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Building Skills for Home and Community

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Teaching skills for home and community are just as important in today's curriculum as they were in the late 1970s when Lou Brown (Brown, Branston, Hamre-Nietupski, Pumpian, Certo, & Gruenewald, 1979) first brought to our attention the importance of teaching age-appropriate functional skills for current and future environments. Home and community instruction affords students with severe disabilities the skills needed to participate in daily family life and day-to-day routines; to be involved in their communities; and, eventually, to acquire autonomy and self-direction for full-fledged adulthood. However, approaches to home and community instruction have undergone important transformations as curriculum for learners with severe disabilities has evolved. In the 1980s, with a large body of research emerging on how to teach functional "life skills," teachers focused almost exclusively on teaching skills for home and community settings at the expense of academic instruction. Additionally, because of the emphasis on community-based instruction, students often spent large portions of their day away from the school building, typical peers, and age-appropriate activities. In the 1990s, with the advent of inclusion and the 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA), instructional focus shifted from functional skills to promoting access to the general education curriculum in general education classrooms. Beginning in the early 2000s, the focus on the general education curriculum

was further strengthened by the reauthorization of IDEA 2004 and No Child Left Behind (2002), which emphasized the same academic content or curriculum standards for all learners. Moving to the present, standards-based education is further emphasized as states adopt the Common Core Standards introduced around 2010.

Although the inclusive school- and standards-based reform movements were not intended to downplay the importance of teaching functional skills, considerable tension exists on how to best blend standards-based instruction with a functional one (e.g., Ayers, Lowrey, Douglas, & Sievers, 2012; Courtade, Spooner, Browder, & Jimenez, 2012). Without clear guidelines, teachers may unintentionally replace one curriculum focus with the other sacrificing critical academic or functional skills needed for a successful life.

In our view, teachers do not have to choose between an academic and a functional curriculum for students with severe disabilities. Students can have the benefit of both curriculum approaches through careful planning of when, where, and how the curriculum is introduced and implemented. The ultimate goal is to create *personally meaningful curriculum,* one that blends relevant content standards and functional goals with decisions about "what to teach when and where" driven by family and individual preferences, values, and vision for desirable outcomes. From this perspective, no one-curriculum emphasis will be the same for all students. Consider the cases of Julia, age 14; Mateo, age 9; and Aaron, age 19, below. The approach to blending functional skills instruction with access to the general education curriculum will be uniquely different for each individual.

Julia Romano

Julia, a petite 14-year-old with intellectual disabilities, is an active, happy 8th grader, who speaks in full sentences and has no physical limitations. Since Julia's earliest school days, her parents have insisted that she be included in general education classrooms and have full opportunity to participate in school activities of her choice. Although Julia's schedule was difficult to design, she now attends an array of academic and non-academic classes with her schoolmates. Julia is also a member of the middle school chorus and an after-school art club and loves to attend school games and dances with her friends.

In March, Julia's parents received an invitation to attend a transition-planning meeting with the school's transition coordinator. This invitation took Julia's parents by surprise. Like many parents, they were focused more on Julia's current needs as a teenager than on her adult life. Julia had not thought much about her life as an adult either, but as they began to talk, Julia and her parents expressed their dream for Julia to live in her own home someday, work in a job that she enjoys, and be active in her community as she is at school.

Although the Romanos believed that it would be beneficial for Julia to begin learning the daily living and community skills needed for postschool life, they worried that this instruction would take Julia away from what she loved most—her school classes, activities, and classmates. Julia's parents had worked hard to have Julia fully included in middle school and wanted the same experience for Julia in high school. They were not willing to sacrifice Julia's current interests to participate in inclusive school activities with instruction for her future needs. They feared that during the transition-planning meeting, they would have to make a choice between inclusion and community instruction.

Questions for Planning and Instruction

1. How can Julia's instructional needs in home and community settings be addressed without detracting from typical school experiences?
2. What skills should be considered that could best address her current and future needs?

Mateo Barco

Mateo Barco, a 9-year-old diagnosed with autism, attends an inclusive third grade classroom. He also receives behavioral health services through a community provider specializing in autism because of behavioral challenges and daily living needs at home. Mr. and Mrs. Barco are pleased with Mateo's class placement, but have become increasingly concerned about Mateo's challenging behaviors at home and his lack of participation in household and family activities.

They asked for a team meeting, consisting of Mateo's teachers, school support staff, and community behavior specialist to address their concerns.

Functional assessment results revealed that Mateo's challenging behaviors, consisting of screaming and face slapping, were often associated with transitions or changes in routines or activities. To avoid Mateo's tantrums, Mrs. Barco conceded that she made few demands of him. With the family's hectic schedule, it was often easier to complete Mateo's chores for him. Because he lacked personal safety skills, Mrs. Barco also feared taking Mateo into the community. She said that one day, while grocery shopping, she turned her back for a minute, only to find Mateo walking aimlessly in a busy parking lot. With the growing concerns about Mateo's safety and behavior, he spends most of his time at home doing little else but watching TV.

Although Mateo is experiencing success at school, the team noted that his ability to transition and engage in classroom activities was largely due to the support of a paraeducator. Mrs. Barco said that she worried about Mateo's dependence on the paraeducator and wondered if other children hesitated to play with Mateo because he always had an adult nearby. He often sat alone on the playground, while other children played kickball and other games.

Questions for Planning and Instruction

1. How can Mateo's independence and participation in family routines and school activities be increased while lessening instances of challenging behaviors?
2. How can Mateo's community access be encouraged? What supports will be needed with regard to his behavior and personal safety?
3. How can Mateo's teachers and home support work together to meet his needs at home and school?

Aaron Williams

Aaron, a young man with intellectual and physical disabilities, uses a walker to steady his gait, and communicates with gestures and the assistance of voice-output communication device. At age 19, Aaron is nearing his last years of public school services. Aaron has completed several years of person-centered planning with his transition team, and his goals are clear. He wants to live in his own apartment with a roommate who shares his interests in music and sports. He also wants a job that pays well, but that gives him flexible or part-time hours because he tires easily. Because of his love of school and his desire to improve his career options, Aaron enrolled in his school district's postsecondary education transition program housed on a university campus. Aaron wants to continue taking courses related to his personal (e.g., creative arts, music) and career interests (computers) while exploring job opportunities and learning critical skills that will help him be on his own. Partially resulting from his physical challenges, Aaron has not had many experiences doing things for himself or being on his own in community settings.

Aaron's eventual transition into a job and a home of his own will require the coordinated efforts of his planning team, which includes his parents, his school district's transition coordinator, a supports coordinator from developmental disability services, his teacher, and representatives from adult supported employment and supported living providers. The team has begun to brainstorm ways to help Aaron meet his goals. For example, the supports coordinator will help Aaron and his family explore affordable housing options and connect with supported employment providers, while his teacher and transition coordinator will coordinate instruction and work experience opportunities on the college campus.

Questions for Planning and Instruction

1. What skills does Aaron need and want that help him achieve his post-secondary goals and enhance control over the direction of his life?
2. How can instructional support be coordinated across the multiple services (e.g., postsecondary education, supports coordination, home and community supports) that Aaron needs and wants?

GUIDELINES FOR PLANNING INSTRUCTION TO ENHANCE SKILLS FOR THE HOME AND COMMUNITY

First, decisions on what and where to teach must be made in partnership with students and their families, honoring their values, preferences, and vision for the future. Second, instruction needs to be planned to encourage the student's self-determination

by teaching choice-making, honoring preferences, and encouraging self-directed learning. Third, decisions about where and how to teach should be carefully balanced with student's general education experiences while using effective strategies to promote skill use and generalization across different community settings. Fourth, as home and community skills gain importance as students become older, instruction should be coordinated with transition planning.

Guideline One: Use Person-Centered Planning Strategies to Create a Vision

To create a personally meaningful curriculum, the focus and methods of instruction must be driven by the student's and family's preferences, priorities, and future goals. The term *person-centered planning* refers to a collection of approaches that fosters collaborative vision-making and service planning among key individuals in a student's life including the student, his or her family, teachers, specialists, and, as needed, support personnel from non-school services. Through problem solving and discussions among team members, person-centered planning aims to (a) describe a desirable future or vision for the student, (b) delineate the activities, services, and supports necessary to achieve the desired vision, and (c) mobilize existing resources to make the vision a reality (Michaels & Ferrara, 2006). The process of person-centered planning makes it possible to align instructional goals with the students' and families' priorities and vision for a desirable future.

Multiple person-centered planning approaches have emerged over the years, including Personal Futures Planning (Mount, 2000); Lifestyle Planning (O'Brien, 1987); Making Action Plans, or MAPS (Forest & Pearpoint, 1992; O'Brien & Pearpoint, 2003); and Planning Alternative Tomorrows with Hope, or PATH (O'Brien & Pearpoint, 2003). Although each differs somewhat in format and focus, they all guide teams to consider at least five essential questions:

1. What is the student's history and current life situation?
2. What are the strengths and gifts of the student?
3. What is the vision or dream for the student?
4. What are the team's fears, obstacles, or challenges in building a better life for the student?
5. What are the priorities and goals for the future, and what will it take to make the vision happen?

Because of their comprehensiveness, structured person-centered planning approaches are useful when it is important to set new directions for transitional milestones, such as transitioning into elementary school, middle school, high school, and to postschool life. As students grow older, families' and individual students' priorities, and therefore instructional emphases will shift over time. Consider how person-centered planning for Julia helped shape goals for home and community instruction as she transitions from middle to high school and begins to plan for postschool life.

> *Mr. and Mrs. Romano were concerned about the transition planning process for their daughter, Julia. They feared that planning would result in a heavy employment- and community-based instructional emphasis that would take her away from the school activities that she loved. Julia's parents were relieved that the transition coordinator selected MAPS to help them clarify what was important to Julia now while also beginning to think about her future as an adult. The MAPS process let them set priorities for the next three years. They decided that Julia will continue in general education classes, but her curriculum will be modified to reflect a stronger focus on home and community instruction. Instructional targets will include skills that will be useful now and in the future and that can be taught within general education activities. Julia, her mother, and Julia's teacher decided to meet periodically throughout the school year to target critical skills that Julia can learn at home (e.g., scheduling and self-initiating home chores). Julia will work with the community training specialist for one period, four days per week. Through the use of classroom simulations and at actual community sites (e.g., the*

mall or music store), the community training specialist will teach Julia skills that are appropriate for an active teen (e.g., how to use a cell phone, make purchases at fast-food restaurants, use the computer for social networking, shop for clothing) and, very importantly, how to keep safe in the community. Julia's family will explore options for adult home living, community, and employment supports. The transition coordinator will help Julia and her family connect with adult services for this initial planning.

Guideline Two: Coordinate Instruction with Families

Planning with families does not always require a structured person-centered planning approach. Sometimes, teams need to come together to problem solve with families on immediate concerns. Although instruction is the primary responsibility of teachers, some parents may want to teach their children certain home and community skills or reinforce at home what has been learned in school. Furthermore, some families have access to therapeutic support staff through community-based behavioral health services that can assist with home and community instruction. In situations such as these, teachers and other support staff can collaborate with families to help them plan and implement home or community instruction. Specifically, teachers can help families target the critical skills that are most relevant to the family's needs, develop instructional strategies for families to use, teach parallel skills at school that can transfer to home, and provide information that will help parents teach at home. Inviting families to observe instruction at school is one way for teachers to share information on how to teach. With advances in technology, teachers may make use of teacher-made or commercially produced videos and web-based instructional programs to help parents learn instructional strategies (Steiner, Koegel, Koegel, & Ence, 2012). Additionally, many of the self-operated prompting systems and mobile and computer technologies for video modeling and prompting (described later in this chapter) provide yet another means for helping families support student learning on critical skills at home.

Mrs. Barco, Mateo's teachers, behavior specialist, and the therapeutic support staff (TSS) from the behavioral health service met to discuss how to coordinate their support for Mateo and his family. The teacher agreed to design instructional strategies to meet priority objectives, teach relevant skills in school, and plan with the TSS so that the parents could learn how to teach these skills at home. Selected targeted skills were to teach Mateo to (a) follow a picture schedule to enhance the predictability of activities at home and increase independence at school; (b) complete daily routines at home; (c) learn community travel skills (e.g., following his parents or classmates when traveling independently around the school or out in the community); and (d) master the basics of organized ball games, such as kickball and soccer. Mateo's teacher collaborated with Mrs. Barco to develop the same picture schedule system that could be used at home and school. Further, she sent home a video recording on how to prompt Mateo to use his schedule at home.

Guideline Three: Encourage Self-Determination Through Choice-Making, Self-Cuing, and Self-Management Skills

When instructional goals are matched to a student's preferences and vision for the future, self-determination is enhanced. Self-determination is also enhanced when students learn to exert control and self-direct their own learning. Here we discuss three approaches to infuse self-directed learning into instruction for home and community settings: (a) choice, (b) self-cuing, and (c) self-management.

Choice

Choice, or the act of selecting among presented options, is both an expression of preference (students typically choose what they like) and control (students enjoy being in command). Not surprisingly, research has repeatedly shown that when choice options are incorporated in instruction, student participation and learning are

enhanced (Tullis et al., 2011). In a study by Cooper and Browder (1998) individuals with severe disabilities acquired community purchasing skills faster than with just least-to-most prompting when choice options (e.g., choice of store entry, food to eat, places to sit) were built into the purchasing routine. Similarly, Taber-Doughty (2005) found that high school students with moderate intellectual disabilities performed better on community skills when given a choice of prompting systems to learn from. Choice can also reduce the probability of problem behaviors, especially when student protests during instruction are related to few or no opportunities for student control (e.g., Bambara, Koger, Katzer, & Davenport, 1995; Carlson, Luiselli, Slyman, & Markowski, 2008).

The choice diversity model (Brown, Belz, Corsi, & Wenig, 1993) provides an approach for embedding choice options into home and community instruction. In this approach, teachers first analyze steps or component parts of a routine or task and then identify choice options that can be made available at various steps. Teachers may consider providing between-activity choices to initiate an activity (e.g., in a home economics class, a teacher might ask, "Would you like to help prepare a shopping list or make a cake with this group for tomorrow's dessert?"), followed by any number of within-activity or within-task choices, such as choice of materials, sequence of steps or activities to complete, or choice of location to carry out the activity, all embedded within the steps of the task analysis.

In a kitchen cleanup routine at home, Mateo is offered the choice of clearing the table or stacking the dishes in the dishwasher. Then, once an activity is selected, Mateo's mom gives additional options within the activity: She offers him a (a) choice of materials (e.g., sponges, dish soap), (b) choice of sequence (e.g., cups or plates first), (c) choice of when to complete the activity (e.g., now or later), and (d) choice of partners (e.g., with or without Mom working along with him.)

Two additional options, the choice to not participate and the choice to terminate an activity, are opportunities that must always be considered during instruction (Brown, Belz, Corsi, & Wenig, 1993). If a student frequently refuses to participate, instructors should consider how to make the activity more enjoyable for the student in order to motivate learning, or if the activity is not a priority, perhaps it can be replaced with another activity that might be more preferable. This is also the time that the student can be taught how to terminate an activity in an appropriate way—that is, by using a break card, for example, instead of engaging in a problem behavior. Consideration should also be given to how options are presented to match learner's comprehension and indication skills (Bambara & Koger, 1996). With regard to comprehension, some learners benefit when options are presented with actual objects, and some respond better to pictures than to words. In addition, consideration should be given to the wording of choice prompts. Closed questions (e.g., "Would you like to use the green or pink dish detergent?") are useful when the student is unfamiliar with his or her options, and open-ended questions (e.g., "Which detergent do you want to use?") once the student is familiar with options. With regard to indication skills, students may express their choice by labeling, pointing, grimacing, or moving closer toward a preferred object. To enhance self-initiated choice making, instructors are encouraged to respond to students' spontaneous choices whenever practical (e.g., "That's a great idea, do that first.").

Self-Cuing

Self-determined individuals self-initiate and self-direct, yet many learners with severe disabilities can become overly dependent on instructor prompts or cues and fail to learn how to initiate activities, complete tasks independently, and apply what they have learned to novel tasks. Self-direction can be enhanced and reliance on instructor prompts lessened by teaching learners to respond to natural environmental cues and to use self-operated prompting systems and other self-management strategies to guide their learning and support independence.

Natural Cues and Adapted Cues. Ford and Mirenda (1984) describe ways to highlight natural cues during instruction by pointing out the salient features of the natural cue. For example, rather than saying, "Let's wash the dishes (instructional prompt), a teacher may point to the sink of dirty dishes (natural cue) and use a non-specific prompt (e.g., "What do you think we should do?"). Sometimes, natural cues are not salient enough and need to be enhanced through adaptations, such as by (a) color-coding temperature controls on stove or oven dials; (b) using templates to highlight relevant controls on appliances and electronic devices; (c) using placement as a cue, such as hanging matching outfits together; (d) amplifying natural auditory cues, such as traffic sounds for pedestrian training; and (e) using unrelated, naturally occurring events to signal the onset of an activity (e.g., begin dinner when the television news starts or ends).

When students make errors and the error does not pose a danger, teachers can encourage students to learn from their mistakes (natural cue) by pausing and allowing the student to self-correct, rather than immediately prompting a correct response. This requires that teachers modify their teaching approach so that correction prompts are withheld for a longer latency after an error or replaced with gestures or questions that emphasize error cues.

> *If at the beginning of the cooking task analysis, Julia forgets to gather all of the materials needed to bake a cake, the teacher may wait to point out Julia's error until Julia needs the missing spatula to stir the batter. Here, the teacher may let Julia discover for herself that the spatula is missing, and if Julia does not self-correct, she might say, "Are you missing something?"*

Such an approach probably works best once student is somewhat familiar with the task, and not when the student is first learning a task analysis.

Self-Operated Prompting Systems. Many skills for home and community participation are complex. As such, students with severe disabilities often have difficulty initiating activities or remembering what comes next in a routine or a multistep task even after they have been taught to respond to natural or adapted cues. In such cases, students may be taught to use a self-operated prompting system to support their independence and guide their learning. In fact, in today's technological world, we all have become increasingly reliant on using self-cuing devices to help us complete daily tasks. Defined, *self-operated prompting systems* consist of extra stimuli or cues, such as pictures, text, visual/audio signals (e.g., beeps), and audio and/or video recordings that students operate to prompt their initiation of activities and completion of steps in chained tasks or routines. Once learned, self-operated prompting systems serve as memory aids, similar to way the recipes, appointment calendars, and to-do lists are used. With today's technological advances, teachers can now choose from an array of self-operating prompting system options, ranging from low-tech paper systems to high-tech mobile technologies (see Ayers, Mechling, & Sansosti, 2013 for a review) (see Table 14–1). Regardless of the option, the basic prompting system is the same. For chained tasks or routines involving multiple steps or activities, a cue (e.g., picture, video segment) is used to represent each step of activity of a task analysis. Eventually replacing the need for instructor prompts, the student is taught to refer to the first cue, do what it says, and then return back to the second cue, do what it says, and so on until the task or routine is completed. To initiate activities, students are taught to refer to a cue at a specific time (e.g., after dinner), at the completion of an activity (e.g., after a school assignment is completed), or when signaled (e.g., beep on an electronic device) to begin the next task. For a system to be "self-operating," students are also taught how to navigate through the system such as turning the page in a picture calendar, or using a touchscreen to activate a video prompt.

Low-tech options use pictures, audio or video recordings, and text cues to prompt learners without the aid of software or computer-based operating systems. Low-tech

TABLE 14–1
Low- to High-Tech Self-Operated Prompting Systems

Type	Examples
Low Tech (paper-based systems)	Photos, drawings, objects, and/or text sequenced in an activity schedule or as task steps. Display: • static or talking photo albums • laminated charts with movable Velcro picture icons • text or picture checklists • monthly or daily (picture) calendars
Medium Tech (electronic systems)	Audio cues (signals, recorded verbal directions) or video segments for task sequences or activity initiations. Display: • audio players • portable DVD player • vibrating wristwatch
High Tech (computer/software systems)	Pictures, audio cues, video, and/or text organized by software for task sequences and activity scheduling. Display: • smart phones • personal digital assistant (PDA) • MP3 or podcast players (e.g., iPod Touch) • computer tablets (e.g., iPad)

systems are relatively easy for teachers to make and students to use (i.e., they do not require computer navigation skills), are highly versatile, and are inexpensive allowing the greatest access for students (many students cannot afford computer tablets and smart phones). Additionally, they are highly effective tools. Frequently employed picture-based systems provide an excellent fit for non-readers and visual learners. Typically, pictures or drawings that represent an activity or a step in a routine or task are placed sequentially in a photo book or on a chart where students are taught to "look and do" often by turning the page or marking a completed step to signal the next step or activity.

> *Pictures of Mateo's after-school home routine (e.g., put backpack away, make a snack, do homework, watch TV or play a videogame, set the table for dinner) are placed on a laminated wall chart in the kitchen. Mateo is guided to look at the chart, initiate the first activity, and return to the chart once it was completed, mark it off as done, and then initiate the next activity.*

Picture-based systems have been shown to be highly effective for teaching students to independently complete an array of multistep home and community tasks such as cooking, making a snack, doing laundry, setting the table, using a computer, and shopping (Mechling, 2007). When used in the form of activity schedules, picture-based systems are also effective strategies for helping students initiate home activities, transition from activity to activity in school, and manage daily or weekly schedules for leisure activities, work, housekeeping, or grooming (Koyama & Wang, 2011).

Word checklists and self-operated audio and video prompting systems are other low-tech options to try. With word checklists, teachers simply replace pictures with known sight words to indicate activities in a routine that need to be completed. With audio systems, students operate (e.g., turn on, play, pause) a portable audio device such as a handheld audio recorder to listen and respond to step-by-step verbal directions for completing a task. Like pictures, word checklists and audio prompts have enhanced learners' generalization of learned tasks to different settings (Minarovic & Bambara, 2007; Post & Storey, 2002). Additionally, teacher-made videos that demonstrate the steps recorded from either the student's perspective (e.g., student sees hands completing steps) or a spectator's view (student sees a model performing steps) can be shown via portable DVD players. For example, Mechling and Stephens (2009) taught students three cooking tasks by having them (a) watch a video segment on a

DVD player, (b) press "pause," (c) perform the step, and (d) press "play" to resume the sequence. A key advantage to using video segments as opposed to static pictures for prompts is that the student sees the step in action, often along with audio voice-over for additional support. When compared to static pictures, video prompting may result in more efficient learning for some learners because of their enhanced graphic and sound capabilities (e.g., Van Laarhoven, Kraus, Karpman, Nizzi, & Valentino, 2010).

New emerging high-tech forms of self-operated prompting systems make use of various computer- and software-based mobile technologies such as personal digital assistants (PDAs), computer tablets (e.g., iPads), smart phones, and MP3 players (e.g., iPod Touch) as a medium for presenting an array of prompts (e.g., pictures, video segments, beeps) often in combination. As an alternative to lower-tech options, such technologies have also been shown to effectively assist individuals with severe and moderate disabilities to independently complete a variety of home and community skills including cooking, housecleaning, transitioning between tasks, and independent travel in the community (Ayers, Mechling, & Sansosti, 2013; Mechling, 2011). Their key advantages are their portability, contextual fit with typical settings where technology is used, and ability to coordinate multiple functions. Several personal PDAs developed specifically for people with disabilities are available through AbleLink Technologies (**www.ablelinktech.com/**) including the Visual Assistant®, which provides pictures and audio prompts for multistep tasks; the Schedule Assistant®, which uses icons and audio signals to prompt activity initiations; and the Community Integration Suite®, which uses pictures and audio messages to guide community travel. Teachers may also elect to download commercial software applications (apps) (such as iPrompts and the StudentLife Organizer, available through iTunes) to develop individualized systems for learners on most mobile devices. Autism Speaks (**www.autismspeaks.org**) maintains an updated list of apps appropriate for home and community settings. Additionally, for teachers interested in using video technology without purchasing disability-specific applications, a database of videos, created by professional developers and users, is available through an online sharing website named iSkills (**www.iskills.uga.edu**), which was funded through the Institute of Educational Sciences, US Department of Education.

Teaching students to use self-prompting systems requires careful instructional planning. First, teachers will need to consider teaching students *how to operate* the system. For example, in some studies, students were taught to navigate a system (e.g., press play, pause, touch screen, go to next, go back) before prompts for individual steps were introduced (e.g., Kelley, Test, & Cooke, 2013). In other studies, the students were taught first to follow the prompts as the teacher operated the system, and then taught how to navigate (Payne, Cannella-Malone, Tullis, & Sabielny, 2012). Obviously, with more complex systems (e.g., moving through multilayer touchscreens) there are more skills involved, and consequently, more instructional time may be needed. However, some studies using video technologies have shown that once students have learned to independently operate and follow video segments for one task, they could follow new video segments for new tasks with little or no additional instruction (Bereznak, Ayers, Mechling, & Alexandar, 2012). Yet, because each learner is different, the time invested in developing videos and teaching learners how to operate video technology on various mobile devices must be carefully weighed against the efficiency of using low-tech options, such as simple picture booklets.

Second, teachers will need to consider teaching students *how to follow prompts* by selecting an effective error-correction strategy. If the student makes an error (e.g., does not follow the prompt correctly), the teacher may use a constant time-delay or least-to most prompting strategy and/or encourage the student to self-correct by referring back to or replaying the prompt (see Chapter 5). For instance, the teacher might say, "Oops, you missed that step, go back and replay." If the student continues to make an error, the teacher might respond by saying, "Look, this says, 'Get your book for the next class.' Let me show you how. Now you do it."

TABLE 14–2
Considerations for Choosing a Self-Operated Prompting System

User Considerations

- Is a self-operated prompting system needed or desirable? What advantage is expected over traditional prompting?
- Which prompts or cues is the student able to understand and follow?
- Does the student have a preference for a particular system?
- Is the student motivated to learn a new system?
- What operation skills are needed? Does the student have fine motor or touchscreen skills? Physical limitations?
- Is the student better able to "read" certain displays (e.g., large versus small screen, one versus multiple pictures per page)?
- Are modifications or supports needed to help the student use the device (e.g., figure support, color-coding, wheelchair mount, key guard)?

System Considerations

- Which prompts (e.g., picture, video perspective) best represent or capture natural cues?
- Which system is better suited to the task or learning goal?
- Is the device portable across settings? Does portability matter?
- Is the device appropriate for or allowed in the targeted setting (i.e., smart phones may not be allowed in some settings)?
- What is the cost of the device? Can the student afford it?
- Is the system capable of growing as the individual acquires mastery? Can it be used for other skills and purposes?
- Do the expected benefits of a particular system outweigh its cost and the investment of time needed for system development and instruction?

Teacher and Family Considerations

- Will the supporter be able (or willing) to maintain the system over time?
- Is tech support available if needed?

Overall

- Which system is most suitable to the task and setting and will produce the most effective and efficient outcome for the learner?

To summarize, self-operated prompting systems can offer numerous benefits. As technology advances, options for self-prompting will inevitably expand. Yet, like any instructional strategy, the best option is one that effectively and efficiently supports learning and is well suited to the target task, setting, and resources of the student and his or her supporters. See Table 14–2 for selection considerations.

Self-Management. Another way to promote self-direction in daily routines is to incorporate self-management strategies in instruction. Broadly defined, *self-management* refers to the processes used by an individual to influence his or her own behavior (Storey, 2007). Technically speaking, the use of self-operated prompting systems are self-management strategies; however, to truly self-manage behavior, a combination of multiple components is needed, such as goal-setting (setting personal performance goals), self-monitoring (recording progress toward goals), self-evaluation (evaluating the acceptability of performance outcomes), and self-reinforcement (rewarding oneself for a job well done).

> *A picture schedule was created for Mateo that depicted each activity in his day; the schedule was placed in a binder on his desk. Each day Mateo selected the order of classroom activities whenever possible (goal-setting). He monitored the completion of the activities by turning the page (self-monitoring). At the end of the day, he reviewed how well he did on each completed activity (self-evaluation).*

Two methods of self-management—self-instruction and self-scheduling—have direct applicability for home and community use. In self-instruction, students are taught to use self-talk to move through the steps in a home, community, or leisure activity, and self-evaluate their performance as they go along. Hughes (1992) taught four students with severe disabilities to use self-instruction to solve task-related problems at home by identifying the problem (e.g., "The lamp is not plugged in."), stating the correct response (e.g., "I need to plug in the lamp."), evaluating the response (e.g., "I fixed it."),

and self-reinforcing (e.g., "I did well."). Similarly, Bambara and Gomez (2001) used self-instruction to teach complex problem solving to adults with intellectual disabilities in their home. In this study, the adults were guided to consider more than one solution to a problem (e.g., "My toothbrush is missing. Look on the counter. Look in the cabinet. Ask for help.") and to evaluate their success (e.g., "I found it!").

Self-scheduling can provide a way for learners to self-direct and control the multiple tasks needed for daily living. Learners are guided to select home, community, or school activities that are both enjoyable and necessary, plan when to do them that day or several days in advance, and use their schedule to initiate the planned activities (Bambara & Ager, 1992; Bambara & Koger, 1996; Lovett & Haring, 1989). Like the activity schedules described earlier, self-scheduling systems can be (a) teacher-made by using pictures, picture books, and calendar templates; or (b) supported through computer technologies. However, self-scheduling involves more than just following an activity schedule; the learner plans what to do and when.

For someone like Aaron, being in charge by setting learning goals; making daily decisions about what to do, how to do it, and with whom; and organizing, scheduling, and managing time are critical for establishing a self-determined adult life.

Using a scheduling software program downloaded on his iPad, Aaron plans and schedules his weekly work and school-related and social activities with assistance from his instructor. Daily activities, represented with picture icons, "beep" 30 and 10 minutes before they are scheduled to start to give Aaron time to transition. At the end of each day, Aaron and his instructor meet to discuss any needed scheduling modifications for the next day.

Guideline Four: Select Appropriate Instructional Settings

The challenge in teaching skills for the home and community is that these settings differ greatly from typical school settings. Students may not generalize the skills taught in school to community contexts (Cihak, Alberto, Kessler, & Taber, 2004). Yet, students also need general educational experiences even though the skills taught there may not address those needed in the home and community settings. To meet this challenge, teachers can consider three options for instruction: (a) embedding home and community skills in typical school routines and settings, (b) using school-based simulations of home and community settings, and (c) conducting in vivo instruction. If one of the first two school-based options is selected, some direct instruction in community settings and collaboration with families will help generalize the skills to these settings.

Embed Skills in Typical School Activities and Settings

In this option, we consider how instruction for priority home and community skills can be incorporated into existing school and classroom activities, including academic instruction. For example, Cihak and Grim (2008) taught high school students to count out money in a resource room setting, followed by real opportunities to make purchases in the high school bookstore and during community instruction. Similarly, food preparation might be incorporated into a general education unit in social studies when learning about other cultures or during a home economics class. Some housekeeping skills can be taught during cleanup time in the classroom where all students can share the responsibility for chores (e.g., emptying trash, cleaning a classroom sink after art projects) and following a schedule can be taught throughout the school day as students transition from activity to activity. Most middle and high schools have home economics suites that offer a context for all students to learn many home skills during their school day. This instruction may be incorporated into general education classes in home economics through team planning, or students may receive private tutoring during periods when the room is free.

Embedded instruction is often ideal for teaching component skills that can later be applied to natural routines in home or community settings. To illustrate, Smith, Schuster, Collins, and Kleinert (2011) taught students to read restaurant sight words in the

classroom, and assessed generalization by having them read actual menus. This component of reading menus could be later applied to teaching students how to order food at fast-food and sit-down restaurants during community-based instruction. Functional component skills can also be blended with instruction on the common core. For example, relating math problem solving to a common core standard, Burton, Anderson, Prater, and Dyches (2013) taught adolescents with autism to estimate the amount of money needed to make a purchase and the amount to be received in change following a video model on an iPad. Collins, Hager, and Galloway (2011) added functional content to common core instruction by teaching a student to identify appropriate dress for the different elements of weather (solid for ice, liquid for rain, and neither for sunny) during science.

Involving typical peers in instruction during routine school activities offers another opportunity to embed functional skill training into school routines. Tekin-Iftar (2003) used simultaneous prompting with peer tutors who taught middle school students with disabilities to read community signs. A key advantage of simultaneous prompting is that the peer tutor needs only to model the response (in this case, say the word) and then wait for the student to respond. If incorrect, the peer tutor simply goes on to the next word or instructional opportunity. Although not used by the researchers in this way, peers can easily incorporate simultaneous prompting during typical peer activities without appearing overly teacher-like. For example, community sight words can be taught as peers walk down the school hall together or participate on field trips (e.g., "This sign says 'women,'" "This sign says 'exit.'"). In the cafeteria, just before paying for lunch, peers could name the coins needed to make the purchase. Teachers would assess student learning at another time.

Use Simulations of Home and Community Activities

It can be challenging to embed some home and community skills into typical school activities because the skills are often discrepant from the ones needed at typical school settings and academic lessons. Further, to maximize students' independence, home and community skills must be practiced in actual functional routines (e.g., counting money is of little value if the student does not know how to actually make a purchase). However, direct instruction in home and community settings is not always feasible (i.e., there may be transportation, scheduling, community access, and expense barriers) or desirable given the focus of the student's curriculum. In such cases, teachers can create simulations of natural routines in school settings where home and community skills can be taught. For example, Sowers and Powers (1995) used classroom simulation to teach students how to purchase fast food. First, they developed a task analysis for making a fast-food purchase and then observed the students' performance at a local fast-food restaurant to target critical skills. Second, to teach the task analysis, the classroom teacher turned the school conference room into a simulated fast-food restaurant where the students could practice their skills in placing an order, paying for their purchase, and consuming it. The teacher had planned for instruction ahead of time by purchasing the desired food items for each student from the fast-food restaurant earlier in the day. The students then role-played placing an order with the teacher, after which they received the actual food items.

Once students had mastered the steps of the task analysis, the instructor invited the students' parents to come to school to participate in the simulation. The parents watched the instructor give the student any needed assistance in the role-play of purchasing the food and then were guided to provide assistance to the student on the second trial. They were also given a list of suggestions for encouraging the student to perform the steps for him- or herself during outings to fast-food restaurants. Observations of the students demonstrated that they were able to generalize their skills from the simulated fast-food restaurant in the school conference room to community restaurants with both their teachers and caregivers.

Computer- and/or video-based instruction provides another means for simulation. Video-based simulations can be created through *video modeling* and *video prompting,*

either alone or in combination, shown via video players or computers (desktop, laptop, handheld). In video modeling, the student watches a model (either an edited video of the student or of another person) independently performing the entire task in a natural setting. In the classroom, the student may view the video several times, discuss the video with the teacher, and/or practice the steps in the classroom before receiving instruction in community settings. For example, in a study by Alberto, Cihak, and Gama (2005), students watched a close-up video demonstration of a model (showing hands and arms only) withdrawing cash from an automated teller machine (ATM). While students watched the video, the teacher verbalized the required motor responses (e.g., "Press the arrow to withdraw from the checking account."). Students then received instruction in the community. The combined video modeling and community instruction were effective in teaching ATM use in natural settings. In video prompting, instead of having the student watch a demonstration of a model performing the entire task, video segments are used to prompt specific responses from the student in a simulated activity, often presented in an interactive computer interface. When presented from a subjective viewpoint, students watch the video segments as if they were performing the task in an actual setting. Prompts embedded in the simulation can highlight naturally occurring cues (e.g., the video screen of an ATM machine showing "Enter your pin number."), instructor cues (e.g., "Press the green button."), and corrections (e.g., "Sorry, you have pressed an incorrect key, try again.").

Video simulations can be entirely computer-based or blended with classroom simulations to maximize stimuli found in natural settings. Using only a computer, three elementary students with autism (Ayers, Maguire, & McClimon, 2009) learned the steps for making soup, setting a table, or making a sandwich by (a) watching a video model and then (b) practicing the steps in a computer simulation (e.g., moving needed items with the mouse to build a sandwich or set the table). Error correction was built into the software program. Even though the simulation was entirely computer-based, the students were able perform the learned steps in natural settings.

For many skills, however, computer-based simulations alone may not accurately capture the responses needed in natural routines; thus, blending with other more natural materials is beneficial. To teach students with intellectual disabilities to locate apparel sizes when shopping, Bramlet, Ayers, Douglas, and Cihak (2011) had students practice multiple trials of matching apparel size from a shopping list to various size tags displayed on a computer. Students also practiced locating apparel size by going through racks or stacks of clothing and shoes in the classroom. The combined computer and classroom simulation resulted in students being able to locate sizes in their local department stores.

As illustrated, whether using actual items to create classroom simulations or using video modeling or prompting strategies, simulations can be highly effective in teaching students to generalize skills from the classroom to the home and community settings. However, in order for this generalization to occur, simulations must be carefully planned. To be effective, teachers must consider the following: First, the simulation should carefully replicate the stimuli and responses found in the community or home setting where the student is expected to perform the target skill under natural conditions (Nietupski, Hamre-Nietupski, Clancy, & Veerhusen, 1986). Video-based simulations should clearly depict the natural cues in the environment. Classroom simulations should use actual items from home or community settings, such as food and beverage containers, menus from area restaurants, city bus schedules, food cartons, and blank checks from a local bank. When actual items cannot be brought to a school setting, teacher-made replicas of vending machines, ATMs, debit card machines, and so forth can be made using cardboard boxes and photographs.

During simulations, students must also practice the actual responses they will be required to use in natural settings. Sometimes video simulation can more readily capture natural cues that cannot be closely replicated through other means. For example, using video prompting, Mechling, Pridgen, and Cronin (2005) taught students to respond to a cashier's questions (e.g., "Hi, can I help you?" "Is that for here or to go?") across several

fast-food restaurants (McDonald's, Wendy's, and Hardee's). Video segments showed actual cashiers behind their counters asking the questions and then waiting for a response.

A second consideration when planning simulations is to use multiple exemplars and stimulus variation. Specifically, teachers should consider the types of possible variations that a student may encounter in natural settings, and vary materials accordingly. For example, to enhance generalization to untrained materials in local department store settings, students in the Bramlet et al. (2011) study practiced with multiple examples of price tags, sizes, and clothing items during simulation. In the Mechling et al. (2005) example, students practiced answering a variation of questions from different cashiers. When practicing across different exemplars, generalization is enhanced because students learn how to respond to variations that occur in home and community settings.

The third consideration when using school-based simulations is to include some opportunities to apply skills in actual community or home settings. Although well-planned simulations can result in generalization to community contexts, generalization is not guaranteed for all students, all skills, or steps of a task. When assessing generalization in the community, Mechling, Gast, and Barthold (2003) found that students consistently made errors on the step requiring them to swipe the debit card in the payment machine. They noted that swiping a debit card was one of the few steps in their purchasing task analysis that was difficult to simulate, suggesting that no simulation can completely replicate environmental stimuli or the responses needed to be successful in community settings.

To ensure that students use their skills in natural settings, when possible, teachers should plan some community instruction to supplement simulations. The advantage of using simulations is that community instruction may be scheduled much less frequently than would be needed if relying on community instruction alone (Cihak et al., 2004). At a minimum, teachers should assess whether their students generalize from school simulations to community settings and teach in actual settings if they do not. Also, when possible, community instruction should be scheduled on the same day as simulated instruction for maximum effectiveness (Cihak et al., 2004). Collaborating with families to practice skills at home can also help students apply newly learned skills to non-school settings.

Teach in Vivo

Not all skills can be simulated, and simulations can be difficult to create especially when multiple community and home skills are targeted for instruction. The third option for choosing instructional settings is to teach *in vivo*, meaning to teach directly and only in home and community settings. However, because this option can compete and is logistically difficult to coordinate with general education schedules, it is best reserved for older students when time away from the school building is age appropriate and educational priorities shift from school to job training and community access. When students are past typical school age but still receive educational services (i.e., ages 19 to 21), they are likely to receive instruction that is heavily, if not entirely, community based. Inclusion takes place in the community where many of their same-age peers now hold jobs, attend postsecondary schools, and recreate. During the secondary school years (beginning around age 14 and older), students may also have direct community instruction for part of their school day, especially when (a) this is a student and parent priority, (b) this instruction can be scheduled as one or more periods of the student's class schedule and does not require the student to be removed in the middle of a general education class, and (c) other students leave school on a regular basis (e.g., to travel with school teams to sports events, work at a half-day job program, participate in honors activities, attend a vocational-technical center).

Guideline Five: Incorporate General Case Instruction

Carefully planned simulations coupled with some community instruction can achieve generalization from school to home and community settings. However, generalization *across* home and community settings is also important. Teaching a student to purchase

Box 14–1

General Case Instruction

General case instruction emphasizes selecting and teaching examples so that students learn to perform skills across the full range of settings and materials that they confront. Following are the five steps to set up general case instruction:

1. Define the instructional universe (e.g., What is the range of situations that the individual will most likely encounter?).
2. Write a generic task analysis that can be applied across the full range.
3. Select teaching examples (three to four) that sample the range of stimulus and response variation.
4. Teach across the different examples.
5. Test for generalization by presenting a similar, but *novel* example or situation.
6. Repeat steps 3 to 5 if the student doesn't generalize to a novel situation.

fast food at McDonald's does not necessarily mean that the student will know how to make purchases at Burger King, Wendy's, and Taco Bell. Each setting is slightly different, requiring a different set of responses or skills. General case instruction is one way to maximize generalization across different community settings, and can be incorporated within simulations and community training.

Like multiple exemplar training, general case instruction teaches students to respond to different examples of materials and/or settings, but in general case instruction the selection of exemplars is much more systematic to ensure that the full range of variation in community settings is presented during instruction (Horner, Sprague, & Wilcox, 1982) (see Box 14–1). This approach has effectively taught students to use and generalize skills across different types of restaurants (McDonnell & Ferguson, 1988), debit card machines (Rowe & Test, 2012), and activities for participation on a college campus (e.g., locating information on course syllabi, open and locate documents on a computer) (Chezan, Drasgow, & Marshall, 2012).

Consider how Mateo's teacher collaborated with his mother and home instructor to use general case instruction to teach Mateo how to safely cross streets with a companion:

> *First, an instructional universe is defined. Mateo's instructors and his mother considered several questions: Is the goal for Mateo to cross all streets in his neighborhood? In his town? In the United States? They decide to focus on low-traffic streets in his neighborhood, including crosswalks in shopping malls where he frequents with his mother. Second, Mateo's teacher writes a generic task analysis that would work across the different street crossings. Third, they select four different street crossings that will be used for instruction, being sure that these examples cover the full range of stimuli (e.g., crosswalks, four-way stop signs, traffic lights) and responses (e.g., wait for cars to stop, wait for traffic signal) that Mateo will encounter. The results of their analysis are shown in Table 14–3. Mom will teach Mateo once a week when they shop at the Super-Fresh mall. The home instructor will also teach each example once per week, as she and Mateo walk to the neighborhood playground. Once Mateo learns the basic steps, once a week the home instructor will choose a novel street crossing representing the various types (e.g., crosswalk to K-Mart mall, traffic lights downtown and in front of grandma's house) to evaluate whether Mateo has generalized his skills from the training examples to new street crossings not involved in training. If he can do this, then generalization success has been achieved.*

Guideline Six: Coordinate Instruction with Transition Planning

Many of the skills described in this chapter are more suitable for adolescents and young adults in preparation for their transition to adulthood than for children. Adolescents may open their first bank account, prepare meals, and start going to the movies without their parents, while children may do chores, pick up their clothes, and fix

TABLE 14–3
General Case Analysis for Mateo's Street Crossing in Neighborhood Locations

Generic Steps	Examples			
	SuperFresh Shopping Mall	**In front of home**	**1st and Pine Street**	**2nd and Spruce St. (playground crossing)**
1. Walk to crossing.	Crosswalk in parking lot	Curb, middle of street, in front of home	Corner curb, four-way stop, crosswalk	Corner curb, traffic light, walk signal, crosswalk
2. Stop, look, wait.	Stop at edge of crosswalk, wait for cars to stop.	Stop at curb, wait until no cars.	Stop at curb, wait until no cars or until cars stop.	Stop at curb, wait for traffic signal.
3. Look both ways (again before crossing).	Cars stopped	No cars	Cars stopped or no cars	Walk signal
4. Cross.	In crosswalk	No crosswalk, two-lane street	In crosswalk, two-lane street	In crosswalk, four-lane street

snacks, but typically do not go to the movies alone. Thus, teachers may focus more on skills for the home and community during the transition years, around age 14 and older (IDEA 2004 requires transition planning to begin no later than age 16).

> *Julia, who is 14, will probably have more objectives related to domestic and community skills than Mateo, who is 9 years old. Aaron's greatest instructional needs at age 19 are using community resources, obtaining a job, and establishing his own home. Many of the objectives in his transition IEP will be linked to his postsecondary goals for employment, education, and independent living as shown in Figure 14–1.*

The transition years are a time for increased community-based and home instruction. Still, as Julia's and Aaron's programs show, individualization is important. Community-based instruction for Julia is carefully balanced with general education experiences in her high school. In contrast, Aaron's program is entirely community based. At age 19, his peers have graduated from high school and are either attending college or working. Participating in high school activities is no longer age appropriate for Aaron.

In addition to traditional job training programs, many school districts offer postsecondary or commencement programs as an option for students between the ages of 18 and 21 (Grigal & Hart, 2010; Morningstar & Lattin, 2004). Postsecondary programs are fully community based. Students often attend graduation ceremonies with their peers but continue to receive services from their school district on transition-related IEP objectives until services are no longer needed or they turn 21. Some programs are housed in community buildings such as a storefront or apartment complex where students can have immediate access to the community. Increasingly, however, many school districts are now collaborating with colleges and universities to offer services on a college campus. *Postsecondary education (PSE) programs* in a college setting provide a unique benefit—students can receive community instruction and job training in an inclusive educational environment that provides opportunities for continuing education (i.e., attending college classes) and interaction with same-age peers in campus social, work, and educational activities.

Postsecondary education programs provide a range of on-campus options and experiences (Grigal & Hart, 2010; Papay & Bambara, 2011). Some PSE programs are staffed by school district personnel because public education will continue until age 21. In some programs, students attend a self-contained "life skills" classroom with other students with disabilities for part of the day (e.g., for functional academics, self-determination skills, assessment) and then participate in college activities for community-based instruction, job training, or continuing education. Other programs are highly individualized and inclusive; they do not involve a self-contained life skills classroom. Instead, a teacher or a transition coordinator plans instruction and supports on transition-related IEP goals

FIGURE 14–1
Aaron's Postsecondary Goals and Annual IEP Objectives

across a range of campus and even community activities. Similar to the way that inclusion efforts are staffed in school settings, students who participate in campus and community activities receive support from multiple sources, such as school district teachers, paraprofessionals, and job coaches, as well as peers from college service organizations. If linkages have been established with adult disability services, instruction may also be delivered by supported employment job coaches and other home and community support workers.

Aaron's program, located on a state university campus, is individualized to his transition goals (see Figure 14–2). Aaron's schedule for the fall semester follows the format for creating an individualized college schedule as described by Grigal and Hart (2010).

> *Aaron starts each day on campus meeting with his teacher or a school district paraeducator in a private room in the university library. There, Aaron receives instruction on home and personal management, including budgeting and money skills, and scheduling daily and weekly activities using his iPad. During the week, his time on campus involves attending a drama class (with the support of a college student), receiving tutorials on accessing the internet in the computer lab (with the support of a paraeducator), and working out in the gym with a peer mentor. Through the support of his school district*

FIGURE 14–2 Aaron's Curriculum Matrix
This matrix illustrates a sample of Aaron's activities on campus during the day. It illustrates the specific activity and who he will be with during the activity, and identifies his targeted instructional objectives or goals during the activity.

Time	Monday	Tuesday	Wednesday
8:30 – 9:30	University library with instructor (scheduling, budgeting, email objectives)	University library with instructor (scheduling, budgeting, email objectives)	University library with instructor (scheduling, budgeting, email objectives)
10:00 – 11:00	Use public transportation with instructor to travel to a preferred restaurant for lunch, stop by ATM. (navigating community, budgeting objectives)	Attend drama class on campus with friend. (social objectives and employment, postsecondary goals)	Use public transportation to go to ATM and make a deposit/withdrawal with instructor. (navigating community, budgeting objectives)
11:30 – 12:30	Lunch at Hawk's Nest with college friend (social, leisure, purchasing objectives)	Computer lab with paraeducator to navigate the internet (computer objectives)	Lunch at Mt. Top Campus with a friend (social, leisure, purchasing objectives)
1:00 – 2:00	Go to university library with a friend to locate preferred reading materials. (social, purchasing, leisure objectives)	Go to university workout room with friend. (social, leisure objectives)	Work experience at campus bookstore (employment objectives)

job coach, he works three times a week in the university bookstore. Between these activities, he receives instruction from either his job coach or the paraeducator for independent travel and use of the ATM to withdraw money from his savings account. Because Aaron is unsure about the type of job that he might like, his job coach has arranged for him to sample other jobs on campus where he can apply his computer skills (e.g., library desk, campus office).

Several times a week, Aaron has lunch with his peer buddy Jason who attends football games with Aaron on weekends. In addition to hanging out with friends during lunch, Aaron practices his purchasing and ordering skills at various food vendors on campus. Two times per week and at the end of the day, Aaron receives instruction on menu planning and cooking meals in his family home by a support worker from an adult services agency. When he transitions to his new apartment, which will be fully accessible, home instruction will intensify.

STRATEGIES FOR TEACHING HOME AND COMMUNITY SKILLS

To recap the discussion thus far, before teaching home and community skills, teachers need to plan instruction by considering what, where, and how to teach, while also honoring student and family preferences and goals. In this next section, we will discuss specific ideas and strategies for teaching skills for use in home and community settings. We begin with skills for the home, followed by skills for the community.

Skills for the Home

When you stop to think about it, myriad skills are needed to fully participate in one's home. Fortunately, many valuable commercially produced curriculum-supporting materials (e.g., picture cue cards, recipe books) and apps are available to help (e.g., **www.attainmentcompany.com**, **www.stanfield.com**). Food preparation; housekeeping, including home management; home safety; telephone use; and sexuality education are important areas of meaningful participation in household routines.

Food Preparation

Students are often highly motivated to participate in food preparation because they can consume the results! In addition to its nutritional value, cooking has other social (e.g., cooking with family or friends), recreational (e.g., watching cooking shows on TV, joining a cooking class), and vocational (e.g., seeking a job in the food industry) benefits as well (Mechling, 2008). Finding the right location for instruction can be challenging because of the specialized equipment needed. In middle and high schools, home economics classrooms are ideal locations. In elementary schools, simple snack preparations can be done in the classroom and lunchroom, and parents can be supported to teach snack preparation at home. However, the bulk of cooking instruction is most likely to occur once students leave high school and have access to instruction that could be conducted in their homes or in a community cooking class.

Food preparation instruction has several components: planning, food preparation, safe food storage, and cleaning up. When teaching students to plan what foods to prepare, honor any dietary restrictions, respect both cultural and familial preferences (e.g., meatless, kosher), honor personal preferences, and encourage nutrition. Some students may benefit from learning recipe planning as described by Sarber and Cuvo (1983). In their study, adults with disabilities learned to plan meals using a board that had color cues for each food group. For example, peaches were cued for the fruits and vegetable group. Beef stew was cued as both meat and vegetables. After planning the menus, the adults learned to develop grocery lists for purchasing the necessary items. Students who do not have the academic skills to read or write food names in planning menus or self-monitoring their diet may benefit from a picture system. The Select-A-Meal Curriculum (Attainment Company, **www.attainmentcompany.com**) provides commercial materials that can be helpful for menu planning or restaurant use.

When considering personal preferences, some students may be able to describe the foods that they want to learn to prepare. For students with more severe disabilities, preference assessment can be applied to determine which foods to select (Lohrmann-O'Rourke, Browder, & Brown, 2000). To conduct this preference assessment, the teacher might show the student an array of pictures or packages of food and wait for the student to select one by touching it, gazing at it, or making some other response. Or the teacher may offer samples of foods and then have students choose from among the samples.

Once the specific foods have been selected, consideration can be given as to how to teach the student to prepare the recipe. For young students, preparing snacks, such as making a drink, making a sandwich, or using the microwave oven to make popcorn or warm up pizza, can be taught directly via constant time delay or simultaneous prompting without the use of recipes to guide learning. Batu (2008) taught mothers to use simultaneous prompting, a relatively easy prompting system to use, to teach their elementary age children how to prepare simple snacks at home.

Older students are more likely to prepare meals involving more complex and multiple steps. When cooking meals, most of us rely on recipes to help us remember ingredients and what to do. Some students may be taught sight words in order to read directions on packages or to follow simple recipes or teacher-made instruction booklets using time delay or another prompting alternative (e.g., Browder, Hines, McCarthy, & Fees, 1984; Gast, Doyle, Wolery, Ault, & Farmer, 1991). Although sight words may be taught while the student learns the food preparation steps, some students may benefit from sight-word instruction embedded in other academic activities.

Picture recipes can be helpful to students who have difficulty reading words and remembering sequences. Teachers can create their own by organizing photographs, drawings, or picture icons from commercially produced software, such as Boardmaker® (available from **www.mayer-johnson.com**), to represent individual steps or clusters of steps in a cooking task analysis. Or, teachers may select from any number of commercially produced picture cookbooks such as *Visual Recipes: A Cookbook for Non-Readers* (Orth, 2006). Although commercially produced cookbooks are convenient, some students may have difficulty following steps or pictures that are not individualized to their learning needs.

High-tech, self-prompting systems using a DVD player, PDA, iPod touch, or iPod Nano provide other recipe options for non-readers (Mechling, 2008). Mechling and Stephens (2009) compared the use of static picture books versus video self-prompting via a portable DVD player to teach students with intellectual disabilities to independently complete multistep cooking tasks. Although students were able to complete recipes using both self-prompting systems, video self-prompting was more effective perhaps due to the sound and motion features of a video. Indeed, teaching students with severe disabilities to follow video prompts via an iPod for one recipe resulted in some being able to "self-prompt" following video segments on a new recipe with minimal instructor support (Payne, et al., 2012).

Demonstrating the flexibility of a software-based system to provide multiple options, Mechling, Gast, and Seid (2010) taught high school students with moderate intellectual disabilities to use a PDA that provided picture, video, and audio prompts to complete cooking recipes. During instruction, students were given the option of looking at a photo, touching an audio cue, or touching a video cue for each task step. If an error occurred during a step, the instructor prompted the student to use the more intrusive prompt. All students independently learned to follow the cooking recipes, while also self-adjusting and choosing the prompting level that they needed.

In addition to selecting effective methods, consideration should also be given to efficiency and practicality. Cooking supplies can be expensive, and often instruction cannot be delivered in a one-to-one arrangement in school settings. Furthermore, rarely is it practical for each person in the group to perform all of the steps of the same cooking task. If four students in a group each prepare a box of instant pudding, there will be 16 servings to consume! One idea for in-school instruction is to have each student in a small group prepare a different snack, while encouraging others to watch. This small group arrangement has been shown to enhance observational learning where students not only learn their own cooking task, but also those of others in the group (Tekin-Iftar & Birkan, 2010). Alternatively, teachers can have each student prepare part of a longer recipe while the others watch. For example, the following guidelines help make instruction efficient while also encouraging self-directed learning:

1. Where possible, teach food preparation in a small group of two or three, giving each person a chance to prepare part of the recipe while the others watch and follow the recipe using the package or a self-prompting system.

   In preparing a box cake mix, Sam adds the ingredients and prepares the pan using a picture recipe while Julia follows along using her own picture recipe. Then Julia uses the mixer and pours the mix into the pan and places it in the oven while Sam follows along on his picture recipe.

2. Use a prompt system, such as time delay or the system-of-least prompts, to teach students to follow the recipe steps or operate the self-prompting system.

   The teacher uses a verbal and gesture prompt: "Look at the next step and do it," as she points to the picture of the next step.

3. Consider including additional information about nutrition or safety within the cooking routine.

   The teacher consistently uses the same statement (e.g., "Use a protective mitt to keep from being burned.").

4. Probe to assess learning.

   Ask Julia to make a boxed cheesecake by following the picture recipe and record the steps that she can do alone.

5. Probe for generalization.

   Give Sam and Julia untrained recipes with pictures similar to the cheesecake and other learned recipes. Can they use the pictures to follow the new recipes?

Housekeeping

To manage a home, individuals need strategies to keep pace with the ongoing demands of housecleaning and laundry. Even when chores can be shared, some household tasks still must be performed. As students make the transition from relying on their parents to clean the house and do their laundry to caring for their own clothes and living space, they need to learn two important sets of skills: (a) how to perform housekeeping and laundry tasks, and (b) how to manage their time so that they can complete these tasks regularly.

Historically, instructors have used a task analysis of the skill and a prompting system (such as least intrusive prompts or time delay) to teach housekeeping tasks. Whether to teach the entire task (i.e., whole-task instruction) or some portion of it (i.e., chaining) will depend on the complexity of the task and the students' current skill levels (see Chapter 5). For example, McWilliams, Nietupski, and Hamre-Nietupski (1990) taught students to make their bed using a system of least prompts and forward chaining in which steps of the task analysis were taught to mastery one at a time. In contrast, Snell (1982) used progressive time delay to teach the task of bed-making, prompting students through the whole-task analysis during each teaching session: (a) Make a partially unmade bed, (b) strip a bed, and (c) make up a bed completely. In teaching laundry skills, researchers have used the system of least prompts (Cuvo, Jacobi, & Sipko, 1981), time delay and most-to-least prompting (Miller & Test, 1989). When applying these strategies to individual students, it is important to consider how the student learns best.

Like in cooking, self-operated prompting systems, from low- to high-tech portable devices, provide alternative options for teaching students independent housekeeping skills such as operating a washing machine, folding laundry, and cleaning (e.g., Bereznak, et al., 2012; Cannella-Malone, Brooks, & Tullis, 2013; Van Laarhoven, et al., 2010).

Once students learn the basics of housekeeping, they need self-management skills to keep pace with the demands of these chores. Activity schedules suit this purpose. In a classic study, Pierce and Schriebman (1994) taught children with autism to use pictures to self-manage chores. Students were given a photo album with one step on each page and a picture for that step of the task analysis. To make album pages easier to turn, felt dots were glued to the bottom of each page. Instructors taught in three phases. In the first phase, the instructor taught receptive labeling of all of the photos. In the second phase, students learned to choose a reinforcer, turn a page in the book, perform the response, and self-reinforce. In the third phase, the instructor faded her presence by saying, "Good work. I'll be back in a minute," and leaving the area while the student worked alone. Students were able to use the picture books to set a table, make a bed, make a drink, get dressed, and do laundry without an adult nearby.

Once students know how to follow a schedule, they can learn to self-schedule these activities. Lovett and Haring (1989) taught adults with intellectual disabilities to self-manage their daily living skills using self-recording, self-evaluation, and self-reinforcement. Tasks were divided into daily, weekly, and occasional schedules. Participants used a planning form to self-select these tasks. Using instructions, modeling, and feedback, the teachers taught participants to use the same form to self-record when each task was completed, evaluate task completion, and self-reinforce for a job well done.

> *The teacher helped Julia and her mother to identify Julia's chores, across school and home, and to determine flexible times for their completion. In a language arts class, the teacher and peers taught Julia to read the names of her chores and the days of the week. The teacher also taught her how to make check marks on the form by talking about what Julia had or had not done the night before at home. Once Julia could check off items on the form accurately, the teacher met with Julia and her mother to review how Julia could take charge of her own chores by using her charts and planning her list of "treats" for self-reinforcement. Julia then used her new self-management program at home with support from her mother as needed.*

When doing housekeeping, students will encounter problems that prevent task completion unless they develop problem-solving skills. Hughes, Hugo, and Blatt (1996) taught students to use self-management strategies to solve several problems: (a) not having the right utensil in order to make toast, (b) trying to vacuum when the vacuum was unplugged, and (c) cleaning up when there were bread crumbs under the table or game pieces in the area to be vacuumed. The self-instruction strategy involved students learning to (a) state the problem, (b) state the response, (c) self-evaluate, and (d) self-reinforce. The instructor taught the strategy by modeling the problem-solving step, having the participant state what to do as the instructor performed it, and then having the participant do the step while saying the problem-solving strategy. For example, to cope with an unplugged vacuum, the participant would say the following:

1. "The vacuum won't run." (*State the problem.*)
2. "Plug it in." (*State the response.*)
3. "I plugged it in." (*Self-evaluate.*)
4. "Great job!" (*Self-reinforce.*)

Home Safety

Many skills contribute to being safe at home (Dixon, Bergstrom, Smith, & Tarbox, 2010; Mechling, 2008) including responding to emergencies (e.g., calling 911, evacuating a building), using first aid (e.g., treating cuts and burns, responding to minor illnesses), recognizing and avoiding hazards (e.g., electric shock, hot burner), and creating a safe home environment (e.g., locking doors, using matches appropriately). Safety skills are taught like any other skill, but simulation and role-play may be needed to create "dangers" that are not typically present in everyday settings. Haney and Jones (1982) taught four school-age children to escape from a simulated fire in a home setting. Props were designed to make the training more realistic. For example, hot and cold pads were used to change the touch temperatures of doors and a tape recording of the home's fire alarm system was played. The instructor used a system of least prompts to teach the steps of the task analysis. Rae and Roll (1985) similarly employed a system of least prompts to teach evacuation. They also measured evacuation time to be sure that students could leave the building in the time recommended by the fire department.

Students also may encounter emergencies that require knowing first-aid skills. Spooner, Stem, and Test (1989) taught students to communicate an emergency, apply a bandage, take care of minor injuries, and respond to someone who was choking. To assess student performance when real injuries occur, teachers may need to rely on follow-up reports from parents (Mechling, 2008). Of course, our focus on independent or partial participation in any of these skills must never put a student in danger.

The use of videos holds promise for providing real-life examples and simulated dangers that cannot be accomplished through traditional means (Mechling, 2008). Mechling, Gast, and Gustafson (2009) used video modeling to teach students three ways to extinguish kitchen fires: (a) scooping and releasing flour, (b) putting a lid on a pot or pan, and (c) using a fire extinguisher. During generalization probes conducted in an apartment rented by the school district, the students were able to demonstrate the skills needed to successfully extinguish the fire immediately after watching the video model.

In addition to using simulations, safety, particularly prevention skills, can be taught by embedding learning opportunities in academic lessons and daily routines or during instruction of other skills. For example, Dogoe, Banda, Lock, & Feinstein (2011) taught transition students with autism to read key words on product warnings (e.g., flush, avoid, caution, flammable) and provide a contextual definition (e.g., flush eyes with water means use plenty of water if you get soap in your eyes) using constant time delay during a classroom lesson. Students were able to generalize product reading skills from flash cards to actual product labels brought to the classroom, but had difficulty generalizing skills to reading labels in grocery stores. Such instruction might benefit from adding some simulation to academic lessons (e.g., using real product

labels during instruction) (Collins & Griffen, 1996) or follow-up instruction during actual home or community routines.

Safety skills can also be taught by adding safety steps to task analyses or routines.

After preparing a meal, Aaron is prompted, as part of his food preparation task analysis, to check that all appliances (e.g., coffeemaker, burner, oven) are turned off before he leaves the kitchen. When he enters his home with his community teacher, Aaron is taught to lock the door behind him before he hangs up his coat.

In place of direct instruction, adding extra information during instruction of home tasks or routines is an ideal way of embedding safety skill information (Jones & Collins, 1997).

While teaching Aaron to use a microwave, his teacher tells him that if he sees smoke while cooking, he should quickly turn the microwave off. When Aaron reaches for his toast, his teacher says, "If the toast ever gets stuck, unplug the toaster, then use a rubber spatula to get the toast out."

For critical safety skills, teachers should consider setting up mini-simulations to observe whether the student can apply the extra information when needed.

Aaron's teacher deliberately inserted folded bread in the toaster to see whether Aaron would unplug the toaster before removing the stuck toast.

Telephone Use

Telephone use is related to many daily living skills (e.g., placing orders, getting information, and responding to emergencies) and social skills (e.g., calling friends). Because students may need many practice opportunities before mastering telephone skills, simulations are helpful. Emergency telephoning has been successfully taught to students with disabilities using task analyses and pictures of emergency situations to begin each simulated emergency call (Spooner, Stem, & Test, 1989). In a more recent study (Manley, Collins, Stenhoff, & Kleinert, 2008), teachers taught elementary students with intellectual disabilities to place a phone call and leave recorded voice mail messages using least-to-most prompting during in-class simulations. Teachers simulated voice message directions and beeps ("I'm not home right now, leave a message." *Beep*) through audio tapes. Students practiced across multiple exemplars of Touch-Tone phones, referring to a teacher-made phone book that depicts a picture of a person and the phone number. This strategy effectively taught students to make calls and leave voice mail messages, but students experienced difficulty generalizing to other settings, perhaps because the simulation did not include the full variation of stimuli present in other situations (e.g., different voice messages, setting distractions).

As more and more students use personal cell phones, it may be less important to teach students how to dial different phones, or even dial numbers for that matter (they can use speed-dial instead), than it is to learn how to operate cell phones using technological adaptations for different purposes. For example, even students with limited reading skills can text message by using the "quick text" feature on their phone. General case instruction may be used to teach students to make different types of phone calls. Horner, Williams, and Steveley (1987) applied general case instruction to teach generalized phone use to four high school students with moderate and severe intellectual disabilities. The instructional universe included frequently made and received calls. Training variations included the person calling or being called, and the topic of conversation (e.g., to leave a message, place an order). Once instructed on these variations, students learned to make a wide range of phone calls.

Using general case instruction to teach Julia how to make phone calls is an ideal strategy for her. As an active teen, she will need to use the phone for a variety of purposes like calling home to ask permission to visit a friend after school, calling friends to chat, and making emergency calls when she needs help. Julia's need to make a variety of phone calls can be addressed with a general case instruction approach.

Sexuality Education

Another relevant skill area for the home is sexuality education. Sexuality education is broader than just "sex ed." While sex typically refers to a sex act, sexuality refers to one's total being, including being male or female, feeling good about oneself, caring for others, and expressing oneself through intimacy. Fostering healthy sexual attitudes and behaviors are critical goals of sexuality education (Hingsburger & Tough, 2002). Unfortunately, sexuality education for learners with severe disabilities is typically overlooked or avoided. As a result, many individuals with intellectual disabilities and autism are uneducated about basic sex facts (e.g., names of body parts, knowledge of bodily functions, sexual acts), are vulnerable to sexual abuse, and hold negative feelings about themselves and sexual issues (Travers & Tincani, 2010; Hingsburger & Tough, 2002). Others, acting on their sexual urges without proper education, may act inappropriately (e.g., engage in public masturbation, make sexual advances toward the wrong person) (Tarnai, 2006).

Having the opportunity to enter into intimate, loving relationships with others adds to personal happiness. To reverse the negative cycle of poor or no education, sexuality education should be viewed comprehensively and developmentally, focusing on (a) body awareness (e.g., body part names, reproductive functioning), (b) sexual intimacy (e.g., sexual acts), (c) health and hygiene (e.g., personal care, avoiding disease), (d) relationships (e.g., responsibility toward others, social boundaries, dating), (e) self-protection and advocacy (e.g., protection from abuse, saying no, advocating for personal decision-making), and (f) self-esteem and gender identity (e.g., feeling good about oneself and one's gender identity, accepting diversity) (Travers & Tincani, 2010; Wolfe, Condo, & Hardaway, 2009). Not everything can or should be taught at once. Some components will require the understanding of foundational concepts before more complex concepts are taught (e.g., body part awareness typically proceeds knowledge about sexual acts), while all sexuality education must be age appropriate (young children learn about privacy, body part names, while older students are introduced to sexual intimacy and HIV protection).

Commercial sexuality curricula are available to guide instruction (see Sexuality Information and Education Council of the United States at **www.siecus.org**), but most are limited because they rely on lecture, discussion, and line drawings to explain concepts. Many learners with severe disabilities may not comprehend the information presented in this way or know how to apply it. Commercial curricula can be useful for suggesting what to teach, but how to teach sexuality content is best addressed by applying many of the instructional strategies described in this chapter and elsewhere in the text. Wolfe and colleagues (2009) provide teachers with good examples of how instructional strategies, such as the use of video modeling, visual cues (including social stories), social-script fading, and task analysis, can be applied to sexuality content.

One way to make sexuality concepts concrete is by teaching them during typical routines and natural life experiences. For instance, body part names can be taught during dressing and bathing routines at home and, with parents' permission, at school when assisting the student to toilet or undress and dress for swimming. Learning anatomically correct names is critical for unambiguous communication (e.g., if abused, students can explain exactly where they were touched). Learning about public versus private areas of the home and school are important discriminations needed for acting sexually appropriate and for self-protection. During home routines, parents can label the bedroom and bathroom as private areas used for private activities such as dressing and masturbating. The student should learn that private activities are not allowed in the public areas of the home. Furthermore, parents can teach their children that only certain people (e.g., friends, family members) may enter a private area of the house, but first they must ask permission (e.g., knock on the door). At school, teachers can encourage privacy by teaching students to close the bathroom door and to wrap a towel around themselves after showering.

Personal Hygiene. Personal hygiene can be taught during natural routines and simulation. For example, Epps, Stern, and Horner (1990) taught girls to manage their periods by using simulations and general case instruction. A training video, "Janet's Got Her Period™" (James Stanfield Publishing, **www.stanfield.com**), is a good resource to introduce the concept of menstrual care that can be followed up with parental instruction at home (e.g., Ersoy, Tekin-Iftar, & Kircaali-Iftar, 2009). Personal hygiene should stress not only management of bodily functions but also looking good and feeling attractive. Wherever possible, teachers and parents can help students make the connection between their personal care routines and social activities. Getting ready for a party or a school dance, for example, can involve choosing nice clothes, styling hair in a special way, wearing special makeup, or choosing new perfume or cologne. Telling the student that he or she looks great, beautiful, or handsome can go a long way in bolstering the student's self-confidence and feelings of pride.

Social Boundaries. Recognizing and respecting social boundaries are especially relevant. Students sometimes do not discriminate between who can be trusted with a hug and who cannot, or when or when not touching or talking to others is appropriate. The Circles Curriculum (James Stanfield Publishing, **www.stanfield.com**) provides videotapes and color-coding to teach students to discriminate among different types of relationships. For example, the purple private circle is for the student alone. Some "circles" (relationships) welcome hugs, but some hugs should give the people space between bodies (friends versus lovers). People in the red zone (strangers) are not given physical or verbal contact. This program can be used to teach avoidance of sexual harassment and abuse and helps students to understand how relationships can develop from acquaintances into friendships. By selecting photographs of people who the student knows and color-coding them, the discrimination can be made more concrete. To apply these concepts, students may need to practice discriminations when encountering people in the community. For example, the teacher might say, "What zone is Mr. Jones in? He's an acquaintance. What do we do? Just wave—no hugs." Although not fully evaluated by research for social-sexual intervention, reading Social Stories™ before going into the community may also be tried to prime students about how to maintain appropriate social boundaries (Tarnai & Wolfe, 2008).

Protection from Abuse. Sadly, children and adults with intellectual disabilities and autism are highly vulnerable to sexual abuse (Doughty & Kane, 2010; Travers & Tincani, 2010), with most abuse incidents occurring with *familiar* people, not just with strangers. Teachers can teach students abuse protection responses at school, but practice and reminders at home are important if students are to report actual abuse incidents if and wherever they occur. Among other behavioral skill training programs focused on abuse protection (Doughty & Kane, 2010), the "No–Go–Tell" is an effective strategy to be tried. Lumley and colleagues taught adult women with disabilities how to respond to unwanted sexual advances that potentially could be made by their support staff (Lumley, Miltenberger, Long, Rapp, & Roberts, 1998). By presenting scenarios (e.g., "What would you do if staff touched your breasts?") and participating in role-play, the women learned a three-step sequence: No—verbally refuse the lure or action, Go—leave the situation, and Tell—report the incident to a trusted adult. Discriminating between what are appropriate and inappropriate sexual advances is an important prerequisite. Combining the Circles Curriculum with No–Go–Tell may help students learn these discriminations (e.g., "Kissing [long and on the mouth] is okay with a boyfriend or girlfriend when you both like it, but kissing [like that] is never okay with a stranger, your teacher, or a member of your family.").

Planning what sexuality skills to teach when, where, and by whom can be a sensitive issue, yet collaboration is essential. Teachers must take care to balance family values with the student's preferences and rights particularly during the later transition years to adulthood. Several professionals argue for a person-centered team approach

TABLE 14–4
Planning for Aaron's Sexuality Education: Person-Centered Questions and Outcomes

What are Aaron's dreams for the future, and what are his interests in social relationships?	• Aaron wants to live in his own apartment and hold a part-time job while he attends college. • Aaron expresses interest in girls, but doesn't believe having a girlfriend is appropriate for someone like him.
What does Aaron need to know about sexuality? What skills are needed? Any concerns?	• Aaron's family is concerned about the potential for sexual abuse. • It's unclear what Aaron knows about sex, sexual relationships, or sexual abuse protection. • Aaron needs a healthier view about the possibilities of having a girlfriend and about his self-image.
What types of sexuality education and supports are needed?	• Basic sex education • Knowledge and skills for abuse protection • Awareness of disability and intimate relationships • Specific sexuality information and training regarding physical disabilities • Support and encouragement to seek social opportunities and date
How will support be provided? Who will provide it?	Basic sexual education and abuse protection training: • Mr. Burk, special education teacher • Parent support at home Disability awareness: • Attend program at the community college Specific sexuality information regarding physical disabilities: • Support for social opportunities • Peer buddy • Parents

for making critical decisions about sexuality education (Lumley & Scotti, 2001; Travers & Tincani, 2010). Table 14–4 illustrates some relevant questions that can be incorporated into person-centered planning (Bambara, Koger, & Nonnemacher, 2002). Because of the highly sensitive nature of sexual issues, some questions are best discussed privately with the student and/or family instead of in the presence of an entire team. With the student's and parents' permission, information may be brought back to the team for planning, as is shown for Aaron in Table 14–4.

After Aaron's last transition planning meeting, Mr. Delaney, the transition coordinator, privately asked the Williamses if they had considered Aaron's sexual needs and the possibility of intimate relationships. The Williamses admitted that they had never considered the questions but did say that one of their greatest fears about Aaron's transition to supported living was that someone would sexually abuse him. They shared that they did not know how to talk to Aaron about sex. When Mr. Delaney spoke with Aaron privately, Aaron clearly expressed an interest in girls but seemed resigned to the idea that having a girlfriend was not for him. After further talk, Mr. Delaney could not tell what Aaron knew or didn't know about sex. Once the Williamses thought about it, they were open to the idea that Aaron should have as normal a life as possible, including girlfriends and maybe even marriage someday. Together with Mr. Delaney and Aaron, they developed a plan for Aaron's sexuality education. First, his special education teachers would offer Aaron basic sexuality education and abuse protection education in a class format along with three other young men who needed similar training. Using slides, videotapes, discussions, and, where appropriate, role-play, basic sexual facts (e.g., body changes, sexual acts), sexually transmitted diseases and pregnancy prevention, and sexual abuse protection will be presented. The teacher will also invite young adults from Aaron's university who did date-rape prevention training to talk about self-esteem and the body. Second, Mr. and Mrs. Williams agreed to discuss their values about sex with their son at home. The Williamses and Aaron will attend a continuing education class at a local community college on sexuality and disability. At this program, several couples with physical disabilities will share their stories about overcoming obstacles to dating, privacy, and marriage. Third, Aaron's

peer mentor at his university agreed to help Aaron make new friends, including meeting girls, by making social introductions through school clubs and organizations.

Skills for the Community

An important part of a student's transition to adult living is to acquire the skills needed for community settings, including public safety; mobility in the community; and the use of community resources like stores, banks, and restaurants. Younger students (elementary age) may also receive some community instruction (particularly around leisure and public safety), depending on their individual needs and parental preferences.

Safety Skills

As students gain increased independence in the community, they are exposed to greater risks. Like home safety, community safety requires a wide variety of abilities, including recognizing and avoiding dangerous situations (e.g., walking away from strangers, avoiding certain streets), preventing hazards (e.g., safe street crossing), and knowing how to seek help when needed (e.g., going to a police officer, using the telephone). The same instructional strategies used for home safety may be applied when teaching public safety. These include role-play and simulations, and embedding direct instruction or adding extra information about safety during the instruction of other community skills. An additional strategy involves embedding problem-solving opportunities within community-based instruction. Based on procedures developed by Agran, Madison, and Brown (1995), Aaron was taught to consider safe travel routes to the bus stop after evening recreational activities at his college.

As Aaron approached an unlit area of the campus, he was taught to ask and respond to the following questions: (a) "What is dangerous?" ("Walking on very dark streets."), (b) "Why is it unsafe?" ("I can get mugged."), and (c) "What can I do to make it safer?" ("I can go another way.").

Some concepts of community danger and safety are abstract. Students may need to experience them before understanding how to respond. Using a variation of the No–Go–Tell strategy, Gunby, Carr, and LeBlanc (2010) taught children with autism to say no to various lures from strangers, (e.g., "Come see my Xbox in my car," "Your mom told me to come and get you."), run from the area, and tell a trusted adult what happened. Once the children learned the sequence through video models and role-play, unfamiliar adults employed by the researchers approached the children at various locations around their school to determine if the children could use their skills. If the children did not respond appropriately, an instructor gave them immediate feedback. In vivo instruction continued until they responded appropriately to the strangers. Parental permission for this approach is, of course, essential.

In another example of making abstract safety concepts real, Taber, Alberto, Hughes, and Seltzer (2002) developed a three-phase program to teach middle school students with disabilities how to use a cell phone when lost in the community. The first phase of instruction took place in the school building where the students defined being lost (i.e., not being able to find the person with whom you arrived at a community location) and then pretended to be lost. While pretending, the students were taught via a task analysis and system of least prompts how to use their cell phone to call for assistance. Two important steps in the task analysis were staying put and describing landmarks in the immediate surrounding so that the students' locations could be identified by the person receiving the call. In the second phase, instruction took place in three community settings: the grocery store, the department store, and the public library. In these locations, the students were required to use the calling sequence as their instructor removed herself from the students' sight. If the student did not respond or make the call correctly within five minutes of being "lost," the instructor approached the student and reviewed the sequence. In the third phase, during typical community instruction in the same

settings, the instructor on occasion left the students' sight to assess whether they would call under more natural situations. In both community phases, the students were always shadowed by another adult to ensure their safety. In a follow-up study (Taber, Alberto, Seltzer, & Hughes, 2003), the researchers introduced an additional component in which students were also taught to answer their ringing cell phone if an adult discovered they were missing and then describe their location (e.g., "What do you see?") so that they could be found.

Purchasing

Another important area of community instruction is making purchases (shopping). This may include purchasing groceries, clothing, snacks and meals, household goods, and personal care and leisure items. Teachers need to consider four questions before teaching students to make purchases:

1. Which stores does the student need to learn to use, and for what purpose (e.g., grocery shopping, leisure shopping, and browsing)?
2. Is the goal to teach the student to make a purchase at a specific store, or a set of purchases in a variety of stores? That is, to what extent will generalization be taught across stores?
3. To what extent will the student be taught to use money while making purchases versus using compensatory strategies (e.g., preselected amount of money)?
4. How can the student gain autonomy in making purchases?

If the goal is for the student to learn to purchase a short list of items in the grocery store that is used consistently by the student's family, the teacher might focus on teaching the skills needed for that one store. In contrast, if the goal is for the student to be able to use a variety of stores to make a range of purchases (e.g., clothing, leisure materials, groceries), training should focus on including variation in both school-based and community instruction.

Generalization in Purchasing. Independent purchasing typically follows a prescribed routine as illustrated for Julia in Table 14–5. When the goal is to teach generalized purchasing, general case instruction infused in simulations and in vivo instruction is ideal for teaching students to apply routines across different stores and/or different types of purchases. In one of the first studies to apply general case instruction to

TABLE 14–5
Task Analysis of Grocery Shopping

Student: Julia **Skill: Purchasing groceries at store** **Grocery Shopping-Related Social Skill**
1. Enter store.
2. Get shopping cart.
3. Review food list.
4. Go to correct section. Ask for help if needed.
5. Locate or request item. Wait turn at deli or bakery.
6. Place item in cart. Say "thank you."
7. Go to checkout. Keep cart from bumping into others.
8. Place items on belt. Greet cashier.
9. Give cashier coupons.
10. Pay for groceries.
11. Put receipt away. Say "thank you" to cashier.
12. Place bags in cart.
13. Exit store.

(Adapted from Westling, D. L., Floyd, J., & Carr, D. (1990). Effects of single setting versus multiple setting training on learning to shop in a department store. *American Journal on Mental Retardation,* 94, 616–624.)

purchasing, McDonnell and Ferguson (1988) compared *general case in vivo instruction* (teaching in three different fast-food restaurants representing the range of stimuli) and *general case simulations* (infusing a range of stimuli in school simulations). Because simulations should always include some community-based instruction, general case simulation was alternated each day with teaching in one community restaurant. After instruction, the students in both general case groups were assessed to see if they could generalize their purchasing skills to three *new* restaurants not used during instruction. Both general case in vivo and general case simulations were effective in teaching generalized purchasing skills. Students in both groups could apply their skills in novel restaurants without additional instruction. The implication of this study is that, when planning for generalized purchasing instruction, teachers have some options. For older students whose instruction may be entirely community based, general case in vivo may make the most sense. For younger middle school or high school students, teachers may select either option, with consideration being given to student preferences for instructional settings, instructional costs, resources, and scheduling.

Computer-based video simulations have been used to promote generalized purchasing skills with impressive results, including ordering across different fast-food restaurants (Mechling et al., 2005), checking out items across various grocery stores (Hansen & Morgan, 2008), and reading various aisle signs to locate items in a grocery store (Mechling & Gast, 2003; Mechling, Gast, & Langone, 2002). Mechling et al. (2002) videotaped three different grocery stores in order to teach high school students with moderate intellectual disabilities to read aisle signs and locate items in a grocery store. The videotapes illustrated travel throughout the stores, the location of aisle signs, and items within the aisle. To teach aisle sign reading, when a still photograph of an aisle sign appeared on a computer screen, selecting the correct word on the screen caused the computer to show movement down the aisle for a certain item. Students were taught to shop for items by identifying the correct aisle. The results showed that the video simulation consisting of video modeling and prompting taught students generalized reading of aisle signs (across different store examples) and the location of items in an actual store not used in the video instruction. With the assistance of a technology consultant, similar programs can be designed for schools so that older students could learn grocery-shopping skills while taking computer classes with peers. Some community instruction time must be scheduled to ensure generalization.

Self-Operated Prompting. Useful for remembering long shopping lists or steps in a routine, self-operated prompting systems, especially mobile technologies, are also ideal for promoting independent shopping. However, Bouck, Satsangi, & Bartlett (2012) argued that not all students are able to afford high-tech systems, and many may be dependent on others to program the device or create picture lists for them, which could hamper students' independence over time. Instead, using a creative alternative and a simple lower-tech and lower-cost system, these researchers taught high school students with intellectual disabilities to audio record their own shopping lists (lists varied weekly), and then use the audio recorder to locate items while grocery shopping. This study illustrates once again that the best system is one that is suited to individual needs.

Teaching Money Use. The demand for math skills involved in counting money can limit students' mastery of purchasing skills (Xin, Grasso, Dipipi-Hoy, & Jitendra (2005); therefore, money-handling skills are an important instructional focus. For some students, the math skills needed during purchasing can be bypassed entirely by teaching students to (a) use a prescribed amount of money (e.g., always buy snacks using a five dollar bill), (b) use a template to match the correct coins or bills needed for an item, or (c) use a debit card (Mechling et al., 2003). For students with some math skills, other adaptations can be tried. For example, Cihak and Grimm (2008) used the "next dollar" and "counting on" strategies to teach high school students with

intellectual disabilities and autism to make purchases. That is, for prices up to $5, students were taught to count out to the next dollar, using one dollar bills (e.g., for $3.50, count, 1, 2, 3, next 4). For prices between $5.00 and $9.99, students were taught to start with a five dollar bill, then count on to the next dollar; for prices between $10.00 and $14.99 or $15.00 and $19.99, students begin with a ten dollar bill or a ten and a five, respectively, and so on. Primary instruction took place in the high school resource room, using multiple examples for practice, followed by real opportunities to make purchases in the high school bookstore and during regularly scheduled opportunities for community instruction.

Comparison shopping is also important and relevant for students with higher math skills. Sandknop, Schuster, Wolery, and Cross (1992) taught students to select the lower priced item from among similar groceries. Using constant time delay, students learned to look at two prices on a number line that was written vertically to determine which one was the lower price. Across training phases, students learned to compare not only the first digit of the price but then the second, third, and fourth digits. Frederick-Dugan, Test, and Varn (1991) developed a general case analysis of three types of purchases: food, clothing, and hygiene items. The instructor showed the students pictures of items from each category and a price up to $20. The students determined whether they could buy the items by using a calculator. The instructor used progressive time delay to teach the students to compare the price to the money that they had to determine whether they could make the purchase.

Social Skills. To be successful, students may need social skills while making a purchase, such as greeting clerks and other customers, asking for help, waiting in line, saying "please" and "thank you," and responding to questions ("How can I help you?" "Would you like fries with that?"). As illustrated in Table 14–5 these skills can be taught as part of a purchasing routine (Westling, Floyd, & Carr, 1990) and should be considered when developing an instructional task analysis. General case and multiple exemplar instruction can also be used to teach variations of social skills needed across settings, like in the previously described Mechling et al. (2005) study where students practiced responding to different types of cashier questions in a fast-food purchasing simulation.

Community Leisure

There are many community leisure activities in which students can participate. These activities may include dining out, going to concerts or movies, participating in fitness classes, walking in the park, participating in clubs, and going to special community events. School and community extracurricular activities provide opportunities for inclusive leisure instruction. For example, many schools have music groups, pep clubs, computer clubs, and intramural sports. Important considerations for planning leisure activities include (a) assessing and honoring individual preferences for activities, (b) teaching individuals to self-initiate leisure activities, and (c) providing direct instruction for leisure participation in inclusive settings.

Honoring Choice in Leisure Activities. An important aspect of leisure activities that makes them fun and relaxing is that they are optional. People choose what to do with their leisure time, including the choice to do nothing! Similarly, students with intellectual disabilities need the opportunity to choose how to spend leisure time. While some will be able to make these choices by telling others what they want to do or by initiating activities on their own, others need the opportunity to sample new leisure options to decide which to pursue. Sometimes these choices can be expressed by selecting pictures of the activities or by using some other communication system (e.g., signing, communication board).

One challenge some instructors face is understanding the leisure preferences of students who do not have a formal system of communication. Browder, Cooper, and Lim (1998) demonstrated how to teach students to select objects to indicate their

choice of activity. In a three-phase study, these researchers first assessed participants' preferences for community activities by timing the duration of their participation in activities at each site. Once clear preferences emerged, they taught the participants to select an object to represent each activity. Using time delay, the instructor taught the participants to select a golf ball for golf, a library card to go to the library, a name tag for a club, or shoes for an aerobics class. This instruction occurred immediately before the leisure activity. Once the participants mastered associating the object with the activity, the third phase of the intervention was to give the participants a choice among the activities represented by the objects. Once a selection was made, the participant's choice was honored and he or she went to the community setting, which also strengthened the association between the object and the activity.

Teaching Self-Initiation of Leisure Activities. The second consideration in planning instruction for leisure activities is to encourage the student's self-initiation. Bambara and Ager (1992) taught adults with developmental disabilities to use pictures to self-schedule leisure activities for the upcoming week and then refer to their activity schedule each afternoon to initiate activities and arrange for needed transportation. Similarly, Devine, Malley, Sheldon, Datillo, and Gast (1997) taught participants to use a picture calendar and compared (a) having the participants put a reminder on their wall calendar with (b) giving participants a morning phone call to prompt the selected activity. Both prompting methods increased the participants' self-initiation of community leisure activities. Any number of scheduling software programs could replace prompting by an instructor.

Instruction for Participation in Leisure Activities When direct instruction is needed, many leisure or recreational skills can be taught in school settings and involve typical peers as participants or instructors. With the assistance of parents, siblings, and/or community instructors, such skills can be easily transferred to leisure participation in home and community settings. For example, Zhang, Gast, Horvat, and Datillo (1995) taught students with intellectual disabilities "lifetime sport skills," including bowling, overhand throwing, and short-distance putting, which can be used to participate in a variety of community games. Swimming, another lifelong skill needed for participation for pool parties, beach outings, and community recreation, can be taught in school settings using constant time delay (Rogers, Hemmeter, & Wolery, 2010) or least-to-most prompting (Yilmaz, Konukman, Birkman, & Yanardag, 2010).

Teaching students to use technology for leisure purposes is another skill set that may be taught during recreational activities in school and be easily transferred to home and community settings. Examples include teaching students to take digital photos and print them (Edrisinha, O'Reilly, Choi, Sigafoos, & Lancioni, 2011), use an iPod touch to listen to music (Kagohara, 2010), download and watch videos (Kagohara, Sigafoos, Achmadi, Van der Meer, O'Reilly, & Lancioni, 2011), and play *Guitar Hero* game (Blum-Dimaya, Reeve, Reeve, & Hoch, 2010).

To promote independence, it is sometimes important to teach the entire leisure routine (including initiating and terminating) and related social and communication skills, and not just only one component of the activity (e.g., the core steps of how to bowl) (see Chapter 3). Using in vivo instruction, Schleien, Certo, and Muccino (1984) illustrated how to teach an entire routine in a bowling alley to a student with intellectual disabilities. Instruction focused on not only how to bowl but also how to purchase a drink and use the vending machine. The participant generalized these skills to three other bowling alleys without additional instruction. In another example, Taylor, McKelvey, and Sisson (1993) taught the entire routine for ordering pizza, which included using the phone, interacting with the delivery person, cutting and serving the pizza, and cleaning up. The routine was taught during a school simulation using a system of least prompts and props (e.g., pizza box, phone) along with in vivo training in the community.

Banking

Because automated banking has replaced teller window banking, using an ATM is an important community skill, especially for students approaching adulthood. Operating an ATM for cash withdrawals, deposits, and account balances consists of multiple steps involving multiple computer prompts (e.g., "Choose your language," "Do you want to make another transaction?"). Although teaching students to use different types of ATMs is rarely necessary (i.e., teach the ATM closest to home or work, or from only one bank), multiple practice trials will be needed because of its complexity, especially if teaching multiple functions. Complexity can be reduced somewhat by teaching responses to only to certain screens (e.g., always withdrawing $20.00 from "Fast Cash") or through partial participation (e.g., student independently inserts card and removes cash, but responds to ATM prompts with guidance from a companion).

Because multiple practice trials may be needed, some form of classroom simulation combined with community instruction can enhance efficiency.When creating simulations, teachers can construct a replica of an ATM using plywood or cardboard and enlarged photographs of ATM screens (e.g., Bourbeau, Sowers, & Close, 1986), use photo albums or video models to illustrate steps (e.g., Alberto et al., 2005), or video prompting in a computer simulated environment (e.g., Davies, Stock, & Wehmeyer, 2003). Each of these simulation methods have been effective in promoting some generalization to actual ATM machines; however, mastery should not be considered complete until adequate performance in the community occurs.

For students whose instruction is entirely community based (and where simulation is not a good fit), the use of a self-operated prompting system may be used to enhance learning and help students remember lengthy sequences. In one study (Scott, Collins, Knight & Kleinert, 2013), three students with intellectual disabilities attending a transition program on a college campus were taught to operate an iPod containing video modeling and audio cues to withdraw cash from an ATM.

Community Mobility

Community mobility involves pedestrian safety, being able to use public transportation, and finding locations in the community. The research on street crossing demonstrates that in vivo instruction has a clear advantage over classroom simulations, although simulation can enhance efficiency and in some cases simulation alone can result in the generalization of pedestrian skills to actual city streets (Dixon, et al. 2010). Regardless of the potential advantages of simulation, street crossing is one skill in which community instruction and perhaps over-practice is essential because of safety concerns. Obviously, when teaching street crossing, there is little room for error. Teachers should consider using time delay, simultaneous prompting, or most-to-least prompting to avoid risky mistakes.

For some students, the most important street crossing skill to master is crossing streets with an escort (a partial-participation goal). The task analysis would address walking or propelling a wheelchair near the escort, stopping at curbs, crossing when given a verbal or physical cue, and crossing without stopping in the street. For other students, the outcome is independent street crossing. When independence is the goal, it is important to take a general case approach to teach the variations of streets encountered in a particular community as illustrated in Mateo's case (Table 14–3). Consideration should be given to the range of stimulus variation that the student may encounter including the speed of cars, the number of cars, changes in lights, the types of pedestrian signal (e.g., words, pictures), the number of lanes, traffic directions (e.g., one way or two way), the angle of crossing (e.g., straight, diagonal), and the type of street (e.g., stop sign, traffic light). Horner, Jones, and Williams (1985) trained on 10 different streets daily and probed with untrained streets until it was clear that participants could cross a variety of streets safely.

Some individuals with severe disabilities need instruction to learn to walk from one location to another without stopping, wandering, or sitting down on the ground. For example, Spears, Rusch, York, and Lilly (1981) taught a boy to walk from his school bus to his classroom. They used pacing prompts (verbal reminders) to encourage the boy to keep walking without pausing. Teachers might consider having the student walk with peers to establish pacing. Another pedestrian skill is to find the way to a given location. Finding locations in some communities is complex and may require recognition of key landmarks. Kelley, Test, and Cooke (2013), taught students to follow pictures on an iPod to find landmarks and travel to various destinations on a college campus. Once they were trained to use the iPod, three of the four students independently used the iPod to travel to new locations on campus.

Following the procedures used in the study by Kelly et al., Aaron's instructor took digital photos of landmarks along Aaron's three most frequently traveled destinations on campus (drama class building, gym, and sandwich shop). These landmarks were sequenced in a PowerPoint slide along with arrows indicating which direction to turn. PowerPoint slides for each destination were then imported into the iPod. First, Aaron was taught how to navigate the iPod by looking at a picture and then advancing the slides forward and back. Next, traveling with Aaron, the instructor directed Aaron to use his iPod to find pictured landmarks along the route. If he made an error (e.g., missed a landmark), the instructor used a variation of least to most prompting to direct Aaron to go back to the previous slide or landmark for correction. Training continued until Aaron could find the landmarks without instructor prompts and, eventually, without the instructor present.

In some contexts, getting to these desired locations requires using public transportation, such as the bus or subway. Bus riding can be taught with some simulated practice. For example, slides or videos taken in the local community can help students learn which bus to take, how to board and exit, and identify key landmarks to know when to get off the bus or signal (pull cord) the bus driver (e.g., Coon, Vogelsberg, & Williams, 1981; Mechling & O'Brien, 2010; Neef, Iwata, & Page, 1978). Table 14–6 provides a response sequence for teaching bus riding that uses simulations as an adjunct to community-based instruction. To practice bus riding, the teacher shows slides (or video clips) for each response in the task analysis.

TABLE 14–6
Task Analysis for Teaching Bus Riding with Simulation

Students: Julia, Tom, Sarah	**Skill: Bus riding**
Step of Task Analysis	**Video, Slide, or Picture Simulation**
1. Walk to bus stop.	Pictures of nearby bus stops
2. Wait at bus stop.	Show people waiting for bus
3. Identify correct bus.	Pictures of buses that come to that stop
4. Signal bus to stop.	Show person waving hand
5. Wait in line to enter bus.	Show people in line
6. Enter front door of bus.	Pictures of both bus doors
7. Give driver bus pass.	Show driver and have real passes
8. Sit in empty seat or stand.	Show seats that are empty and full
9. Identify destination.	Pictures of landmarks
10. Pull cord for stop.	Picture of cord
11. Exit rear door.	Picture of inside bus doors
12. Move away from bus.	Show person correct (moving away) and wrong (walking in front of bus)

When teaching Julia and some classmates to take the city bus to the mall, the teacher showed a video clip or slides of bus stops near the school. When the correct bus stop was shown, students were encouraged to raise their hands. The teacher asked one student to verbalize what they would do: "We get on the bus by Jack's Diner." She then showed video clips or slides of the various buses that stop at that destination. When the bus that says "West Mall" was shown, students again raised their hands, and someone stated the appropriate step. This procedure continued until all of the steps had been rehearsed. Next, the students applied these skills in an actual trip to the mall.

LEARNING OUTCOME SUMMARIES

14.01 Guidelines for Planning Instruction to Enhance Skills for the Home and Community

Learning Outcomes

Identify and discuss essential guidelines for planning instruction for home and community skills as they relate to individual learner needs.

Since the 1970s curriculum for learners with severe disabilities has undergone important transformations. Instruction for home and community participation remains an important curriculum focus but must be carefully balanced with standards based-education and inclusion in typical school activities. The approach to blending functional skill instruction with access to the general educational curriculum will be unique to each individual, with home and community skills gaining greater importance as students grow. In this chapter, we offer six guidelines for planning home and community instruction that will result in effective instruction and meaningful learning. They emphasize (a) establishing a vision to select meaningful goals, (b) coordinating instruction with families, (c) encouraging self-determination and independence through self-directed learning, (d) selecting appropriate settings for home and community instruction while honoring school inclusion, (e) using general case instruction to promote generalization, and (f) coordinating home and community instruction with transition planning.

14.02 Strategies for Teaching Home and Community Skills

Learning Outcomes

Identify critical skills needed and effective instructional strategies for home and community participation.

Numerous skills are needed to fully participate in home and community settings, but learner goals will determine what skills are important to teach, when, where, and how. By discussing ideas for what to teach and reviewing research-based strategies on how to teach, teachers can individualize instruction for home and community settings that best matches desired outcomes.