Biobehavioral states are defined as a series of behavioral and physiological conditions that range from sleeping to awake and crying. Wolff (1959) is credited with first categorizing states as specific, observational indices. Research over the past 7 years indicates that biobehavioral state has a significant influence on the levels of alertness and responsiveness of individuals with profound disabilities and therefore, on their learning, development, and overall quality of life.

A typical nervous system exhibits a range of levels of arousal. In all of us there is a structure in the brainstem that controls levels of arousal. If our nervous systems are in the normal range, we spend our day shifting across the states in a typical manner. We sleep at night, are alert during the day, agitated when paying bills, etc. We are able to consciously control some of these states (for example: stop driving when sleepy, listen to music to go to sleep, etc.)

Listed below are two different ways to classify biobehavioral states, with descriptions of the states. Both show the range from sleep through awake and include agitation.

<table>
<thead>
<tr>
<th>Biobehavioral State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quiet Sleep</strong></td>
<td>Generally unresponsive, smooth, regular respirations, occasional startles, lack of body activity, lack of facial or eye movements</td>
</tr>
<tr>
<td><strong>Active Sleep (REM)</strong></td>
<td>More body activity, irregular respiration, movements of eyes and face, more responsive.</td>
</tr>
<tr>
<td><strong>Drowsy</strong></td>
<td>Variable activity, irregular respiration, delayed responsiveness, eyes glazed with heavy lidded look.</td>
</tr>
<tr>
<td><strong>Quiet Alert</strong></td>
<td>Minimal body activity, regular respiration, bright, shiny look to face, most attentive to stimuli.</td>
</tr>
<tr>
<td><strong>Active Alert</strong></td>
<td>Much body activity, irregular respirations, facial movements, fussiness, sensitive to stimuli</td>
</tr>
<tr>
<td><strong>Crying</strong></td>
<td>Irregular respirations, facial grimace, cries, color changes, variable sensitivity to stimuli.</td>
</tr>
</tbody>
</table>

Sleep States:
- **Asleep-Inactive** – eyes closed, little or no motor activity
- **Asleep-Active** – sporadic movements, facial expressions

Indeterminate States:
- **Drowsy** – eyelids appear heavy, delayed responses
- **Daze** – non-orientation to visual, auditory, or tactile stimuli predominates

Preferred Awake States:
- **Awake Inactive-Alert** – active visual or auditory orientation, brief movements,
- **Awake Active-Alert** – attempts to engage, eyes bright, body movements

Other Awake States:
- **Awake-Active/Stereotypy** – self-stimulatory behaviors, rhythmic movements
- **Crying/Agitated** – intense vocalizing, increased tension in body tone
For all of us the only time we can learn new information is when we are able to achieve and maintain an alert state. This is why it is difficult to remember anything after something traumatic throws you into an extremely agitated state. Have you ever become drowsy in a warm room after lunch? How attentive were you? The ability to attain and maintain an alert state is essential for understanding and learning.

Children with profound disabilities may not exhibit the typical range of states. They may be drowsy much of the time or chronically anxious (We don't want to set them off). They may only have brief cycles of alertness. They often can't maintain the alert state.

Overstimulation often causes shutdown. Take time when you are trying to get children to go from one state to another. Use variety to awaken and repetition to soothe.

The following article explains more about biobehavioral states:

**Assessment of Individuals who are Deafblind and Have Multiple Disabilities**
This is a form by Cathy Nelson and Dr. van Dijk (two of the leading experts in the field of Deafblindness). Use it as an assessment form and write down answers while you are observing the child.
Assessment of Individuals who are Deafblind and Have Multiple Disabilities

Biobehavioral State
What is the individual's current state?
Is the individual able to control or modulate his/her state? How much time does the individual spend in an alert state?
What range of states does the individual show and what is the transition pattern between states?
What variables affect the individual's state?

Orienting Reflex
What factors elicit an orienting reflex?
How does the individual exhibit an orienting reflex?
What sensory channels appear to be associated with orienting reflex (sensory information that triggers the reflex, and the senses the individual uses )?

Learning Channels
How does the individual appear to take in information? How does the individual react to sound?
How does the individual react to vision? How does the individual react to touch?
Does the individual use more than one sense at a time?
Does the individual exhibit engagement or disengagement cues in response to particular sensory information?

Appetite-Aversion
What are the individual's engagement cues?
What are the individual's disengagement cues?
What appears to motivate the individual?
What does the individual seem to turn away from?

Memory
Does the individual habituate to familiar stimuli?
How long or how many presentations of stimuli are necessary before there is habituation?
Does the individual attend again if the features of the stimulus change?
Does the individual react differently to familiar and unfamiliar people?
Does the individual appear to have object permanence (understands that something still exists even if it is not currently visible)?
Does the individual associate a preceding event with one that follows?
Does the individual appear to anticipate an upcoming event?
Does the individual react when there is a mismatch to expectations?
Does the individual demonstrate functional use of objects?
Is the individual able to learn a simple routine?
Is the routine learned remembered?

**Interactions**
Does the individual engage in turn-taking when he/she begins the interaction?
How many turns are taken before disengagement?
In response to partner's interaction, does the individual add more to turn-taking interaction?

**Problem Solving**
Does the individual demonstrate cause and effect?
How does the individual approach a problem?
Does the individual maintain attention and persist?

C. Nelson and J. van Dijk, 1998