Ecological Inventories

To begin with, I’m sharing with you several paragraphs from a chapter I wrote on assessment. It provides a brief overview. I’ve also included Figure 2 as a separate document. Please print off Figure 2 and I will then “talk” you through it as a means of reviewing ecological inventories and hopefully, clarifying your assignment. You might also want to look at the example on page 50 in the Browder book.

Ecological inventories. The purpose of an ecological or environmental inventory is to gather highly individualized information about specific demands in a learner's natural environment related to all aspects of that person's life, that is, the need to live a quality lifestyle as independently as possible and to work and recreate within the community. Brown and his colleagues (1979) conceptualized this as "domains of adult functioning" (e.g., community, domestic, leisure, and vocational). Brown and Snell (1993a) suggested adding a "school" domain to address specific skills needed in school (e.g., riding a school bus) and the needs of young learners. Related skills such as communication, motor, social, and functional academics are then embedded within the natural context of a domain. Redundancy across domains leads to prioritization. First, all current and future environments are identified. Then each environment is divided into subenvironments. Next, the teacher lists the activities that can happen in each subenvironment. Finally, skills needed to accomplish those activities are noted. Figure 2 provides an example of this strategy or format.

Underlying this premise is the philosophy that persons with disabilities have the right to and should access the same environments available to persons without disabilities. The difference between what a nondisabled peer can do within a specific environment (e.g., bowling alley) and what the person with a disability can currently do becomes a discrepancy analysis. While specific formats or strategies for conducting an ecological inventory can be identified and replicated, questions are often open-ended and likely answers are frequently not predetermined. The teacher must interview and observe the person with a disability and nondisabled peers, access samples of the learner's work (i.e., portfolio), or set up analog situations. Results may differ based on age, disability, level of disability, communities in which the person lives, works, and plays, and/or assessment bias. A major advantage is that the community reference increases the probability of obtaining social validity (Kazdin, 1977; Wolf, 1978). That is, members of the learner's community will approve of (a) the selection of goals, (b) the methods for teaching those goals, and (c) the instructional outcome.

(Macfarlane, 1998, p.42)

In the example given of Ben Jones, age 12, the domain is leisure. The first thing we did look at the current environments Ben uses to engage in leisure activities. Four environments were identified for purposes of this example. Ben participates in leisure activities in the school gymnasium, little league ballpark, his bedroom, and the backyard of his family home.
The next step is to identify future environments where Ben will engage in leisure activities as an adult. Since he will no longer have access to the school gymnasium, his interest in sports and other forms of physical activity will probably occur at a community wellness center. Rather than watch little league, although he could, particularly if a younger family member such as a nephew played little league, Ben would be more apt to watch college sports the local university stadium. The only difference in the bedroom environment would be a change of residence. Ben plans to move to a group home located in the same town as his current family home. Remembering that activities should be age appropriate, Ben’s family anticipate that a glider on the deck would allow him to maintain his favorite past time of swinging.

The future environments appear to closely match the current environments. This is good in that the educational goals and objectives selected for Ben should prepare him for a satisfying adult life.

Now it is time to divide each of the current and future environments into subenvironments. Dividing the environment into subenvironments makes systematic evaluation more manageable -- similar to creating steps in a task analysis. One strategy for partitioning the environment is to think about unique spaces or enclaves. As an analogy, you could compare the environment to a meal. The subenvironments would be the different courses or components (e.g., meat, vegetable, dessert).

In the school gymnasium, three subenvironments exist: the locker room, the bleachers and the gym floor. Since ecological inventories are teacher-made, you have lots of discretion how you divide up the environment. Student needs, disability, or age might guide you to identify more subenvironments or less subenvironments. However, you need to be somewhat careful here. If you identify too many subenvironments, you’ll only have one activity that can take place in a particular subenvironment. For example, if I had listed the restroom, shower area, and locker area as subenvironments that would probably be too narrow. By just naming the locker room, I create “space” for several activities. Likewise, you want to be careful not to identify too few subenvironments. That would be limiting. However, you’ll note that at the little league ballpark, only one subenvironment, bleachers, is identified. Ben’s disability severely restricts his ability to play baseball so the field and dugout are not applicable subenvironments. This would be a personal call depending on the student and the community. In another community the little league ballpark might have a snack bar which Ben could access and would then create another subenvironment. The same would be true if Ben’s bedroom contained a television, which it does not. In this family, children play with toys in the family room. In another family, the bedroom might also be used for playing. If so, the floor would then be identified as a subenvironment.

As you can see, there are no hard and fast rules when developing an ecological inventory. Instead, it is a process that involves much thought on the designer’s part. Again, we’re using Goldilocks as a role model. Not too big, not too small, we want it just right!

Once the subenvironments have been identified, it’s time to determine the activities that would take place in each subenvironment. In some instances there will only be one possible activity. In other cases, a myriad of activities could take place. Please be careful not to confuse activities with skills. Again, activities would be fairly broadly defined. I like to think of
activities as correlating closely to annual goals which would appear on the child’s IEP. As the IEP team prioritizes the results of the ecological inventory during an annual assessment, highlighted or important activities would become the basis for annual goals. Skills, on the other hand, would more closely correlate with short-term objectives. Again, you need to guard against being too detailed. Eventually, targeted skills would become the basis for instruction. At that time an initial assessment would be developed and each skill would be task analyzed or identified as a discreet response. This is when you get detailed!

Back to activities. When Ben visits the little league ballpark and sits in the bleachers, main activity would be that of a spectator. If he were a different child, he might use the bleachers for physical fitness (e.g., running up and down the stair), but that is not the case for Ben. The school gymnasium offers opportunities for multiple activities in either of the 3 subenvironments. In the locker room Ben would be required to change clothes, use a locker, and shower. Ben’s PE teacher requires all students to sit in the bleachers for roll call. Ben’s class is small and the teacher is committed to involving the students during the entire period, so sitting in the bleachers as a spectator would not be a bona fide activity. During the second nine-week period Ben is scheduled to take PE, the teacher has planned to cover two units: one on basketball and one on line dancing.

Ben’s PE teacher is very good at adapting PE for students with disabilities. However, special education teacher will need to work collaboratively with the PE teacher to provide the kind of one-on-one assistance Ben needs in order to be successful. At this point then, specific skills need to be identified for each activity. In order to change clothes, Ben will need to undr from his school clothes and later his gym clothes, dress in his gym clothes and back into his school clothes when PE is finished, and tie his shoes.

When it comes time for instruction, the special education teacher would create a task analysis for shoe tying (e.g., grab laces, cross laces, pull loops tight, etc.). That’s when instruction would actually take place so that Ben’s annual goal of participating in PE class with his nondisabled peers could be reached. Of course the annual goal would also contain several short term objectives addressing dressing, using a locker, and showering.

Do you see how the ecological inventory eventually links with instruction? The ecological inventory also serves as a useful tool to compare Ben’s abilities with what nondisabled peers do, help the team prioritize Ben’s goals for the coming year, and facilitate communication between school and home.

For your assignment, I want you to do a mini version and just focus on the domestic domain. I’ll leave you with one last quick example (which I should then not see on your assignment when you turn it in). Let’s go to the kitchen as an environment. One subenvironment could be the refrigerator. Activities that take place in and around the refrigerator include: a) cleaning the refrigerator, b) loading the refrigerator with groceries, and c) defrosting the refrigerator. The skills needed to clean the refrigerator include: a) identifying and throwing out moldy food, b) wiping up spills, and c) replacing the box of baking soda. To demonstrate difference, I’ll take this one step farther (which you DO NOT have to do). I could create a task analysis for replacing the box of baking soda. It would probably go something like this –
1. Locate the old box of baking soda in the refrigerator.
2. Remove the old box of baking soda from the refrigerator.
3. Close the refrigerator door.
4. Take the old box of baking soda to the sink.
5. Shake the contents of the old box of backing soda into the sink as close to the drain possible.
6. Throw the empty box in the garbage.
7. Turn on the cold water.
8. Turn on the garbage disposal.
9. Rinse the baking soda down the drain.
10. Turn off the garbage disposal.
11. Turn off the cold water.
12. Retrieve the new box of baking soda.
13. Open the box.
14. Walk to the refrigerator.
15. Open the refrigerator door.
16. Place the new box of baking soda in the refrigerator.
17. Close the refrigerator door.

The task analysis is really a nonexample. This is too much for skills.

I hope this helps. I’d appreciate your feedback.

Chris