falls
Amery
Hayward Community
Richland

1,000-1,999

Berlin Area
Kewaskum
Brown Deer
Clintonville
McFarland
Edgerton
Spooner
East Troy Community
Luxemburg-Casco
Sheboygan Falls
Ripon
Jefferson
Wautoma Area
Wisconsin Dells
Hartford J1
Mount Horeb Area
West De Pere
Campbellsport
Pewaukee
Mauston
Tomahawk
Barron Area
River Valley
Denmark
Sturgeon Bay
Kiel
Burlington Area
Winneconne Community
Wittenberg-Birnamwood
Northland Pines
New Holstein
Viroqua Area
Osceola
Freedom Area
Lake Geneva J1
Southern Door
Evansville Community
Durand
Westfield
Neillsville
Maple
Hartland-Lakeside J3
Lodi
West Salem
Altoona
Oconto
Palmyra-Eagle Area
Ladysmith-Hawkins
Philips
Lancaster Community
Glendale-River Hills
Saint Francis
Baldwin-Woodville Area
Colby
Little Chute Area
Dodgeville
Westby Area

1,000-1,999

Prairie du Chien Area
 Galesville-Ettrick-Trempealeau
 Chilton
 Unity
 North Fond du Lac
 Stanely-Boyd Area
 Clinton Community
 Markesan
 Nekossa
 Brodhead
 Lake Mills Area
 Waterford J1
 Parkview
 Omro
 Columbus
 Mayville
 Random Lake
 Chetek
 Rosendale-Brandon
 Bloomer
 Weyauwega-Fremont
 Prescott
 Horizon
 Cumberland
 Poynette
 Kewaunee
 Peshtigo
 Saint Croix Falls
 Valders Area
 Bellot Turner
 Wisconsin Heights
 Mondovi
 Crandon
 Boscobel Area
 Salem J2
 Elroy-Kendall-Wilton
 Florence

0-999

Park Falls
 Gransburg
 Menominee Indian
 Howards grove
 Marshall
 Cambridge
 Crivitz
 Fennimore Community
 Mishicot
 Riverdale
 Tomorrow River
 Oostburg
 Lomira
 Darlington Community
 Boyceville Community
 Somerset
 Manawa
 Iowa-Grant
 Dodgeland
 Fox Point J2
 Coleman
 Osseo-Fairchild

0-999

Pardeeville Area
 Suring
 Auburndale
 Cameron
 Bonduel
 Montello
 Spencer
 Cadott Community
 Saint Croix Central
 Cuba City
 Pittsville
 Waterloo
 Glenwood City
 Cochrane-Foundatin City
 Elk Mound Area
 Gillett
 Colfax
 Hurley
 Washburn
 Northern Ozaukee
 Shiocton
 Brillion
 Algoma
 Stratford
 Fall Creek
 Reedsville
 Arcadia
 Spring Valley
 Elkhart Lake-Glenbeulah
 Mineral Point
 New Lisbon
 Wausaukee
 Blair-Taylor
 Cedar Grove-Belgium
 Melrose-Mindoro
 Three Lakes
 Rosholt
 Owen-Withee
 Bruce
 Iola-Scandinavia
 Augusta
 Marathon City
 Southwestern Wisconsin
 Wild Rose
 Wrightstown Community
 Gibraltar Area
 Flambeau
 Whitehall
 Webster
 Marion
 Belleville
 Clear Lake
 North Crawford
 Gilman
 Black Hawk
 Sevastopol
 Tri-County Area
 Frederic
 Luck
 Maple Dale-Indian Hill

0-999

Minacqua J1
 Abbotsford
 Edgar
 Thorp
 Eleva-Strum
 Oakfield
 Rib Lake
 Randall J1
 Merton J9
 Hillsboro
 Niagara
 Deerfield Community
 New Glarus
 Loyal
 Necedah Area
 Prentice
 Cornell
 Bangor
 Greenwood
 De Soto Area
 Shell Lake
 Turtle Lake
 Union Grove J1
 Alma Center
 Kickapoo Area
 Hilbert
 Bowler
 Wabeno Area
 Drummond
 Winter
 Cambria-Friesland
 Pecatonia Area
 Siren
 Rio Community
 Randolph
 Wheatlane J1
 Silver Lake J1
 Almond-Brancroft
 Cashton
 Lake Holcombe
 Bayfield
 Shullsburg
 Woodruff J1
 Hutisford
 Wonewoc-Union Center
 La Farge
 Princeton
 Athens
 Port Edwards
 Richfield J11
 Kohler
 Monticello
 Bristol #1
 Albany
 Lena
 Mellen
 Seneca
 Lac Du Flambeau #1
 Elmwood
 Genoa City J2

0-999

Norwalk-Ontario
 Williams Bay
 Elcho
 Belmont Community
 Weston
 Potosi
 Tigerton
 Prairie Farm
 West Grant
 Green Lake
 Alma
 Granton Area
 Cassville
 Highland
 Pepin Area
 Wauzeka-Steuben
 Fall River
 Independence
 New Auburn
 Nothwood
 Twin Lakes #4
 Walworth J1
 Lake Country
 Raymond #14
 Solon Springs

0-999

Ithaca
 South Shore
 Laona
 Barneveld
 Clayton
 Yorkville J2
 Beecher-Dunbar-Pembin
 Argyle
 Birchwood
 Plum City
 Glidden
 Benton
 Erin #2
 Sharon J11
 Neosho J3
 Bloomington
 Butternut
 Juda
 Stone Bank
 North Lake
 Stockbridge
 Fontana J8
 Swallow
 White Lake

0-999

Boulder Junction J1
 Gilmanton
 Weyerhaeuser Area
 Richmond
 Mercer
 Goodman-Armstrong
 Phelps
 Richfield J11
 Salem #7
 Washington-Caldwell
 Paris J1
 Wis Sch f/t Deaf
 Brighton #1
 Herman #22
 Raymond #1
 Wilmont Grade
 Rubicon J6
 Linn J6
 Norway J7
 Washington
 Geneva J4
 Dover #1
 Wis Sch f/t Visually
 Handicapped
 Norris

APPENDIX C

SURVEY

Please check the appropriate response and return by 18 April, 1995.
Your cooperation is greatly appreciated.

PSYCHOMOTOR TEST SURVEY

1. Gender: female _____ male _____
2. Highest degree earned: Bachelor's _____ Master's _____
Doctorate _____
3. Do you hold an 860 teaching certification? yes _____ no _____
4. At what levels are you currently teaching APE?
early childhood _____ K-3 _____ 4-6 _____
5. Please mark the answer that represents the approximate student population in your school district:

0-999 _____	1,000-1,999 _____	2,000-2,999 _____
3,000-3,999 _____	4,000-4,999 _____	5,000-5,999 _____
6,000-6,999 _____	7,000-7,999 _____	8,000-8,999 _____
9,000-9,999 _____	+10,000 _____	
6. Please mark the answer that describes your A.P.E. case load?

1-10 _____	11-20 _____	21-30 _____	31-40 _____
41-50 _____	51-60 _____	+61 _____	
7. What psychomotor test(s) do you use for early childhood?

_____	1. I CAN Preprimary Motor & Play Skills
_____	2. Peabody Developmental Motor Scales
_____	3. Battelle Developmental Inventory
_____	4. Denver Developmental Screening Test
_____	5. Bayley Scales of Infant Development
_____	6. Other(s) _____
_____	7. OSU Scale of Intra-Gross Motor Assessment
_____	8. Test of Gross Motor Development
_____	9. Brigance: Inventory of Early Development
_____	10. Miller Assessment for Preschoolers

8. The tests checked in question 7 are used for assessing which disabilities: (place test number)

<input type="checkbox"/> Autism	<input type="checkbox"/> Deaf	<input type="checkbox"/> Deaf-blind
<input type="checkbox"/> Hard of Hearing	<input type="checkbox"/> LD/ADD	
<input type="checkbox"/> Multihandicapped	<input type="checkbox"/> Other health impaired	
<input type="checkbox"/> Behavior Disorder	<input type="checkbox"/> Traumatic brain injury	
<input type="checkbox"/> Cognitive Disabled	<input type="checkbox"/> Visually impaired	
<input type="checkbox"/> Speech impaired	<input type="checkbox"/> Orthopedically impaired	

9. Reasons for using the test(s) in question 7: (place test numbers where appropriate)

<input type="checkbox"/> School required	<input type="checkbox"/> Cost
<input type="checkbox"/> Norm-referenced	
<input type="checkbox"/> Criterion-referenced	
<input type="checkbox"/> Easy to administer	
<input type="checkbox"/> Was taught in my assessment class	
<input type="checkbox"/> Other(s) _____	

10. List the number(s) of the above test(s) that are used for placement purposes: _____

11. List the number(s) of the above test(s) from which the results are directly used for programming services and/or developing IEP objectives: _____

12. What psychomotor test(s) do you use for K-3rd grade?

<input type="checkbox"/> 1. Denver Developmental Screening Test
<input type="checkbox"/> 2. Bruininks-Oseretsky Test of Motor Proficiency
<input type="checkbox"/> 3. AAHPERD Special Fitness Test for the Mildly Mentally Retarded
<input type="checkbox"/> 4. Project Unique
<input type="checkbox"/> 5. Brigance Inventory of Early Development
<input type="checkbox"/> 6. OSU Scale of Intra-Gross Motor Assessment
<input type="checkbox"/> 7. Other(s) _____
<input type="checkbox"/> 8. Gesell Developmental Schedules

- _____ 9. Project A.C.T.I.V.E.
 _____ 10. I CAN Fundamental Motor Skills
 _____ 11. The Purdue Perceptual Motor Survey

13. The tests checked in question 12 are used for assessing which disabilities: (place the test number)

- | | | |
|--------------------------|-------------------------------|------------------|
| _____ Autism | _____ Deaf | _____ Deaf-blind |
| _____ Hard of Hearing | _____ LD/ADD | |
| _____ Multihandicapped | _____ Other health impaired | |
| _____ Behavior Disorder | _____ Traumatic brain injury | |
| _____ Cognitive Disabled | _____ Visually impaired | |
| _____ Speech impaired | _____ Orthopedically impaired | |

14. Reasons for using the test(s) selected in question 12 (place test numbers where appropriate)

- | | |
|---|----------------------------|
| _____ School required | _____ Cost |
| _____ Norm-referenced | _____ Criterion-referenced |
| _____ Easy to administer | |
| _____ Was taught in my assessment class | |
| _____ Other(s) _____ | |

15. List the number(s) of the above test(s) that are used for placement purposes: _____

16. List the number(s) of the above test(s) from which the results are directly used for programming services and/or IEP objectives: _____

17. What psychomotor test(s) do you use for 4th-6th grade?

- _____ 1. Denver Developmental Screening Test
 _____ 2. Bruininks-Oseretsky Test of Motor Proficiency
 _____ 3. AAHPERD Special Fitness Test for the Mildly Mentally Retarded
 _____ 4. Project Unique
 _____ 5. The Purdue Perceptual Motor Survey
 _____ 6. Others _____

_____ 7. Gesell Developmental Schedules

_____ 8. Project A.C.T.I.V.E.

_____ 9. I CAN Fundamental Motor Skills

_____ 10. OSU Scale of Intra-Gross Motor

18. The tests checked in question 17 are used for assessing which disabilities: (place test numbers by each)

_____ Autism _____ Deaf _____ Deaf-blind

_____ Hard of Hearing _____ LD/ADD

_____ Multihandicapped _____ Orthopedically impaired

_____ Other health impaired _____ Cognitive disabled

_____ Behavior disorders _____ Speech impaired

_____ Traumatic brain injury _____ Visually impaired

19. Reasons for using the test(s) selected in question 17: (place test numbers where appropriate)

_____ School required _____ Cost

_____ Norm-referenced _____ Criterion-referenced

_____ Easy to administer

_____ Was taught in my assessment class

_____ Other(s) _____

20. List the number(s) of the above test(s) that are used for placement purposes: _____

21. List the number(s) of the above test(s) from which the results are directly used for programming services and/or IEP objectives:

Your response is greatly appreciated. Thank you for taking the time to answer this survey.

APPENDIX D
COVER LETTERS

Dear Special Education Director,

I am a graduate student at UW-La Crosse studying in the area of adapted physical education under the direction of Dr. Patrick DiRocco. We are attempting to collect information concerning the assessment tools used in APE in the Wisconsin schools. The purpose of this letter is to ask for your cooperation on forwarding this survey to an APE specialist in an elementary school in your district. If you do not have a certified APE specialist, would you please forward this to the person in your district who is responsible for assessing students in the area of APE at the elementary level.

If you have any questions please contact me at (608) 785-8693 (office) or (608) 782-8534 (home). Thank you for your assistance.

Sincerely,

Pam Steinbrunner

Dr. Patrick DiRocco
Major Professor

Dear Elementary Adapted Physical Education Specialist,

I am a graduate student at UW-LaCrosse studying in the area of adapted physical education under the direction of Dr. Patrick DiRocco. We are attempting to collect information concerning the assessment tools used in APE in the Wisconsin schools. The purpose of this letter is to ask for your participation in this study.

Would you please complete the enclosed survey to the best of your knowledge and return it in the enclosed self-addressed stamped envelope by April 18, 1995. If you have any questions I may be contacted at (608) 785-8693 (office) or (608) 782-8534 (home). Thank you for your assistance.

Sincerely,

Pamela J. Steinbrunner

Dr. Pat DiRocco
Major Professor

APPENDIX E

TEST INFORMATION COMPILED BY ZITTEL

Test	Purpose	Technical adequacy	Nondiscriminatory
I CAN	xxxx Screening Prescriptive	x none	xxx Adaptations: yes Multisource: no
OSU SIGMA	xxxx Screening Prescriptive	xxx Standardized: referenced-based Validity: content construct Reliability: test- retest, inter & intrarater	xx Adaptations: yes Multisource: no
Peabody	xxxx Diagnostic Prescriptive	xxxx Standardized: yes (n=617) Validity: content, construct Reliability: test retest, interrater	xxxx Adaptions: yes (for prescriptive reference) Multisource: yes sample: culturally diverse; disabilities represented (deaf, blind, severely physically disabled)
TGMD	xxxx Screening Diagnostic Prescriptive	xxxx Standardized: yes (n=909) Validity: content, construct, criterion Reliability: test- retest, interrater internal consistency	xxx Adaptions: yes (for prescriptive reference) Multisource: no Sample: culturally diverse; disabilities represented
Battelle	xxxx Screening Diagnostic Prescriptive	xxxx Standardized: yes (n=800) Validity: content construct, criterion Reliability: test- retest, interrater, internal consistency	xxx Adaptations: yes Multisource: yes (for prescriptive reference) Sample: culturally diverse (no mention of disability)

Note: xxxx = very strong: all features present. xxx = strong: one feature missing. xx = weak: two features missing.
x = very weak: none of the features present.

Zittel, L. (1994). Gross motor assessment of preschool children with special needs: Instrument selection considerations. Adapted Physical Activity Quarterly, 11, 245-260.

Test	Purpose	Technical adequacy	Nondiscriminatory
Brigance	xxxx Diagnostic Prescriptive	xx Standardized: referenced- based Validity:content Reliability:none	xxx Adaptions: no Multisource: yes
DDST II	xxxx Screening	xxxx Standardized:yes (n=2,096) Validity:criterion Reliability: test- retest, interrater	xx Adaptions: no Multisource: yes
Dial-R	xxxx Screening	xxxx Standardized: yes (n=2,447) Validity: content, construct, criterion Reliability: test- retest, internal consistency	xx Adaptions:no Multisource: yes
MAP	xxxx Screening	xxxx Standardized: yes (n=1,024) Validity: content, construct, criterion Reliability; test- test, interrater, internal consistency	xx Adaptions: no Multisource: no

Note. xxxx = very strong: all features present. xxx = strong: one feature missing. xx = weak: two features missing.
x = very weak: none of the features present.

Test	Administrative ease	Instructional link	Ecological validity
I CAN	xxx Scoring: pass/fail Interpretations: focal points within performance objectives	xxxx Curriculum-embedded Activities accompany each objective	xxxx Environment: familiar materials, settings, caregiver, present
OSU SIGMA	xxx Scoring: pass/fail levels 1-4 Interpretations: subscripts indicate level of mastery within level Time: dependent on age of child & number of items chosen	xxxx Curriculum-referenced Performance-based	xxx Environment: familiar materials & setting curriculum
Peabody	xxxx Scoring: 0,1,2,3 Interpretation: standard scores, age equivalents, age equivalents, scaled scores Time: 30 minutes	xxxx Activity cards for programming percentiles mean motor and/or	xxxx Environment: "standard" materials provided by evaluator familiar setting, caregiver present
TGMD	xxx Scoring: pass/fail Interpretation: percentile & standard scores (for each subtest) Gross Motor Development Quotient (overall) Time: 15 minutes	xxx Behavioral objectives are sequenced to decrease inference between test results & instructional objectives	xxx Environment "standard" materials, familiar setting
Battelle	xxxx Scoring: 0,1,2 Interpretation: percentiles, standard scores, age equivalents (each domain & total BDI) Time: gross motor domain 20-30 minutes	xxx Minimal link for comprehensive programming	xxxx Environment: familiar materials, setting, caregiver present

Note. xxxx = very strong: all features present. xxx = strong: one feature missing. xx = weak: two features missing.
x = very weak: none of the features present.

Test	Administrative ease	Instruction link	Ecological validity
Brigance	xxx Scoring: pass/fail Interpretation: developmental ages are available for each skill Time: dependent on number of items chosen	xxx Skills within a sequence are underlined to identify instructional objectives	xxxx Environment: familiar settings & materials caregiver present
DDST II	xxx Scoring: pass/fail/delayed Interpretation: use age line (drawn on the scoresheet) to determine areas of "caution" or "delay" Time: dependent on number of items chosen	x none	xxx Environment: caregiver present
Dial-R	xxx Scoring: primarily pass/fail Interpretation: total score used to determine "potential problem", "OK", or "potential advanced" Time: 20-30 Minutes (complete battery)	x None	xxx Station arrangement for testing includes warm-up station to help child feel comfortable
MAP	xxxx Scoring: 3 levels color for each item Interpretation: colors correspond to percentiles (cutoffs may be adjusted by examiner) Time: 30 minutes (complete battery)	X None	X Game-like atmosphere for administration

Note. xxxx = very strong: all features present. xxx = strong: one feature missing. xx = weak: two features missing.
x = very weak: none of the features present.

APPENDIX F

RESULTS OF ULRICH'S 1984 SURVEY
AS REPORTED BY MILES, NIERENGARTEN,
AND NEARING

Standardized Motor Assessment Tests
Used by A.P.E. Teachers as Reported
In Ulrich's 1984 Survey

Rank	Frequency	Test
1	90	Bruininks Oseretsky Test of Motor Proficiency
2	45	AAHPERD Special Fitness Test For Mildly Mentally Retarded Persons
3	40	Brigance Diagnostic Inventory of Early Development
4	31	Hughes Basic Gross Motor Assessment
5	30	Project A.C.T.I.V.E. Motor Ability Test
6	22	Purdue Perceptual Motor Survey
7	22	AAHPERD Health Related Fitness Test
8	21	I CAN Project - Fundamental Skills
9	16	Ohio State University Scale of Intra Gross Motor Assessment (SIGMA)
10	16	AAHPERD Youth Fitness Test
11	12	Denver Developmental Screening Test

APPENDIX G

REVIEW OF LITERATURE

REVIEW OF RELATED LITERATURE

Introduction

Assessment is a major responsibility for APE specialists. Some of the questions that an APE specialist should ask in the process of selecting appropriate assessment instruments include: (a) is the tool valid and reliable? (b) is the information obtained useable for developing programs?, and (c) would a norm- or criterion-reference test serve the purpose for the assessment?

Criteria for Selecting Test

There are several areas to look at when selecting a test to administer. Zittel (1994) believes that the purpose of the test, its technical adequacy, administrative ease, instructional link, ecological validity, and nondiscrimination are key components when selecting appropriate tests. Zittel compiled the above information in table form so that educators can compare tests that are frequently cited in the literature for assessing preschool age children (see Appendix E). The tests reviewed included I CAN Preprimary Motor and Play Skills (Wessel, 1980), OSU Scale of Intra-Gross Motor Assessment (Loovis & Ersing, 1979), Peabody Developmental Motor Scales (Folio & Fewell, 1983), Test of Gross Motor Development (Ulrich, 1985), Battelle Developmental Inventory (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1989), Brigance:Inventory of Early Development (Brigance, 1978), Denver Developmental Screening

Test II (Frankenberg, Dodds, Archer, Bresnick, & Shapiro, 1990), Miller Assessment for Preschoolers (Miller, 1988), and Developmental Indicators for the Assessment of Learning-Revised (Mardell-Czudrowski & Goldenberg, 1983).

Miles, Nierengarten, and Nearing (1988) have suggested looking at the uses of a test to determine whether or not it is used as a screening, placement, programming, or diagnostic instrument. They also suggested looking at test components such as construction, administration, scoring, and whether or not the obtained data is criteria- or norm-referenced. Miles, et al. (1988) have compiled these components in table form for easily comparing the 11 psychomotor test instruments from Ulrich's (1984) national survey (see Appendix F). The purpose, types of instructional decisions, reliability, validity, and whether norm- or criterion-referenced are items to consider when selecting an assessment instrument (Wessel & Kelly, 1986).

Previous Surveys

In 1992, Holland surveyed each school district in Wisconsin to determine which psychomotor tests were being used for assessment of children with disabilities (see Appendix A). With a 56.9% return rate, the results ranked the Bruininks-Oseretsky Test of Motor Proficiency first overall, followed by Presidential Fitness Test, Gross Motor Test of Wisconsin (WAHPERD), Project UNIQUE (Winnick & Short, 1985), Peabody Developmental Motor Skills, Teacher

made test, Brigance: Inventory of Early Development, I CAN Fundamental Motor Skills (Wessel, 1976), and Test of Gross Motor Development as the top nine psychomotor test used. The results also showed that of the 274 children assessed, 198 children were between the ages of 3 and 12 while only 76 were between the ages of 13 and 21 years. The Bruininks-Oseretsky was ranked first for children with mild and moderate mental retardation. Children with severe and profound mental retardation were assessed with the greatest frequency with the Peabody Developmental Motor Skills. Children with learning, emotional, hearing, visual, or orthopedic disabilities were assessed most frequently with the Bruininks-Oseretsky.

Miles et al. (1988) reported results of a national survey that was conducted by Ulrich in 1984. His findings ranked the top 11 psychomotor test used by adapted physical education teachers. The number one reported test was Bruininks-Oseretsky (Bruininks, 1978). This test was followed by AAHPERD Special Fitness Test for Mildly Mentally Retarded Persons (AAHPERD, 1976), Brigance: Inventory of Early Development, Hughes Basic Gross Motor Assessment (Hughes, 1979), and Project A.C.T.I.V.E. Motor Ability Test (Vodola, 1978). Tests that ranked 6 through 11 were The Purdue Perceptual Motor Survey (Kephart & Roach, 1966), AAHPERD Health Related Fitness (AAHPERD, 1980), I CAN Project-Fundamental Skills, Ohio State University Scale of

Gross Motor Assessment, AAHPERD Youth Fitness (AAHPERD, 1976), and Denver Developmental Screening Test (Frankenberg, Dodds & Fandel, 1975).

Norm-Referenced vs. Criterion-Referenced

Norm-referenced tests were defined by Sherrill (1993) as those tests that were "administered to several hundred persons and that statistics are available on the performance of chronological age groups and perhaps gender" (p.158). The general purpose of a norm-referenced test is to be able to compare results to the performances of others based on percentile rankings. Criterion-referenced tests as defined by Sherrill (1993) are those tests which were "designed to measure mastery of a skill on developmental milestones, mature movement patterns and minimal fitness levels" (p.159). Criterion-referenced tests generally allow an educator to break down a skill into different components and then see where in the sequence the student has reached mastery level. The student is compared to a set of standards rather than to the performance of peers.

When selecting a test instrument, users must decide what can be done with the score to determine whether to use a test that has norms or one that has criteria to use as an indicator of successful achievements. According to Wessel and Kelly (1986), validity, reliability, administration, and interpretation are items to compare when deciding which type of test to use. Validity for norm-reference tests depends on the nature of the item and is limited to the sample used. If

a test item has norms that were developed for an able-bodied child, the validity of the item on a child with a disability would be compromised. Validity for criterion-referenced tests usually applies to all children, because each child must reach a mastery level. When comparing reliability, norm-referenced tests have standard instructions that usually cannot be modified or reliability, validity, or both may not be assured. On the other hand, criterion-referenced tests may have standard directions, but those directions can be modified as needed. Norm-referenced tests can only be used on children that have the same characteristics as the normative sample, and content of the test is fixed. Criterion-referenced tests may allow for modification of test items, can be used with all students, and content can be selected as needed. The last item Wessel and Kelly (1986) considered was interpretation. Norm-referenced tests allow for normative comparisons, however, test items do not lead to direct instructional ideas, and usually the whole test must be completed in order to make the comparisons with ones peers. Criterion-referenced tests have direct implications for instruction, and are applicable to all children regardless if there is a disability or not. Wessel and Kelly (1986) felt that traditionally norm-referenced tests have been used to conduct assessments in the area of physical education, but many of these test have limited uses for students that are disabled because individuals with

disabilities were not included in the development of the norms.

Werder and Kalakian (1985) believe that both norm- and criterion-referenced tests can be used. They suggest that a norm-referenced test be selected if the end result is to measure a child's ability compared to other children with the same characteristics, such as gender, age, and geographic location. Also the results can be used for placement, screening, and program evaluation. But if the end result is to determine an individual's level of mastery, then a criterion-reference test should be selected.

Bagnato and Neisworth (1981) have expressed that a combination of test types should be used. If the development of appropriate motor programming is the primary purpose for assessing a child, then criterion-referenced tests can give direct information to use when developing the child's IEP. Criterion-referenced tests allow the educator to know where in the process of learning a specific skill each child needs to start in order to master that skill. If the information wanted on a child is in terms of an age or functional level, a norm-referenced test should be used. When norm-referenced tests are used alone they do not show where the skill deficit is so programming may be difficult.

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