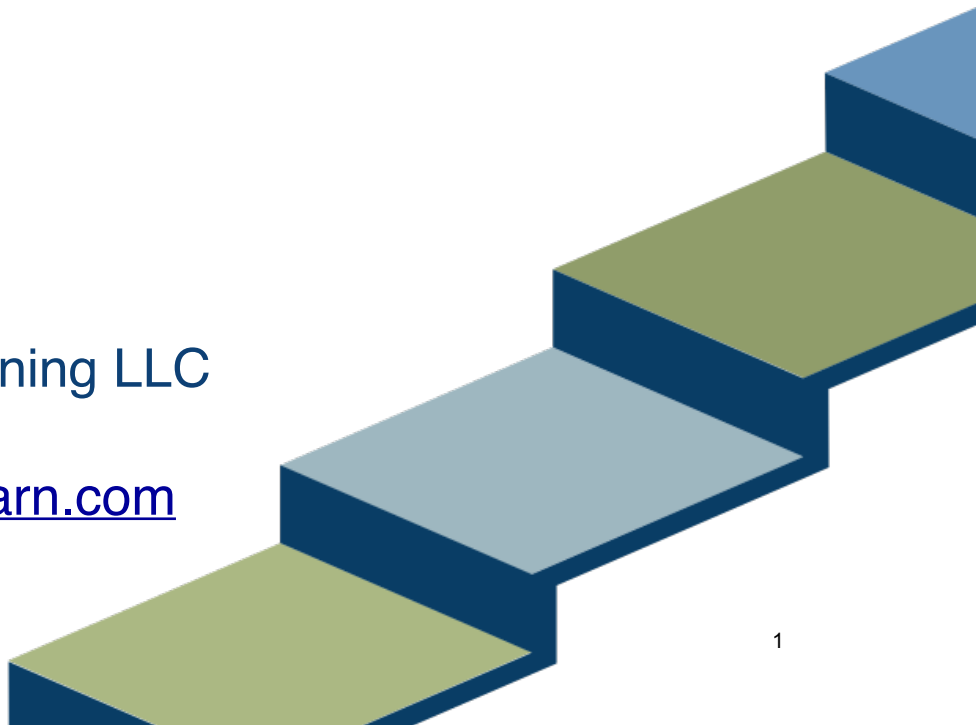
Intentional Instruction

Sherry St. Clair
President, Reflective Learning LLC
Twitter: @Sherrystclair
Email: sherry@reflecttolearn.com



Part of students' brains are shrinking, says education expert

By MICAH HENRY

Dr. Bill Daggett, Executive Chair and founder of the Successful Practices Network, brought some surprising research to light at Alexander Central Auditorium on Thursday, March 13. Dr. Bill Griffin, Alexander County Schools Superintendent, introduced the guest speaker.

Daggett's appearance was underwritten by a grant from the Burroughs Wellcome Fund and Sam Houston. Daggett spoke to an audience of faculty, teachers, and parents at the event, noting that modern youths' brains are developing differently, due to the increased screen time in their childhood, compared with youths of only 10 or 20 years ago.

Daggett wrote a book on brain development with Paul D. Nussbaum, Ph.D., one of the nation's leading neuroresearchers, entitled What Brain Research Teaches About Rigor, Relevance, And Relationships: And What It Teaches About Keeping Your Own Brain Healthy.

"Play-based childhood has been replaced by screen-based childhood," he noted. "Screen-based childhood has led to sleep deprivation, social deprivation, and attention deficit."

He noted that scans of youths' brains have shown a smaller hippocampus region, which is the root of the prefontal cortex. The hippocampus is responsible for spatial memory, spatial navigation, mental mapping, short-to-long term memory. The prefrontal cortex is responsible for problem solving, organizational skills, ability to focus, resilience, and long-term memory.

He gave the example of how he navigated to the school Thursday — he flew to Charlotte, rented a car, and used GPS to find his way to drive to Taylorsville. He doubted he could name most of the towns he passed through between Charlotte and Hickory to arrive here. Only a few years ago, he would have had to navigate using a paper map.

"The brain is a muscle. If you don't use it, you lose it," Daggett explained. "Our hippocampuses are shrinking because we're not using them. What's the big deal? It's responsible for those skills and memory. The thing that scares me, the technology that underpins GPS and other technologies are the same technologies that underpin the games the kids are on. Today's kids' hippocampuses are fraction of the size of the hippocampuses of kids' brains ten and twenty years ago. Why? They're never developing. Why does that become such a critical issue? Because the hippocampus is the foundation — the roots — of the prefrontal cortex, and the prefrontal cortex is responsible for those skills (problem solving, organizational skills, ability to focus, resilience, and long-term memory). Ask any classroom teacher in this country if they have seen an erosion in kids' abilities in these four areas, and they say, absolutely."

AI can do the predictable, Daggett related, but the unpredictable — the skills that are increasingly more important if parents want to children to become independent — those are the skills children are coming to school having diminished capacity in.

"What do we do in our schools to address this? What are the instructional practices we need to begin to use and maybe ultimately help parents understand better? The key to it is, you have to teach kids how to apply skills," Daggett said. "If you learn how to apply, you retain it."

He gave example that a carpenter probably learns more math and science doing carpentry than in any classroom — because he had to problem solve and use skills.

"But we're not about that," Daggett noted.

He played a video clip from Stanford's Dr. Linda Darling-Hammond, who stated, "Inert knowledge, things that you memorize, spit back, and never use, does not stick. About 90 percent of the things you might take in, memorize, use on a test, and never use again disappear. You don't have those usable in your brain later."

Lawrenceville Academy asked returning students to retake their science finals just three months after having completed their courses. Faculty eliminated all low-level details from the final. The result? The average grade on these exams fell from a B+ to an F. Across two years and several courses, not one student still had command of all major concepts they had presumably mastered just three months earlier.

"This is not a curriculum issue," Daggett said. "I'm not suggesting you change your curriculum. It's about your instructional practices and designs."

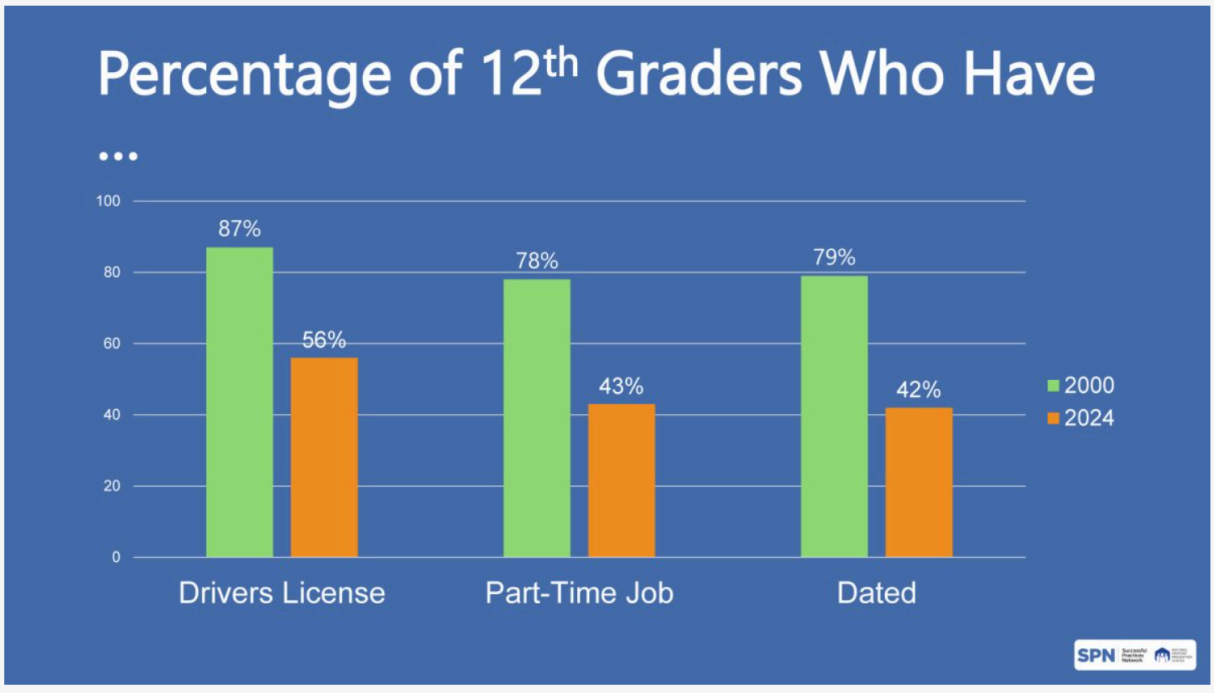
He said one class should have something to do with the next class and guide students to apply skills across disciplines on real-world problems that are not easily solved. He added that students should work as members of a team.

"These kids are really different in other ways," Daggett said. He asked for a show of hands in the audience: how many, within one month of turning 16, got their driver license? Within the first day? Almost half raised their hands.

By contrast, only 56 percent of 2024 high school graduates, nationwide, on graduation day had obtained their driver license, compared to 87 percent in 2000.

The number of twelfth graders who had held a part-time job was 78 percent in 2000 but had fallen to only 43 percent in 2024.

High school graduates of 2024 who had dated was only 42 percent, compared to 79 percent in 2000.



Successful Practices Network graphic.

“The most connected generation, technologically, has become the least connected generation, socially,” Daggett said.

The percentage of students starting postsecondary programs who earn a degree in six years is now only 43 percent. “If that was K-12 education, we would say they had a 57 percent dropout rate,” he noted.

The amount of students from the lowest income quartile who earn a bachelor’s degree in six years is 13 percent. This is the fastest growing group of students in the country.

Moreover, the amount of recent college grads who are underemployed or working jobs that do not require a college degree is 41 percent.

The number of people looking for work for every one job opening is 0.73 persons, as of February 2024, according to U.S. Chamber analysis of Bureau of Labor Statistics data. Back in 2004, it was about 2.5 persons per job opening, meaning employers had a selection of candidates.

“Who are employers hiring? People they never would have hired in the past,” Daggett explained.

Then there’s the Baby Boomer effect. In 1960, 39 percent of the population in this country was under age 19 and only 13 percent was over age 65. There were three young people entering the workforce for every one who retired. But Baby Boomers have begun to retire lately — at the same time the U.S. is experiencing a declining birth rate. By 2035, this is expected to flip, with only 23 percent under age 19 but 24 percent over the age of 65.

“That makes today’s labor shortage look like child’s play, and every employer has to do something different. That’s why they see AI as a solution, like it or not,” Daggett said.

North Carolina’s employers said their single biggest problem is lack of workforce. Other top challenges include chronic absenteeism, poor work ethic, and mental health problems.

This has led, in 2024, several top companies to eliminate or decrease emphasis on college degrees, including: IBM, GM, Bank of America, Google, Walmart, Apple, Nike, Delta Airlines, Amazon, Accenture, Target, Ernst & Young, Hilton, Starbucks, and Penguin Random House.

What has replaced college degrees at those companies are micro-credentials, such as AI prompt engineer (how to ask AI a question). Google, for example, has a $136,403 starting salary for prompt engineers and created a four-week training program for those jobs. Some 147,000 students have signed up for the training, said Daggett.

He said perhaps schools should discuss training students on writing AI prompts, even though the skill isn’t on state tests — because it wasn’t even needed 18 months ago.

“AI isn’t going to replace all jobs any more than automation replaced all the jobs on a farm. I grew up on a dairy farm in upper New York State. It just changed the farming industry… What’s about to happen is what automation did to manual workers in the 20th Century, AI is about to do to knowledge workers at an incredibly accelerated rate,” Daggett related.

Recent surveys of many employers, conducted by McKinsey and Company, showed literacy and math top of the wanted cognitive skills list. However, eight skills not on standardized tests were also important: creativity, adaptability, organization, problem-solving, prioritization, planning, critical thinking, and communication. (Those latter eight skills are the very ones today’s children have deficiences in, due to screen-based play.)

Children are seeing increased deficits in interpersonal skills, including: honesty, trust, teamwork, empathy, humility, collaboration, motivation, relationships, role modeling, and coaching.

Today's youths also lack in self-leadership skills, such as: persistence, integrity, self-control, coping, risk-taking, resilience, self-motivation, self-confidence, passion, and being achievement-oriented.

"Ladies and gentlemen, we have got to prepare our kids for their future, not our past," Daggett emphasized.

He shared three national studies with the group. One was on dropout prevention, noting there is a growing absentee problem in America's schools. The second study was on best practices to make sure youths are gainfully employed six years after graduating high school. The third study, My Future North Carolina, created by the Governor and State House Speaker, looked at what to do to ensure an adequate workforce for the future.

From kindergarten through grade four, schools focus on reading, writing, and math. After grade four, Daggett noted, schools tend to focus on content, because that is what is testable in today's environment.

He noted employers seek different skills than schools focus on. Schools tend to place importance on content, what kids know, testing individual work, predictable situations (having either a right or wrong answer), siloed disciplines, and see AI as a threat.

What students will need to be successful in the changing workplace are: skills, applying knowledge, working in teams, dealing with the unpredictable, having transferable disciplines, and seeing AI (Artificial Intelligence) as a solution.

"AI, whether we like it or not, is coming at us like a tidal wave," Daggett said. "If you can write an algorithm, for any task, AI can do it faster, more efficiently, than any human being. Anything that is predictable, you can write an algorithm for it. So, what do our employers need? They need kids that can deal with the unpredictable, where they have to use problem solving skills and deeper decision skills, and creativity. They have a different set of skill requirements. But we have conditioned our kids to deal with everything that's predictable. So, when they get out of that environment, it really throws them.

"The other difference is, we operate in silos," Daggett said. He noted that children have separate class periods in middle and high school for different subjects. "Once you leave school, [a student] has to integrate all those subjects. The real world is interdiscinplinary. We've conditioned them to think everything functions in silos."

"What's accelerating this issue around the country is AI can help that integration, if they choose to," he continued. "The problem is, AI is a real threat to our instructional practices." He mentioned that some have used AI to cheat. "However, business and industry has a labor shortage. Employers are increasingly saying AI can help solve the problem and do some tasks that humans are paid to do. The world outside the school is increasingly seeing AI as a solution."

Superintendent gives his view on topic

"Please note that, in order to do this work, it's like turning the course of an aircraft carrier — you have to do it very, very slowly," said Superintendent Griffin. "We know there has to be change. We know our students are coming to us differently. But in the classroom, we can't just make that change overnight. But shame on us if we don't at least start having that conversation."

"This is not going to be interjected into our classrooms immediately, but these are things we see with our young people as they work through not only their educational careers, but their lives. We're starting to look at trends for success," said Dr. Griffin. "Some of the research that Dr. Daggett does, all over the world and in the United States, we're tapping into, to say: What

can we do that's going to produce a great product for our children? When they graduate high school here in Alexander County, what can we do to help them be successful in life?"

About Dr. Daggett

Dr. Daggett is founder of the International Center for Leadership in Education. He is co-chair of Learning 2025: National Commission for Student-Centered Equity-Focused Education. An educator, he also served as a teacher, local administrator, and a director with the New York State Education Department. Daggett is noted worldwide for his ability to move education systems toward more rigorous and relevant skills and knowledge for all students. For more information on Dr. Daggett, visit spnetwork.org/elementor-1535/.

Article retrieved April 1, 2025 from https://www.taylorsvilletimes.com/2025/03/19/part-of-students-brains-are-shrinking-says-education-expert/

Coaching Conversation	
Teacher Name	
Goal	
Observation Day and Time	
Summary of Collaborative Conversation	
Resources Shared	
Action Steps	

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File Name: N3R My Lost Kittens

Narrative

Grade 3

Revised and Edited for Student Use

My Lost Kittens

One sunny day, my mom and I took our kittens for a walk around our house. The kittens were very excited because it was their first time. My kittens' names are Flounder and Aerial. Aerial is a girl and Flounder is a boy with a circle on his side. They are both the colors yellow and white.

When we took the kittens outside, we had to be very careful so they would not get loose. Then a car drove by. It scared them and they ran. Their harnesses got loose and they went into the woods. We went inside to put away the harnesses and the leashes. Then we went back outside to look for them in the woods. We looked left and right, but we couldn't find them. We went back home to make signs to put up that said: LOST KITTENS: yellow and white, call 569-9823. We were very sad.

After a few months, still no one could find them. But, when we were looking for them, the kittens were looking for us! They really wanted to find their way home. The kitten asked a cat named Shadow for help. Shadow said, " Your family lives next door, but they are not home they are on vacation." Shadow brought them inside to Theresa. When Theresa saw them, she knew who they lived with. Theresa took care of them until

we came home. She called us and said, “I have a surprise for you!!” I thought that she had found our kittens!

When we went over to her house, we followed her up to the bedroom and saw a cage. When she opened the door, we saw our kittens in it. We were so happy that we went right over and unlocked it. The kittens ran out of the cage and over to us. We took them home and thanked Theresa. We were very happy to see them, and they were happy to see us too!

Georgia Milestones Assessment System

Grade 3

FOUR-POINT HOLISTIC RUBRIC: NARRATIVE GENRE

Writing Trait	Points	Criteria
This trait examines the writer's ability to effectively develop real or imagined experiences or events using effective techniques, descriptive details, and clear event sequences based on a text that has been read.	4	*The student's response is a well-developed narrative that fully develops a real or imagined experience based on text as a stimulus.* • Effectively establishes a situation and introduces a narrator and/or characters • Organizes an event sequence that unfolds naturally • Effectively uses narrative techniques, such as dialogue and description, to develop interesting experiences and events or show the response of characters to situations • Uses a variety of words and phrases consistently to signal the sequence of events • Provides a sense of closure that follows from the narrated experiences or events • Integrates ideas and details from source material effectively • Has very few or no errors in usage and/or conventions that interfere with meaning*
	3	*The student's response is a complete narrative that develops a real or imagined experience based on text as a stimulus.* • Establishes a situation and introduces one or more characters • Organizes events in a clear, logical order • Uses narrative techniques, such as dialogue and description, to develop experiences and events or show the response of characters to situations • Uses words and/or phrases to indicate sequence • Provides an appropriate sense of closure • Integrates some ideas and/or details from source material • Has a few minor errors in usage and/or conventions with no significant effect on meaning*
	2	*The student's response is an incomplete or oversimplified narrative based on text as a stimulus.* • Introduces a vague situation and at least one character • Organizes events in a sequence but with some gaps or ambiguity • Attempts to use a narrative technique, such as dialogue and description, to develop experiences and events or show the response of characters to situations • Uses occasional signal words to indicate sequence • Provides a weak or ambiguous sense of closure • Attempts to integrate ideas or details from source material • Has frequent errors in usage and conventions that sometimes interfere with meaning*

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Writing Trait	Points	Criteria
This trait examines the writer's ability to effectively develop real or imagined experiences or events using effective techniques, descriptive details, and clear event sequences based on a text that has been read.	1	*The student's response provides evidence of an attempt to write a narrative based on text as a stimulus.* • Response is a summary of the story • Provides a weak or minimal introduction of a situation or a character • May be too brief to demonstrate a complete sequence of events • Shows little or no attempt to use dialogue or description to develop experiences and events or show the response of characters to situations • Uses words that are inappropriate, overly simple, or unclear to convey any sense of event order • Provides a minimal or no sense of closure • May use few, if any, ideas or details from source material • Has frequent major errors in usage and conventions that interfere with meaning*
	0	*The student will receive a condition code for various reasons:* • Blank • Copied • Too Limited to Score/Illegible/Incomprehensible • Non-English/Foreign Language • Off Topic/Off Task/Offensive

*Students are responsible for language conventions learned in their current grade as well as in prior grades. Refer to the language skills for each grade to determine the grade-level expectations for grammar, syntax, capitalization, punctuation, and spelling. Also refer to the "Language Progressive Skills, by Grade" chart in the Appendix for those standards that need continued attention beyond the grade in which they were introduced.

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Analysis of Writing Protocol

Source: This protocol is based on the protocol Save the Last Word for Me

Overview: This protocol has multiple users. It is great for processing ideas.

Number of Participants: The ideal group size is 3-5. If there are a large number of participants, you may want to consider breaking into two smaller groups.

Time Required: One group can complete this protocol in 30 minutes; larger groups may take more time.

Steps (suggested time based on a 30---minute session):

Step 1: Identifying Significant Ideas (3 minutes). Each participant silently reads writing rubric and analyzes the writing piece for the specific rubric item.

Step 2: Sharing, Round 1 (4 minutes)

- In a minute or less, one member shares his or her significant thought but does not elaborate on it. Complete this until everyone has a chance to share.
- The other participants have one minute to respond to the thoughts of others.
- The first participant (owner of the writing piece) has two or three minutes to respond to and build on what the others in the group said.
- Complete until all areas of the rubric have been discussed.

Step 3 (Optional): Open Discussion. If participants wish, they can have an open discussion about what came up during step 2.

Step 4: Debriefing (5 minutes). Participants discuss how well the protocol worked.