

6 | Dealing with Common Errors

Keiko is washing dishes when her son, Yoshi, walks into the room from the bathroom. Keiko hears the faucet still running so she says, “Please go turn off the water.” Yoshi does as she asks. The next day, Keiko again hears that Yoshi has not turned the faucet off after he has been to the bathroom. She again reminds him about what he needs to do. After five days in a row of this pattern, Keiko is getting exasperated, wondering why her son cannot learn this simple rule about when to turn off the water. Her husband comments, “But Keiko, he does know when to turn the water off—he does it when you tell him to!”

As we suggested, our preference is to try to teach in ways that limit the likelihood of errors—“trial and success” is a good motto to follow! Still, no matter how tiny may be the steps we design, all children will make mistakes at some point. Sometimes, we’ll see the mistake within a formal lesson that we’ve created, while at other times, we’ll notice an error during a time when we’re not even conscious of an ongoing lesson taking place. The key to long-term effective learning often is how well we respond to these errors.

On the one hand, adults often feel that it is a good idea just to repeat things if a child makes an error—maybe the child would do better with another chance. However, you might want to follow the advice of a brilliant man who is not often thought of as a teacher. Albert Einstein once said that it is insane to “do the same thing over and over but expect a different outcome.” How does this relate to

teaching? Well, think of how many times you've repeated yourself (or watched others repeat themselves): "Michelle, come here.... Come here, Michelle . . . come here! Come on, now, come here . . . you can do it . . . come here now . . . COME HERE!" If we ask the child a question or use some type of prompt and the child does not respond correctly, should we repeat the prompt that we just determined was ineffective? Why should we expect a different outcome if we repeat what already hasn't worked? It seems that Einstein would suggest doing something differently after an error, and we would agree. If a prompt doesn't work, try a different way to help.

How should we help? That is easier to figure out if you know the kind of lesson being taught. As Chapter 4 explains, some lessons involve discrete trials and others involve sequences of steps. Because these are two very different types of lessons, we should use two very different types of strategies to handle errors.

Handling Errors During Discrete Trials

Let's say you asked your daughter, Emily, to bring you a cup, but instead she brought you a sock that was lying on the floor. Since she did not seem to understand the spoken word, "cup," repeating it is more likely to result in another error than the correct response. You know that Emily does a good job of getting things when you point to an item. So, rather than repeat your request, you point to the cup. She now brings you the cup. However, you now may well wonder whether Emily is learning the lesson you are trying to teach. After all, this was not a lesson about "bring you things you point to"; rather, it started as a "listen to my instruction" lesson.

We would like to see if Emily really can understand our spoken words. So, we put the cup back, and ask Emily again to bring the cup. This time she does so correctly. But are we done with the lesson? Some of you may have a queasy feeling because you notice that Emily brought you the cup twice in a row. Does she really understand what you are saying or is she just repeating the last successful thing she did (a very good learner-strategy, by the way). So, we provide a little praise and we put the cup back. Now, to make sure that Emily is listening to us (rather than getting locked into her own pattern of repeating the last correct action) we ask her to get something that she already knows how

to do—get a ball. Immediately after she brings us the ball (because she always does this task well), we ask for the cup. Now, if she brings the cup, we can feel more confident that she has indeed listened to our request, so we also provide some enthusiastic praise (and fill the cup with something she likes to drink).

These steps may seem complicated and take a little time to adjust to but they will help speed up the learning process and help reduce the chances that the child will get stuck on the type of help you provide (some people call this “prompt dependency”). Notice that this was a discrete trial type of lesson—simple question, simple response. Once the error occurred:

1. We helped in a manner that showed, modeled, or demonstrated the correct answer.
2. We then used the original cue to encourage the child to repeat in a practice fashion—that is, we give some praise, but not a lavish amount, for a correct response.
3. We next switched or changed the task to something that the child is already good at doing (this varies from child to child, and from occasion to occasion). We also used this third step to help assure that the child was really attending to us.
4. Finally, we repeated our original request and provided a nice reward for successful completion of the task.

Not surprisingly, we call this the 4-step Error Correction Procedure to help us remember each of the four steps that leads to improved learning. Refer to Table 6-1 on the next page for a description of this error correction strategy for one lesson.

You may find opportunities for this type of error-correction strategy even when you are not conducting a formal lesson. For example, your daughter is helping you load the washing machine and you have a pile of clothes that has both dark and light pieces. Your aim is to load only the “whites” for this load. As you load the laundry, your daughter reaches for an item that is “dark.” You can gently block this error and immediately point to a light item (model) and gesture (practice) for your child to put that one in the machine without providing much praise. Then you could ask her for a clothespin (something that she knows very well)—this would be your “switch” step. Next you would gesture (repeat) to the pile (without pointing to any one piece) and when she takes out a light piece, praise her generously! This 4-step

Table 6-1 | Using the 4-Step Error Correction Sequence

Step name	Teacher action	Child action
	"Give me the apple"	Gives an orange
1. Model	Points to and taps on apple	Gives the apple
	Replaces apple	
2. Practice	"Give me the apple"	Gives the apple
	Quietly says, "Good"	
3. Switch/change	"Where's Mickey?"	Points to Mickey Mouse doll
	Quietly says, "That's right"	
4. Repeat	"Give me the apple"	Gives the apple
	"That's great!" and hands over a cut piece to eat	

error correction can be used whenever a task involves discrete trials, whether or not you are setting up a true lesson or just reacting within a naturally occurring opportunity.

There may be times when your child repeats the error at the last step of your correction sequence. In this case you may repeat the entire four steps. However, too many repetitions of the error will likely lead to an emotional outburst and little learning, so we advise running through the 4-step sequence two or three times at most before ending the situation (on a positive note if possible—after a successful switch, for example). At that point, you should move on to something else while you think about what went wrong. Perhaps your child is too tired or bored or simply not motivated to learn your lesson at that point.

Handling Errors during Sequential Lessons

Backstepping

Remember, not all lessons involve discrete trials. Many lessons involve sequential tasks. What should you do when your child makes errors in this type of lesson—either errors of omission—she pauses or

simply doesn't do a step, or errors of commission—she does the wrong thing at a certain step?

Let's suppose you're baking a batch of pre-mix cookies. Part of the sequence calls for the child to turn on the oven, set the temperature, put the dough on the tray, open the oven, insert the tray of cookies, close the oven door, and set the timer. As you watch your daughter, you see that she has put the tray in the oven but did not start the oven or set the temperature. You know that if you now point to the correct buttons, she will start the oven and also set the temperature. This approach will fix the immediate problem but will it lead to improved learning? That is, what do you think she will do the next time she bakes cookies? Right—she will put the tray in and wait for you to remind her to push the correct buttons.

How should we handle this type of error within a sequence? We think it is important to understand that each step should act as the signal for the next step. Putting in the tray should only follow starting the oven and setting the temperature and putting the dough on the tray. If we help outside of the proper sequence, we will maintain that inappropriate sequence. Therefore, we need to recreate the correct sequence. In this case, we would calmly tell the child to try it again and take the tray out of the oven and put it back on the kitchen counter (because putting the dough on the tray was the last successful step). Then we would prompt her to start the oven and to set the temperature before getting her to put the tray in the oven. This strategy seeks to link setting the temperature to finishing putting the dough on the tray. Thus, we have stepped back into the sequence just before the error took place. We call this type of error correction backstepping. You can review the use of backstepping in Table 6-2 on the next page.

Now, we realize that it is far simpler to just point to the temperature button on the oven and thus fix the problem. But fixing the problem now may not lead to avoiding the problem in the future. Only if the child learns the proper sequence will she be able to perform the steps in their proper order the next time. So, it will be worthwhile to spend a little extra time on this occasion in order to save a lot of time down the road when you would keep having to remind your child to set the temperature.

Let's look at another example of using backstepping. What would you do if your child slammed the door too hard upon entering your car? You might be tempted to tell your child not to do that again or to

Table 6-2 | Using Backstep Error Correction with Hand-washing Routine

Correct sequence	Actual sequence	Teacher Backstep actions
1. Pick up soap	Picks up soap	
2. Turn on water	Turns on water	
3. Wet hands/soap	Wets hands/soap	
4. Put soap down	Puts soap down	
5. Rub hands	Rubs hands	
6. Rinse hands	Rinses hands	
7. Turn water off		
8. Dry hands	Dries hands	
9. Leave bathroom	Leaves bathroom	1. Take child back into bathroom (no scolding!)
		2. Help child get hands wet and soapy
		3. When child rinses hands, prompt to turn off water
		4. Allow to dry hands
		5. Praise and reward for completing routine!

tell her to open and close the door gently while she is sitting in the car. However, using the backstep error correction strategy, you would ask your child to get out of the car and reenter it while guiding her to gently close the door. This way you help her associate entering the car with proper handling of the door, not merely following your instructions.

If your child refuses to go back within the sequence, you should check on a couple of things. First, make sure that your tone of voice is not harsh or punitive. It should be matter-of-fact and supportive, as in, “Let’s try that again!” You should also check and determine whether your child is motivated to complete the activity. If she is not motivated to complete the task, then you will need to address this issue before modifying your teaching strategy. Finally, if the situation itself is difficult to replicate, you may consider the strategy described in the next section.

Anticipatory Prompts

There will be occasions when you will find it hard to arrange for an immediate backstep. Some tasks at home and in the community will not permit any type of restart. For example, think about helping your child to put the right amount of liquid soap into the dishwasher dispenser. If she makes a mistake and pours in a quarter-cup too much, would you want to back-step then, have her put in the correct amount, and then turn on the machine? Only if you are prepared to work on mopping up the extra suds!

Or, perhaps you are at a movie theater, and, after standing in a long line for a popular movie, your son has walked past the ticket collector without giving him the ticket. If you wanted to use the backstep strategy you would need to get back in the line so that your son can associate approaching the ticket collector with giving the ticket. Of course, that is very impractical in this situation. We suggest that you will need to anticipate this error during the next natural opportunity (or during a mock-movie-ticket rehearsal in some other locale) and give your son some help before he once again makes the error that you can anticipate.

This type of anticipatory prompt is helpful when you know that an error is likely to occur. Thus, as you approach the end of the line, you could use a direct reminder: “Hold out your ticket for the collector” or a more indirect prompt, “Remember what to do with your ticket” or “What will you do with your ticket?” You will know if you have an effective prompt if your child hands over the ticket at the right time! Likewise, when it comes to measuring out soap for the dishwasher, you would need to provide an effective prompt—perhaps a bright red line on the cup at the correct level—prior to the next opportunity to load the dishes.

Sometimes you may realize that your child has made an error but you have no time to run through an error correction sequence. For example, your sixteen-year-old needs to leave the house in the next two minutes to catch the school bus and you realize she has not put on her deodorant. In this type of situation, we would suggest that you simply take care of the immediate problem (fix it!) and save your error-correction for the next occasion. If we don’t have time to teach, then we still should take care of our children. That is, immediately help your child apply deodorant on this occasion but be sure to use an anticipatory prompt tomorrow!

Review

Our first goal as teachers is to promote learning with as few errors as possible. In this manner we try to assure that learning is a positive experience for our children. When errors do occur, we should understand the type of lesson we are teaching before deciding how to respond to the error. We can view errors as an opportunity to practice the correct response. Errors made within discrete types of lessons can lead to the use of a 4-step error correction sequence as a way to help the child perform without an immediate prompt. Within sequential lessons, we should focus on linking each step in the correct order. Consequently, we may need to backstep to assure that the chain is being constructed in the correct manner. When going back to an earlier part of a sequence is not possible or practical, then we can anticipate that the error will take place similarly on the next opportunity and provide some type of prompt to prevent the repetition of that particular error. Remember, don't simply fix the problem—teach a skill via error correction!

In the next chapter, we will take a look at another issue that may be problematic within your family—what to do when your child doesn't act his or her best!