

# How the Environment of Poverty (Having Fewer Resources) Impacts Cognition and Learning

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Poverty will be defined in this essay as the “extent to which one does not have resources.” Resources are tools by which one negotiates his or her environment. Obviously, the more resources you have, the better equipped you are to be successful. These resources include the following:

## **Financial**

Having the money to purchase goods and services.

## **Emotional**

Being able to choose and control emotional responses, particularly to negative situations, without engaging in self-destructive behavior. This is an internal resource and shows itself through stamina, perseverance, and choices.

## **Mental**

Having the mental abilities and acquired skills (reading, writing, computing) to deal with daily life.

## **Spiritual**

Believing in divine purpose and guidance. Having hope or a future story.

## **Physical**

Having physical health and mobility.

## **Support Systems**

Having friends, family, and backup resources available to access in times of need. These are external resources.

## **Relationships/Role Models**

Having frequent access to adult(s) who are appropriate, who are nurturing to the child, and who do not engage in self-destructive behavior.

## **Knowledge of Hidden Rules**

Knowing the unspoken cues and habits of a group.

## **Formal Register**

Having the vocabulary, language ability, and negotiation skills necessary to succeed in school and/or work settings.

So how does having fewer resources impact cognition and learning?

All beginning learning and cognition occur in a “situated learning” environment. Lave and Wenger (1991), two researchers at Columbia University in New York City, state that one first learns in a situated learning environment where they are relationships, people, tasks, language, and context.

## “Situated Learning”

	Just plain folks	Student	Practicing individual or apprentice
Reason with	Casual stories	Laws	Casual models
Act on	Situations	Symbols	Conceptual situations
Resolve	Emergent problems and dilemmas	Well-defined problems	Ill-defined problems
Produce	Negotiable meaning and socially constructed understanding	Fixed meaning and immutable concepts	Negotiable meaning and socially constructed understanding

Source: “Situated Cognition and the Culture of Learning” by John Seely Brown, Allan Collins, and Paul Duguid. *Educational Researcher*. Vol. 18, No. 1. January-February 1989. pp. 32–42.

You reason with stories and act on situations, and you participate at a “peripheral” level—at the edges of the learning. You are not sure that you want to participate. When one goes to the second column, which is formal schooling, learning becomes largely decontextualized. You act on symbols (letters, numbers, drawings), and you reason with laws. Both the environment and the criteria for learning change.

A highly successful businessman in the United States told me this story. He grew up very poor with his mother, four siblings, and no father in the picture. When he was 7 years old, he had a paper route and saw a bicycle he wanted. The bicycle cost \$40. So every week he would keep a dollar back for the bicycle and give the rest of the money to his mother. He had \$40 saved and came home from school to buy the bicycle. He looked where he had kept his money, and it was gone. He went to his mother and said, “Have you seen my money?” She said, “Yes I took it today. Your sister was very sick, and I thought she was going to die. I used the money to pay the doctor and buy her medicine. You were the only one who had any money in the house. I think your sister would have died without it.” The next year, third grade, his teacher was talking about math and why you need math. If you understand math, then can count

and save your money, buy assets, and get ahead. The businessman told me, “I decided then that if that teacher was so stupid that she didn’t know what happened to your money when you saved it, then she probably didn’t understand math either, so I decided I wasn’t going to learn math.” And he didn’t.

When the early learning is very different from the formalized, decontextualized schooling, then many students choose not to learn.

## What Makes the Environment of Poverty (Fewer Resources) Different from the Environment of Formalized School?

1. ***In school, learning tends to be separate from relationships.*** In the situated learning of poverty, learning occurs in the context of relationships.
2. ***In school, learning is abstract (represented on paper or computer), verbal (words are relied upon almost exclusively), and proactive (students must plan).*** In the situated learning environment of poverty, learning is based on sensory data, it relies on nonverbal data as much as verbal, and it is reactive. The two worlds are diametrically opposed.
3. ***In poverty, survival is a crucial skill.*** In formalized schooling, achievement is the crucial attribute. Survival means the ability to live in the “tyranny of the moment.” It also means one doesn’t develop a future story.
4. ***School success is highly dependent on a student having an external support system.*** Often we find that students from poverty *are* the support system for the family and have very little support for themselves.
5. ***The intergenerational transfer of knowledge is a huge factor in school success.*** In a study in Australia that followed more than 8,500 children for 14 years, researchers found they could predict with reasonable accuracy the verbal reasoning scores of 14-year-olds based on the maternal grandfather’s occupation (Najman et al., 2004). In other words, the greater the language with young children, the greater their potential (see also No. 7 below).
6. ***The development of the pre-frontal cortex, which is the executive function of the brain (impulse control, working memory, planning), generally is not developed by the environment of generational poverty.*** In a study released in 2008 using EEG (electroencephalogram) scans with poor and middle-class children, researchers found that the prefrontal cortex of the brain in poor children was undeveloped and resembled the brains of adults who have had strokes (Kishiyama, Boyce, Jimenez, Perry, & Knight, in press). The researchers went on to say that the prefrontal cortex can be developed through intervention.
7. ***Poverty tends to be heavily dependent upon casual register, whereas school is heavily dependent upon formal register.*** Hart and Risley (1995) found in their research that the average 4-year-old in a professional household has heard 45 million words, while a 4-year-old in a welfare household has heard 13 million words. In fact, they found that a 4-year-old in a professional household has more vocabulary than an adult in a welfare household (Hart & Risley).
8. ***In any situated learning environment, there is a set of “hidden rules” that individuals tend to follow.*** Those “hidden rules” are usually not articulated, but they are equated with intelligence.

Poverty has a different set of “hidden rules” from middle class and a different set from wealth. One set is not better than another; the sets of hidden rules are simply different and help you survive in a given environment.

## What Can Schools Do to Increase Achievement for Under-Resourced Students?

1. **First and foremost, create relationships of mutual respect with students.** Mutual respect is not about being their friend or their buddy but rather about having high expectations, insistence, and support. Virtually all learning occurs within the context of a relationship (Greenspan, 1997; Goleman, 2006; Comer, 1995).
2. **Use the resource analysis as a method for determining interventions that work.** In order to determine interventions that will be successful, an analysis is made of the student’s resources. Then interventions are successful only if they’re built on the resources to which the student has access.
3. **Provide the tools to bridge between the abstract representational reality and the sensory world by using mental models.** Mental models translate between sensory and abstract representational information. Mental models are stories, analogies, movement, or pictures/drawings.
4. **Teach planning.** Planning is crucial for school success. Planning helps you get tasks done on time, provides procedures, and allows for a systematic approach to assignments.
5. **Teach formal register.** Martin Joos, a Dutch linguist, found that no matter what language you speak in the world, there are five registers: *frozen* (words that are always the same, such as Lord’s Prayer or wedding vows), *formal* (written language with specific word choice and sentence structure), *consultative* (spoken version of formal register with some casual register), *casual* (language between friends), and *intimate* (language between lovers and twins—the language of sexual harassment). If the person has been in poverty two generations or more, there isn’t much formal register. We teach students that there are two ways to say everything—one as you would talk to a friend and the other as you would hear a newscaster on TV.
6. **Help each student develop a future story.** A future story is critical to school and work success. What do you want to do? What do you want to be? I was speaking with an 18-year-old boy, and I asked him what his life would be like when he was 25. He said he would be dead. I asked him how he knew that, and he said everyone like him is dead by that age. Without a future story, there’s little motivation to do well in school.
7. **Direct-teach the hidden rules of school and work success.** We teach students that there are two different sets of rules—one for the school setting and one for away from school. We ask them if the rules in one sport are the same as another. For example, do you use the same rules in soccer that you use in baseball? By learning these hidden rules of success, students increasingly will be able to function effectively in multiple settings.

## Conclusion

Historically, we have taken resourced students, put them through this tube called school, and the students came out more resourced. Now we must successfully educate students who have fewer resources. It can be done by using the above strategies.

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