

**Recommendation of the Early Childhood Outcome (ECO) Center for Determining Age
Expected Functioning and the Points on the ECO Rating Scale
July 5, 2006**

This document contains the recommendations from the Early Childhood Outcome (ECO) Center for (1) determining age expected functioning for state-required reporting to the U.S. Department of Education, and (2) the expected percentage of the general population that will fall under each of the 7 points on the ECO Rating Scale. We begin with some background information related to the recommendations and then present the recommendations and rationale.

OSEP Reporting Requirements

In July 2005, the Office of Special Education Programs (OSEP) in the U.S. Department of Education released the reporting requirement for states related to child outcomes. State agencies overseeing Part C early intervention programs and Part B preschool special education programs are required to submit the following for each of 3 child outcomes (positive socio-emotional skills including social relationships, acquisition and use of knowledge and skills, use of appropriate behaviors to meet needs):

- a. Percentage of children who reached or maintained functioning at a level comparable to same age peers
- b. Percentage of children who improved functioning (but are not included in category "a" above)
- c. Percentage of children who did not improve functioning

Improved functioning is over the period from entry into service to exit from service for all children who have received services for at least 6 months.

In April 2006, OSEP announced plans to revise the reporting categories as follows:

- a. Percentage of children who maintained functioning at a level comparable to same age peers
- b. Percentage of children who reached functioning comparable to same age peers.
- c. Percentage of children who improved functioning (but are not included in category "b" above)
- d. Percentage of children who did not improve functioning

The ECO Child Outcomes Summary Form (COSF)

Most states plan to allow local programs to use a variety of child assessment instruments to provide child outcomes data. OSEP has not and will not require states to use the same assessment. Many of the instruments states are using are criterion- or curriculum-based measures that do not provide an age equivalent or percentile score that allow a child's performance to be readily compared to age expectations. Because many in the field believe that curriculum-based measures provide valuable information for working with young children, there is substantial benefit in letting programs collect data on child functioning with these measures. Even if an assessment tool does provide age equivalents or percentile scores, states still need to know what cutoff to use to determine age-expected functioning. An additional challenge is that many of the instruments are domain-based and not especially functional in their orientation. None of the currently available instruments provides information directly about each of the 3 child outcomes.

The ECO Center developed the Child Outcomes Summary Form (COSF)¹ to address several needs in the field: (1) to allow multiple sources of information about a child to be combined into a single rating for each of the three outcomes; (2) to allow information gathered through different assessment sources being used across the state to be aggregated; and (3) to provide states a way of tracking the extent of progress being made by children with delays relative to same age peers (versus just determining whether the progress is sufficient for the child's functioning to be considered as age expected). The COSF uses a 7-point rating scale to describe children's functioning on each of the 3 outcomes. The scale has been constructed so a "7" on the scale indicates the child is developing as expected in this outcome area and no one has any concerns about the child's development. A "1" indicates the child's development is far from age expectations.

Many states have indicated that they expect to use the data on child outcomes for state purposes in addition to addressing the federal reporting requirement. Use of the scale will provide states with more powerful information than just whether the child's functioning is age expected or not. The COSF ratings provide states with information on the distance from age expected functioning and allow states to track finer increments of progress as children move toward functioning more like their same age peers over their time in the program.

Obviously, it is critically important that the COSF be completed validly and reliably, i.e., children who are similar in their functioning should be given the same rating, children should be rated with the same criteria each time they are rated, etc. To insure providers use the COSF consistently, the ECO Center needs to provide the clearest possible guidance to states on the meaning of each point of the scale. Preliminary definitions for the scale points have been developed and are included in the instructions.² These definitions are now being used by providers to assign a rating to children but we also would like to provide our best sense of the proportion of the population that would be expected in each rating category. This recommendation is especially important for developers and publishers of assessment tools who are interested in providing guidance on using the results from their tool to determine age expected functioning and for determining an ECO rating.

ECO's Work with Developers and Publishers of Assessment Tools

ECO has had initial conversations with several developers and publishers of the most commonly-used assessment tools in early intervention and early childhood special education. The publishers are aware of the OSEP reporting requirement and have indicated a willingness to work with ECO to develop the guidance that will allow states to use their instrument reliably to classify the child's functioning as: (1) age expected or not; or (2) as 1 to 7 on the COSF. There are two ways publishers of the curriculum-based assessment (which do not provide normative data) can approach this task: empirically or conceptually. Some of the publishers have online scoring systems and thus have data on how large numbers of children perform on the instrument. Using these data, they can identify which items 3 year olds "pass," which items 4-year olds pass, etc. Publishers without data on their assessment can still put age bands on items based on the literature and the general consensus of when children master each item. Age banding items would allow for the identification of an expected scoring pattern for 3 year

¹ The form (COSF) and instructions are attached in Appendix A.

² Not all states will be using the COSF because some have other ways of transforming their information or the state does not want any data other than what OSEP is requiring.

olds, 4 year olds, etc. There is considerable similarity and overlap in items on developmental assessments and an extensive literature on when children master various developmental tasks such as drinking from a cup or speaking in sentences. Whether assessment publishers approach age banding empirically or conceptually and regardless of whether the instrument is normed or curriculum-based, the publishers (and the states) need guidance from the ECO Center on where to draw the line for what is within and outside the bounds of age expected behavior.

Process for Deriving the Recommendations

The ECO Center convened two groups of advisors, the Child Technical Work Group and the Implementation Work Group,³ by conference calls and an in person meeting to review possible options with regard to the recommendations. We discussed whether ECO should make a recommendation or leave the decision up to each state. The advisors expressed widespread support for ECO making a recommendation. Although individual states still may choose not to follow the recommendation, a single recommendation for age expected behavior represents the only possible way to get comparable data across states. An ECO recommendation also provides a single guideline for assessment publishers rather than having many individually determined state guidelines. We also recognized that, because of differences in state eligibility criteria, any guideline for age expected functioning will inevitably conflict with some states' eligibility criteria. This means that in some states, some children who are not functioning at age expectations would not be eligible for services or vice versa. Although this was recognized as unfortunate, the eligibility determination and the outcomes measurement are separate and it was not considered a sufficient reason not to make a recommendation for a national guideline for determining age expected functioning. Additional information about the direction provided by our advisors is contained in the discussion below.

Recommendation for Defining Age Expected Functioning

We are assuming that functioning with regard to the three outcomes is normally distributed. This means that a small percentage of the children in the general population at any given age are functioning significantly above what would be expected given their age, that most children are functioning similarly to each other (i.e., age expected), and that a very small percentage of children are functioning well below or different from what would be expected. If this assumption is reasonable, then the normal curve can be used to set the boundary for age expected functioning. The estimates of the percentage of the general population ages birth to 5 years considered having a disability or delay varies depending on the data source and the criteria, but 10% is consistent with much of the special education literature. We acknowledge that this figure is higher than what states have been reporting to OSEP as the percentage of children served in early intervention or preschool special education.

The ECO Center recommends using the normal curve and 10% as guides for defining age expected functioning, i.e., children in the general population scoring in the bottom 10% in an outcome area would be considered to be functioning below age expectations, i.e., in the range of a possible or diagnosed delay. As illustrated in Exhibit 1 below, all children above that point on the normal curve would be considered to be functioning within the range of their same age peers.

³ Names of the members of these advisory groups are available on the ECO web site, www.the-eco-center.org.

Recommendation for Determining the 7 points on the ECO Rating Scale

We are further recommending that the normal curve be used as guidance for the 7 points on the ECO rating scale. Exhibit 2 presents a table that shows the recommended percentages of the population that would fall within each rating on the scale. Also shown in Exhibit 2 are the corresponding upper and lower bounds on the standard deviations for each rating, developmental quotients for assessments with a mean score of 100, and t-scores around a mean of 50. As shown in the table, the scale was developed to be sensitive to change among the lowest functioning children and not at all sensitive to change within age expectations, except for the 6 and 7 ratings as described below. The boundaries between the ratings are intentionally set to have different percentages of children at each rating. For example, there are proportionately more children who would be given a “5” than given a “1.” This was done to reflect the fact that there are more atypical young children with milder than more severe delays in developmental functioning and that the proportion of children with the severest delays disabilities is very small.

On the ECO rating scale, both a 6 and 7 are used for children whose functioning is considered within expectations for their ages. Based on the recommendation above, approximately 90% of the general population would be given a 6 or 7. A rating of 6 would be given to children whose functioning is considered within age expected limits but for whom there are some concerns. This rating category was created to allow teams or individual providers to indicate children who may be in need of further support even though they are considered to be functioning within age expectations (i.e., above the 10th percentile). We are recommending that approximately 6% of the population would be considered as a “6” which corresponds to children who are 1.0 to 1.3 standard deviations below the mean.

The other ratings (1 to 5) would be applied to approximately the lowest functioning 10% of the population. Using the normal curve, the 1 to 5 ratings will be based on -1.3 SD below the mean; children functioning lower than this level (-1.31 S.D.) are considered to be not functioning comparable to same age peers. As shown in Exhibit 2, the 5 and 4 ratings each include approximately 3% of the population, a rating of 3 includes approximately 2%, a rating of 2 is approximately 1.5% of the population, and the lowest rating of 1 includes approximately .5% of the population.

Both recommendations, to use 10% of the population as the boundary for identifying children not functioning comparable to same age peers and to assign the ECO rating points 1 to 5 in such a way that more children are seen as having mild impairments in functioning, received support from our advisors. An alternative recommendation, to use -1.5 standard deviations (which corresponds to roughly 7% of the population as below age expectations), was discussed extensively with the implementation work group. The sense of the group was that 10% should be used because it is consistent with the literature on what proportion of the population has a delay or disability, and that a guideline based on a percentage (i.e., the commonly accepted percentage of children considered to have a delay or a disability) would be easier to explain to the many audiences who are interested in outcomes measurement.

Use of the Recommendations

The recommendations are intended to serve as a **general guideline** to states and publishers on how to identify functioning comparable to same age peers and how to distinguish the points on the ECO COSF. It should be understood that the level of precision illustrated in Exhibit 2 exceeds the level of precision that will be available through many of the assessment tools and processes currently being used. The intent of Exhibit 2 is to give those involved in using the ECO rating scale and the publishers of assessment tools some general guidance on each of the ratings so the 7 ratings on the scale can be calibrated in the same way for each assessment tool and across different teams making ratings (i.e., for instance, a rating of 5 is a comparable level of child functioning for every assessment tool and across different teams making ratings). The guidance in Exhibit 2 is best read at a general level, i.e., it illustrates that very few children are likely to be categorized as a 1, and that the overwhelmingly majority of children in the general population would be a 7.

We anticipate that some publishers will be developing scoring procedures for their tools that will automatically produce a rating on the 7-point ECO scale and we are supportive of these activities. We continue to emphasize the best practices in assessment requires information from multiple sources and must include information on how the child functions in a variety of settings and situations. To the extent an assessment tool captures this kind of information about a given outcome area, the rating generated through a scoring procedure should be a valid reflection of the child's functioning. If an assessment tool is limited in either the number of items in an outcome area or the range of situations reflected in the information collected, the ECO rating generated through the scoring of an assessment tool will need to be supplemented with other information. In this case, the ultimate rating given the child may need to be adjusted based on the additional information.

Exhibit 2
Aspects of the Normal Curve Corresponding to Each Point on the ECO Rating Scale

ECO Rating	Lower bounds for rating (SDs):	Upper bounds	Area from mean on normal curve to lower bounds	% of population (rounded)	Cumulative proportion of population that is this rating or above	Comparable to same aged peers	Developmental Quotient, M = 100, SD = 15	T Score, M = 50, SD = 15
7	>-1	NA	0.3413	84.13%	0.8413	90.32% of pop	85.0	40.0
6	-1.30	-1.01	0.4032	6.19%	0.9032		80.5	37.0
5	-1.50	-1.31	0.4332	3.00%	0.9332	9.68% of pop	77.5	35.0
4	-1.76	-1.51	0.4608	2.76%	0.9608		73.6	32.4
3	-2.06	-1.77	0.4803	1.95%	0.9803		69.1	29.4
2	-2.57	-2.07	0.4949	1.46%	0.9949		61.5	24.3
1	NA	<-2.57	0.5	0.51%	1			

Standard Score Conversion Formula
 Score = z(sd) + mean

Appendix A: Child Outcomes Summary Form (COSF) and Instructions

CHILD OUTCOMES SUMMARY FORM

Date: ____/____/____
Mon Day Yr

Child Information

Name: _____

Date of birth: ____/____/____
Mon Day Yr

ID: _____

Persons involved in deciding the summary ratings:

Name	Role

Family information on child functioning (Check all that apply):

- Received in team meeting
- Collected separately
- Incorporated into assessment(s)
- Not included

1. POSITIVE SOCIAL-EMOTIONAL SKILLS (INCLUDING SOCIAL RELATIONSHIPS)

To answer the questions below, think about the child's functioning in these and closely related areas (as indicated by assessments and based on observations from individuals in close contact with the child):

- *Relating with adults*
- *Relating with other children*
- *Following rules related to groups or interacting with others (if older than 18 months)*

1a. To what extent does this child show age-appropriate functioning, across a variety of settings and situations, on this outcome? (Circle one number)

Not Yet		Emerging		Somewhat		Completely
1	2	3	4	5	6	7

Supporting evidence for answer to Question 1a

Source of information	Date	Summary of Relevant Results

1b. (If Question 1a has been answered previously): Has the child shown any new skills or behaviors related to positive social-emotional skills (including positive social relationships) since the last outcomes summary? (Circle one number)

Yes	1 → Describe progress:
No	2

2. ACQUIRING AND USING KNOWLEDGE AND SKILLS

To answer the questions below, think about the child's functioning in these and closely related areas (as indicated by assessments and based on observations from individuals in close contact with the child):

- Thinking, reasoning, remembering, and problem solving
- Understanding symbols
- Understanding the physical and social worlds

2a. To what extent does this child show age-appropriate functioning, across a variety of settings and situations, on this outcome? (Circle one number)

Not Yet		Emerging		Somewhat		Completely
1	2	3	4	5	6	7

Supporting evidence for answer to Question 2a

Source of information	Date	Summary of Relevant Results

2b. (If Question 2a has been answered previously): Has the child shown any new skills or behaviors related to acquiring and using knowledge and skills since the last outcomes summary? (Circle one number)

Yes	1 → Describe progress:
No	2

3. TAKING APPROPRIATE ACTION TO MEET NEEDS

To answer the questions below, think about the child's functioning in these and closely related areas (as indicated by assessments and based on observations from individuals in close contact with the child):

- Taking care of basic needs (e.g., showing hunger, dressing, feeding, toileting, etc.)
- Contributing to own health and safety (e.g., follows rules, assists with hand washing, avoids inedible objects) (if older than 24 months)
- Getting from place to place (mobility) and using tools (e.g., forks, strings attached to objects)

3a. To what extent does this child show age-appropriate functioning, across a variety of settings and situations, on this outcome? (Circle one number)

Not Yet		Emerging		Somewhat		Completely
1	2	3	4	5	6	7

Supporting evidence for answer to Question 3a

Source of information	Date	Summary of Relevant Results

3b. (If Question 3a has been answered previously): Has the child shown any new skills or behaviors related to taking appropriate action to meet needs since the last outcomes summary? (Circle one number)

Yes	1 → Describe progress:
No	2

Instructions for Completing the Child Outcomes Summary Form

Directions for Completing the Form

1. Page 1: Provide all the requested information. It is strongly recommended that the family be asked to provide information about the child's functioning, but if the family's information was not included, check "not included."
2. Questions 1a, 2a, 3a: Circle only **one** number for each outcome. Definitions for the scale points are provided at the end of the instructions.
3. Supporting evidence: Provide the evidence that supports the rating. Indicate the source of the evidence (e.g., parent, speech therapist, teacher, XYZ assessment) and the nature of the evidence from the source. A sample completed evidence table is provided below.

Source of information	Date	Summary of Relevant Results
Candace's mom	4/12/06	Mom reports that when Candace eats by herself she makes a big mess. She eats finger foods but does not use a fork or spoon. She uses a "sippy" cup with two hands. Mom reports that she has not begun to toilet train Candace. Candace does not let mom know when she has a wet or soiled diaper. She pulls off her socks when getting ready for bed.
Candace's child care provider	4/5/06	Child care provider said that Candace is learning to use a spoon, but usually uses her fingers to feed herself. Candace uses diapers and tugs on diaper after it is wet or soiled.
Carolina Curriculum for Infants and Toddlers with Special Needs	Administered 3/13/06	Self-Help: Eating – 12-15 months Self-Help: Dressing – 15-18 months Self-Help: Grooming – 18-21 months Self-Help: Toileting -- <15-18 months
Developmental specialist	Observed over a 4 week period in March 2006	Observed in her child care environment during structured activities and unstructured play time. She clapped and jumped during a group song. During free play Candace tended to sit quietly unless engaged in a play activity by her caregiver. Candace did not object to having hands washed by caregiver but needed assistance.

4. Questions 1b, 2b, 3b: Circle one number to indicate if the child has made progress since the previous outcomes rating. Progress is defined as the acquisition of at least one new skill or behavior related to the outcome.

To Help You Decide on the Summary Rating for Questions 1a, 2a, and 3a:

This outcomes summary asks you to consider and report on what is known about how this child behaves across a variety of settings and situations. Children are with different people (for example, mother, big brother, babysitter) and in different settings (for example, home, grocery store, playground). The purpose of the summary is to get an overall picture of how the child behaves across the variety of people and settings in his or her life. For each of the three summary questions, you need to decide the **extent to which the child displays behaviors and skills expected for his or her age** related to each outcome area.

The summary scale is based on a developmental framework that assumes:

1. Children develop new skills and behaviors and integrate those skills and behaviors into more complex behaviors as they get older;
2. These skills and behaviors emerge in a somewhat predictable developmental sequence in most children, thus allowing for descriptions of what 2 year olds generally do, what 3 year olds generally do, etc.;
3. Some of the skills and behaviors that develop early serve as the foundation for later skills and behavior, or expressed another way, later skills build on earlier skills in predictable ways. Teachers and therapists can use the earlier skills to help children move to the next higher level of functioning developmentally. We refer to these earlier skills that serve as the base and are conceptually linked to the later skills, as "**foundational skills.**" For example, children play beside one another before they interact in play.
4. Some children's development is characterized by delays, meaning they acquire skills and behaviors at a substantially slower pace than other children.
5. Some children's development is atypical in that their functioning is so different from that of other children their age that it is considered outside the limits of age expected behavior for children of that age.

Use the following information to help you answer each question:

- Ratings are expected to take into account the child's functioning across a full range of situations and settings. Therefore, information from many individuals in contact with the child could be considered in deciding on a rating. These may include (but are not limited to): parents and family members, caregivers or child care providers, therapists, service providers, case managers, teachers, and physicians.
- Many types of information could be considered in selecting a rating. These may include (but are not limited to): parent and clinical observation, curriculum-based assessments, norm-referenced assessments, service provider notes about performance in different situations, and progress and issues identified in the IFSP/IEP or individualized planning process.
- Depending on the assessment tool, assessment tools can be a useful source of information for reaching a summary decision but resulting information should be placed in context with other information available about a child. Many assessment tools are domain-based and were not designed to provide information about functional behaviors and functioning across a variety of situations. Knowing that a child has or has not mastered assessment items that are related to the outcome provides helpful information but the information should be used in conjunction with what else is known about the child. A high score on a set of items in a domain

related to the outcome might not mean the child has achieved the outcome and, conversely, a low score might not mean the child has not achieved it.

- Ratings should reflect the child's current functioning across settings and in situations that make up his/her day. Ratings should convey the child's functioning across multiple settings and in everyday situations, *not* his/her capacity to function under ideal circumstances.
- A standardized testing situation is an unusual setting for a young child. If the child's functioning in a testing situation differs from the child's everyday functioning, the rating should reflect the child's everyday functioning.
- If assistive technology or special accommodations are available in the child's everyday environments, then the rating should describe the child's functioning using those adaptations. However, if technology is only available in some environments or is not available for the child, rate the child's functioning with whatever assistance is commonly present. Ratings are to reflect the child's **actual** functioning across a range of settings, *not* his/her capacity to function under ideal circumstances if he or she had the technology.

Additional Information

The outcomes reflect several beliefs about young children:

- It is important that all children be successful participants in a variety of settings both now and in the future. Achieving the outcomes is key to being successful participants.
- Programs for young children and their families are working to ensure that all children will have the best possible chance of succeeding in kindergarten and later in school – even though school might be several years off for some children. Children who have achieved the outcomes prior to kindergarten entry have a high probability of being successful in kindergarten.
- Learning and development occur continuously in the years preceding kindergarten. There is much variation in how children develop but children whose development is consistently below what is expected for their age are at risk of not being successful in kindergarten and later school years.
- For many children, the summary questions will be answered more than once. The hope is that, with time, many children will show good progress and achieve a higher rating. The goal of high quality early childhood services is to help children develop and learn to the best of their abilities. For many children, good services will help them get a higher rating in the future.

Note: The outcomes summary form was not designed to determine eligibility for services. It would be inappropriate to use it in this way.

Definitions for Outcome Ratings

Overall Age Appropriate	Completely <i>means:</i>	7	Child shows functioning expected for his or her age in all or almost all everyday situations that are part of the child's life. Functioning is considered appropriate for his or her age. No one has any concerns about the child's functioning in this outcome area.
		6	Between Completely and Somewhat. Child's functioning generally is considered appropriate for his or her age but there are some concerns about the child's functioning in this outcome area.
Overall Not Age Appropriate	Somewhat <i>means:</i>	5	Child shows functioning expected for his or her age some of the time and/or in some situations . Child's functioning is a mix of age appropriate and not appropriate functioning. Functioning might be described as like that of a slightly younger child .
		4	Between Somewhat and Emerging
	Emerging <i>means:</i>	3	Child does not yet show functioning expected of a child of his or her age in any situation. Child's behaviors and skills include immediate foundational skills upon which to build age appropriate functioning. Functioning might be described as like that of a younger child .
		2	Between Emerging and Not Yet
	Not yet <i>means:</i>	1	Child does not yet show functioning expected of a child his or her age in any situation. Child's skills and behaviors also do not yet include any immediate foundational skills upon which to build age appropriate functioning. Child's functioning might be described as like that of a much younger child .

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