

# Developmental Assessment of Young Children – 2<sup>nd</sup> Edition (DAYC-2)

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Office of Special Education  
First Steps Program  
Summer 2014



# Agenda

- Evaluation
- Overview of DAYC-2
- Administration of DAYC-2
- Scoring the DAYC-2
- Reporting results of DAYC-2

# Evaluation Procedures

When conducting an evaluation, no single procedure may be used as the sole criterion for determining a child's eligibility.

The evaluation must include:

- **Administering an evaluation instrument;**
- Taking the child's history (including interview with parent);
- **Identifying the child's level of functioning in each of the developmental areas;**
- Gathering information from other sources such as family members, other caregivers, medical providers, social workers, and educators, if necessary, to understand the full scope of the child's unique strengths and needs; and
- Reviewing medical, educational, or other records. *(34 CFR 303.321)*

# Evaluation

Federal and State Regulations dictate an evaluation must meet the following criteria:

- Be timely, comprehensive, and multidisciplinary;
- Determine a child's initial eligibility;
- Conducted by qualified personnel, in a nondiscriminatory manner, and selected and administered so as not to be racially or culturally discriminatory; and
- Unless clearly not feasible, all evaluations must be conducted in the native language of the child.

*(34 CFR 303.321)*



# Evaluation in Missouri

- In 2008, Missouri designated the DAYC as the uniform instrument to assist with eligibility determination for children referred for developmental delay. The DAYC-2 will be used beginning Summer 2014.
- A variety of disciplines can administer all five domains of the DAYC-2 to determine eligibility.
- In order to administer the DAYC-2 in Missouri, evaluators must be designated as an EI Examiner.



# DAYC-2 Examiner Qualifications

Providers must meet the “Examiner Qualifications” outlined in the DAYC-2 Examiner’s Manual:

- Have formal training in assessment providing a basic understanding of measurement statistics and of procedures governing test administration, scoring, and interpretation.
- The DAYC-2 is used with a variety of programs and can have varying purposes. It is the examiner's responsibility to be aware of the local policies, state regulations, and position statements as well as confidentiality issues associated with using the DAYC-2.



# Steps to Become a First Steps EI Examiner

- Identified by the SPOE
- Completed DAYC-2 training sponsored by DESE
- Enrolled on the provider matrix with the EI Examiner designation



# Overview of the DAYC-2

- Designed to measure abilities of young children in five developmental areas: cognition, communication, social-emotional, physical, and adaptive behavior.
- Aligns with the Individuals with Disabilities Education Act Amendments of 1997 (IDEA, P.L.105-17).
- Norm-referenced measure of early childhood development from birth to 5 years 11 months.
- Designed to be completed in the child's natural settings with people and materials familiar to the child.

# What's new with the DAYC-2?

DAYC	DAYC-2
Norms based on 1996 US Census	Norms based on 2010 Census
Normative sample included 1267 children from 27 states.	Normative sample included 1832 children in 20 states collected by 87 DAYC users; 7% were identified as having disabilities (comparable to national average)
Communication and Physical domains produce an overall score for each of these domains.	Two subscales- communication and physical development- are further divided into subdomains
Ceiling point occurs when 3 out of 5 items are scored 0.	Ceiling point is 3 consecutive items scored as 0 in a row.
Discrepancy analyses between domains is complicated and not used frequently.	Simplified procedures used to perform discrepancy analyses between subdomains or domain subscales.



# Preparing to Administer the DAYC-2

- Study the content of the manual carefully prior to administration.
- Review subtest items prior to administration to obtain a sense of what needs to be observed.
- No specific materials are required to administer the DAYC-2. Use items from the family's home whenever possible.
- Practice administering and scoring the DAYC-2 to several children before using it in a real situation.



# Considerations When Administering the DAYC-2

- Testing time is approximately 10-20 minutes for each domain.
- One discipline can administer all domains.
- Establish rapport with child and family.
- Administer the test to an individual child not to a group.
- For those skills that require the examiner to work directly with the child, join the child's play and introduce items or games that fit into the child's natural play activity.
- Be alert to the child's and family's level of fatigue and stop testing if the child shows signs of tiring.



# Methods of Administration

The scores for the items can be based on a combination of three sources:

1. Observation of the child in the natural environment;
2. Structured interview with parents and, with permission, other caregivers; and
3. Direct assessment.



# Observation

- Examiners assess many skills by watching children in their natural settings.
- Young children often perform skills in an informal setting but will not perform the same skills in a formal testing situation.
- Observing children in natural settings frequently provides more accurate estimates of their skills than testing them in unfamiliar settings.



# Interview

- Examiners should be thoroughly familiar with interviewing techniques especially related to establishing rapport.
- Use general, open-ended questions and use follow-up questions.
- If examiners use information from a child's caregiver to complete the assessment, the individual's name and relationship as well as how long the caregiver has known the child should be recorded.



# Direct Assessment

Examiners maintain an informal setting for the evaluation by:

- Establishing rapport with the child while the parent or caregiver is present.
- Incorporating opportunities for the child to demonstrate specific skills observable during play.

Praise and encourage the child, but avoid prompting or otherwise deviating from standardized testing procedures.





# DAYC-2 Self Study Module

- Child's chronological age
- Entry points
- Determine basal and ceiling
- Calculate raw scores
- Convert raw scores to age equivalent and standard scores

If interested in a copy of the complete Self Study Module, please contact an Area Director.

# Chronological Age

- To accurately administer the DAYC, the examiner must calculate the child's age to months.
- This is necessary to establish an entry point of each subtest and scoring of the assessment.
- Chronological age can be computed on hand or through various online resources.



# Calculating Chronological Age

- The child's date of birth is subtracted from the date of testing to determine chronological age.
- Once the years and months have been figured, ignore the remaining days.
- Do **not** round up for any remaining days.
- Do **not** adjust for prematurity.

# Chronological Age – Example 1

Examples are on p 8 in the Self Study Module.

	Year	Month	Day
Date of testing	2013	<del>12</del> 5	12+30=42
Date of birth	2011	2	29
Chronological Age	2	3	13

When the “Day” of the child’s testing is smaller than the “Day” of child’s birth, then you “borrow” 30 days from the month and add to the “Day” column.

# Chronological Age - Example 2

See page 9 of the Self Study Module.

	Year	Month	Day
Date of testing	<del>2013</del> 2012	<del>3</del> 2+12=14	5+30=35
Date of birth	2010	7	15
Chronological Age	2	7	20

There will be times when you have to borrow from both the year and month of the testing date before you calculate chronological age.

# Entry Point

- The entry points for each domain are determined by the child's chronological age in months and will vary from domain to domain.
- A list of all entry points are listed directly above the first item to be scored and at the top of each subsequent page of each protocol. Throughout the protocol, each entry point is indicated by an asterisk.
- The start age is the entry point closest to, but not older than, the child's chronological age.
- The entry points were determined by selecting the points at which typically developing children would likely be successful on the first few items given.

# Scoring the DAYC-2

- Passed items are scored a 1.
- Items not passed are scored 0.
- When observing the child, items on the protocol may not be scored in the order listed.
- Watch for those items that require multiple actions or gives options for completing the item. For example:
  - Social Emotional - Item #19 – imitates facial expressions, actions, **and** sounds
  - Physical – Item #20 – stands alone, holding on to something, for at least 10 seconds
  - Social Emotional - Item #13 – smiles at **or** pats own image in the mirror

# Scoring the DAYC-2, cont'd...

- **No credit is given for emerging skills:** if skills are emerging but not mastered, the item is marked “0” and a note can be made regarding the emerging or partially mastered skill.
  - Adaptive item # 17 – cooperates in dressing and undressing (e.g., helps put arms in holes)
- If a child has not had the opportunity to develop a skill (i.e., drink from an open cup or use scissors), then the child cannot demonstrate the skill and a “0” is scored for that item.

**REMEMBER:** Physical and Communication domains are divided into separate subdomains which must be administered to calculate an overall domain score. Cognitive domain is a three-fold protocol.

# Other Scoring Considerations

- Atypical skills occur when a skill is observed yet the quality of that skill is lacking.
  - **Example:** the child can walk but he is up on his toes or his muscles are tight and/or rigid
- Lack of opportunity or exposure to certain activities may affect the overall score of the evaluation. These considerations should be noted by the evaluator.
  - **Example:** adaptive subtest, item #15 – feeds self with finger foods
- Use of a translator can make it challenging to interview parents or caregivers regarding a child's skills.

# Determining a Basal

- The basal is established when the child receives a score of 1 on three consecutive items.
- When possible, the examiner begins testing at the entry point.
- If the child scores a 0 on any of the first three items administered at the entry point, the examiner should test backward until the child scores a 1 on three items in a row to establish the basal.

**NOTE:** Due to the variance in administration methods (e.g., observation, interview, direct assessment), scoring may occur in a more random fashion. This may result in some difficulty establishing a basal at the entry point.

# Reaching the Ceiling

- The ceiling is reached when the child receives a score of 0 on three consecutive items.
- If a basal was **not** established prior to reaching a ceiling, begin to test backward until a basal is identified or all items have been tested.
- The true ceiling is the set of three items scored 0 that is closest to the basal.
- Occasionally, items above the ceiling will be administered. These are **not** scored and are counted incorrect.



# Computing the Raw Score

- The item number at the end of the basal (the third consecutive item scored with a 1) is the number to begin calculating the raw score.
- The items scored after the basal and through the end of the ceiling are totaled (any 1's after the ceiling are **not** counted).
- The sum of these two numbers equals the raw score.
- In cases when it was necessary to work backwards to the beginning of the protocol after reaching the ceiling and no basal point is established, only those items scored with a 1 are counted through the ceiling for a raw score.

# Let's Practice

Item #	Score
1	1
2	1
3	1
4	0
5	1
6	0
7	0
8	0
9	

Basal

Ceiling

Example 1

Item #	Score
1	1
2	0
3	1
4	1
5	1
6	1
7	0
8	0
9	1
10	1
11	0
12	0
13	0

Basal

Ceiling

Example 2

# Converting Raw Scores to Age Equivalents

- First Steps only requires age equivalents and standard score conversions to be reported to the SPOE.
- Once the raw score is calculated, Appendix A, Table A.1 (p59) in the DAYC-2 Examiner's Manual converts the raw score to an age equivalent for each of the five domains **and** the subdomains for the Communication and Physical domains.
- However, when calculating the raw score for Communication and Physical domains, additional steps are required.

# DAYC-2 Manual – Table A.1

## Converting Raw Scores to Age Equivalents

### Raw Scores

Age Equivalent in Months	Cognitive	Communication	Receptive Language	Expressive Language	Social - Emotional	Physical Development	Gross Motor	Fine Motor	Adaptive Behavior	Age Equivalent in Months
<1	0-4	0-7	0-4	0-3	0-6	0-8	0-5	0-3	0-6	<1
1	5-6	8-9	5	4	7	9-10	6	4	7	1
2	7-8	10	-	5	8	11-13	7-8	5	-	2
3	9	11	6	-	9	14-16	9-10	6	8	3
4	10-11	12	-	6	10	17-20	11-13	7	9	4
5	12-13	13	7	-	11-12	21-24	14-15	8-9	10	5

# Age Equivalent for Communication and Physical Domains

- Each subdomain (receptive/expressive and gross/fine) will produce a raw score which will convert to an age equivalent using Appendix A in the DAYC-2 Examiner's Manual.
- The appropriate subdomain scores are added together. The "Sum of Raw Scores" is entered in the space provided below. This sum will convert to an age equivalent for the entire domain using Appendix A, Table A.1 (p59) in the DAYC-2 Examiner's Manual.

# Converting Raw Scores to Standard Scores

- Appendix B (p 63-113) is used for the **Adaptive, Cognitive, and Social-Emotional domains, as well as the receptive/expressive and fine/gross subdomains.** (*Communication and Physical domains will be addressed on subsequent slides*)
- Appendix B (p63-113) is divided so that each table represents a child's age in months. For the domains and subdomains listed above, locate the page which corresponds to the child's chronological age.
- Locate the child's raw score on the farthest left/right columns, then scroll over to the domain or subdomain that corresponds with that raw score. This number will reflect the child's standard score for each domain and subdomain contained in the heading.

# DAYC-2 Manual – Table B.16

## Converting Raw Scores to Standard Scores

### Age 19-21 Months

Raw Score	Cognitive	Receptive Language	Expressive Language	Social-Emotional	Gross Motor	Fine Motor	Adaptive Behavior	Raw Score
12	53	81	84	65	<50	79	62	12
13	55	85	88	67	<50	82	65	13
14	58	88	91	68	<50	84	67	14
15	60	92	95	71	<50	87	70	15
16	63	96	98	73	<50	90	73	16
17	65	100	101	75	50	92	76	17



# Standard Scores for Communication and Physical

- Using the raw scores for each subdomain (receptive/expressive and gross/fine), convert to standard scores using Appendix B of the DAYC-2 Examiner's Manual as described previously.
- On the scoring form, the standard score for each subdomain is added together and entered in space below marked, "Sum of Standard Scores."
- This total number is then used to convert to an overall standard score for the entire domain using Appendix D, Table D.1 (p121) in the DAYC-2 Examiner's Manual.

# DAYC-2 Manual – Table D.1

## Converting Sums of Subdomain SS to Domain SS

Sum of RL+EL or GM+FM	Standard Score	Sum of RL+EL or GM+FM	Standard Score	Sum of RL+EL or GM+FM	Standard Score
100-101	49	110-111	55	122-123	61
102	50	112-113	56	124-125	62
103	51	114-115	57	126-127	63
104-105	52	116-117	58	128-129	64
106-107	53	118-119	59	130-131	65
108-109	54	120-121	60	132-133	66

# Recap of Scoring

- **Age equivalents:** all domains, including subdomains, are scored using one chart on Appendix A (p59) of the DAYC-2 Examiner's Manual.
- **Standard scores:**
  - Adaptive, Cognitive and Social Emotional domains and the subdomains are scored using Appendix B (p63).
  - Physical and Communication standard scores result from the sum of the subdomains and are scored using Appendix D (p 119).

# Standard Error of Measurement (SEM)

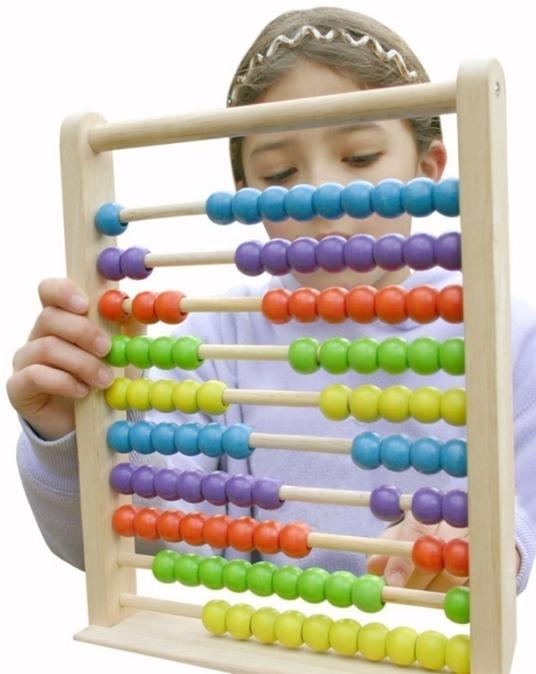
- Estimates the amount of error in an individual's test score due to less-than-perfect reliability of the test.
- Establishes a zone within which an individual's true score probably lies.
- There is a SEM calculated for every standard score for every domain and subdomain and is represented at the right of each standard score.

**REMEMBER:** Every professional should be cautioned when interpreting test results because no test is an overall measure of child's level of functioning. Tests do not diagnose, well-trained professionals do.



# Identifying Discrepancies

1. Calculate the difference in **standard score** by subtracting the two subdomains you are comparing (e.g., receptive/expressive language).
2. Enter this score in the “Standard Score Difference” and determine if it meets the criteria of:
  - Not important
  - Statistical
  - Clinical



# Activity



# Reporting Scores

- Providers should score all domains and subdomains with age equivalent and standard scores.
- An *Examiner Summary Sheet* is included and can be used to keep the scores on one form.
- Starting Summer 2014, the *First Steps DAYC-2 Evaluation Report* can be found on the First Steps website. The report is used to describe the results and observations of the evaluation.



# DAYC-2 Evaluation Report

- Identifying Information
- Child and Family History
- Evaluator Observations of Functional Skills (including vision and hearing)
- Evaluation Tool
- Record of Scores
- Suggestions for the Family

**NOTE:** The *First Steps DAYC-2 Evaluation Report* is required for **each** child evaluated.

# Determining Eligibility for Developmental Delay

- Must be multidisciplinary: the involvement of two or more disciplines. The Service Coordinator can be considered one of the disciplines.
- Besides test scores, consideration must be given to child's history, information from other sources, and review of medical records.
- Questions to consider:
  - Does child exhibit a half age delay in one domain?
  - Does child exhibit atypical behavior that could result in an Informed Clinical Opinion (ICO)?



# Determining Eligibility Based on Developmental Delay-ICO

- The Service Coordinator collects information from various sources to document atypical behavior that cannot be captured with instruments and checklists.
- The provider notifies the Service Coordinator of atypical behavior, behaviors not captured on checklists, regression, or significance of delay considering other factors.
- The provider assists in completing the *ICO Summary for Developmental Delay*.

# Once Eligibility is Determined...

- If determined **ineligible**, the Service Coordinator will:
  - inform family of ineligibility; and
  - send a copy of the *DAYC-2 Evaluation Report*, a *Notice of Action*, *Parental Rights Statement*, and other local resources.
- If determined **eligible**, the Service Coordinator will:
  - inform family of eligibility;
  - explain the remainder of 45-day timeline and prepare family for Initial IFSP; and
  - arrange for any other child and family assessments necessary prior to Initial IFSP.



# Final Thoughts

- Obtain EI Examiner Designation
- Receive Certificate of Completion
- Update Provider Matrix
- Order DAYC-2 Accessories (optional)

# References

- **DAYC-2 Examiner's Manual:**

Voress, J. & Maddox, T. (2013). *Developmental Assessment of Young Children, 2<sup>nd</sup> Edition*. Austin, Texas: PRO-ED.

- **Self-Study Module:**

Child and Family Studies Research Programs. (2013). *Using the Developmental Assessment of Young Children: 2<sup>nd</sup> Edition (DAYC-2): Online Class Self-Study Workbook*. Philadelphia, PA.

# Final Questions?



# Contact Us

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