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What I Learned About Literacy — By Learning to Fly

Mark Conley teaches content area literacy and classroom literacy assessment at Michigan State University. He has logged more than 500 hours in the air, with over 600 successful landings. Currently, he works part time as a Flight Instructor for the Lansing Community College Flight Program.

Five years ago, I was standing in front of a group of teachers in a graduate class in Traverse City, and I made a shocking observation. Everyone had a hobby — boating, golfing, fishing, painting — everyone, that is, except me. Committed to education for over 20 years, I left out the fun from my life. Thus began my quest for my own personal recreation. The quest didn't last long. In another of my courses, I met a flight instructor who was learning to be a biology teacher. One afternoon, he took me up in his Piper Cherokee, and I was hooked. We started lessons soon after that. As I learned to fly, I couldn't help making comparisons with my career as a literacy educator. This is the story of how I learned to fly and what I learned about literacy learning as a result.

First Lessons

When I started, I was a true aviation “civilian.” I had seen many planes take off and land. I had even ridden in small planes many times before. But I had no idea what it was like to take the controls. On my very first flight, my flight instructor took me up to 2,000 feet and said: “Your airplane!” I grabbed the control wheel with a death grip, fearful that the plane would

drop to the ground without superhuman effort. This is a common experience among aviation neophytes.

There I was, at age 42 with a Ph.D., in the position of being a learner all over again with few prior experiences or advantages to help me. I realized quickly that flying an airplane depends on psychomotor skills: my hands and feet are in constant motion, in concert with continuous decision-making. Not being particularly good at athletics and kind of a klutz, I learned to appreciate the challenge of connecting mind and body. Since that first day, I have had many, many new experiences, from learning how to stall an airplane to mild acrobatics and emergency landings. Every time I master a new maneuver, there is always another one waiting for me, offering new and different challenges.

I have often wondered if my feelings as a new aviator were anything like the feelings of a kid in first grade: so much to know and no way of connecting what you know with what you are learning. My first flight instructor was a natural teacher. He watched me, scrutinizing what I said about my flying and how I performed. I got better. I wondered how the first-grade kid resolves all the uncertainty about learning to read. First-graders rarely have a personal coach like the one who was teaching me.

Getting Stuck

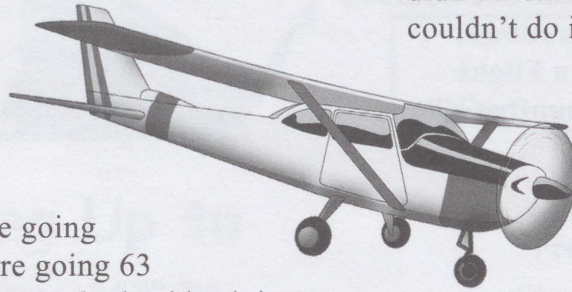
After a few months of training and flying, I became comfortable with the airplane at 3,000 feet, mastering turns, climbs and descents. My flight instructor said it was time to learn take-offs and landings. I had never completed a full take-off and landing on my own. Aviation training involves lots of modeling. My instructor performs a maneuver, and then I repeat it. I observed my instructor many times, with my hands and feet lightly touching the controls. My instructor guided me in take-offs and landings about 60 times before he felt I was ready to try it myself.

Take-offs were relatively easy. Get the plane going at full throttle until you're going 63 knots and then ease the control wheel back just a bit. The plane nearly flies itself off the ground.

Landings were quite another story. I flew the rectangular pattern around the airport and set up the plane for the final approach. My instructor explained what to do as I sped down the glide slope to the runway: "Aim for the numbers at the end of the runway. As the plane passes over the numbers, look up and ahead, down the runway as far as you can see and pull back gently on the control wheel. That's the flair. As the speed drops, you can let 'er down. But, whatever you do, don't let her down if she's going too fast!"

I could never tell when to look up and ahead. I also couldn't judge just how high the plane was over the runway. I just couldn't keep track of all of the variables. The plane can land when the speed hits 63 knots, but at 44, it stalls and drops like a rock. At 30 feet above the ground, a stall can be deadly. If you come in too fast, the plane starts a series of ever-increasing, porpoise-like bounces, each one harder than the last. I had many close calls. My instructor told me that landings are all about making good, safe decisions, sometimes deciding to take off again and go back around for another chance.

At 120 landings, I grew impatient with myself. "When you can do six perfect landings in a



row, you can solo," my instructor told me. I wasn't there yet. Two landings were good, two were nail-biters, and two were so-so. This pattern went on for weeks — seven weeks to be exact. I felt like I would never get it.

I've observed young readers who felt like that. Once, I worked with Michael, a Hispanic child retained for three years in a row. At age 10, he was the tallest second-grader I had ever known. When I opened a children's book to see how well he could read, he cried. The words didn't mean anything to him. He knew he couldn't do it, and it left him in despair.

But he wanted to read very badly. He was also a die-hard New York Yankees fan. So I had him tell me stories about the New York Yankees while I wrote them down. I asked him to read what I wrote to make sure I got it right. Re-reading his own familiar words, he grew in confidence and fluency. It clicked for him. By the end of our time together, he was a reader. He could do it, and the broad smile on his face revealed exactly how he felt about it.

One sunny Saturday afternoon, I climbed into the plane with my flight instructor and nailed all six landings. After all the modeling and practice, it had clicked for me. When my instructors said, "You're ready to solo!" I couldn't believe the feeling of accomplishment. Though my flying success was many years later, I finally understood Michael's joy.

Getting Lost

With the solo under my belt, I was ready to fly cross-country. To fly cross-country, pilots must integrate what they know about basic flying with new skills, such as tracking compass headings, correcting for the wind, and identifying points on an aviation map, all while flying the plane. Cross-country flights are a minimum of 50 miles from take-off to touchdown and then back to home base again. Good instruction, constant practice, learning from mistakes, ongoing support, and small successes are all keys to mastering cross-country flight.

I will never forget the many times I lost my way. The landscape looks starkly different from a small plane and an inexperienced eye. One time, I was on a practice flight with my flight instructor to a small town in central Michigan. The November fields below were white with snow. In winter, dark areas on the landscape are clues to towns and other man-made landmarks, such as airports, highways and railways.

Maps and compasses in my lap, I carefully checked off each of my ground reference points — a town, an interstate, an airport, and finally my destination, the small town itself. I could see the town 10 miles ahead. I bent my head down to look at my map. My left hand moved with me and I inadvertently put the plane into a right turn. When I looked back up again, my destination town had disappeared. My reference points were gone. Nearly trembling, I followed lost procedures to determine my location and the location of my destination airport. Try as I might, I stayed lost. My flight instructor remained silent. I felt terrified about being aloft without any idea about my location or where I could land.

Sensing my increasing frustration, my flight instructor helped me get back on course. On the ground, he told me how head and hand often move in sync, even when we don't want them to. I had made a typical mistake. I learned that the quickest way to get disoriented on a cross-country is to look down and get lost in the details of the map, flight instruments, or landscape, that it is crucial to keep my gaze as far ahead of the plane as possible. He taught me what to do if I was alone, how I would get back on track safely and independently.

Since this experience, I have often wondered if the panic I experienced in the plane is anything like the fear of a young reader or writer who is totally perplexed. To the inexperienced or unsuccessful child, a text must seem like a never-ending landscape with no familiar markings. My aviation training teaches me that teachers are key in helping learners who are lost.

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My best flight instructors are able to read my body language, my decisions, and me. What does a teacher see when a kid gets lost with reading and writing? What are the ways he or she can help?

Having experienced the personal, one-on-one touch of flight instruction, I worry more these days about the semi-literate child who gets lost in the sea of classroom faces. Literacy failure is easily as complex and frightening as losing your way on a cross-country flight. I wonder if we are creating the kinds of conditions in classrooms for teachers to help kids find their way.

The Big Test

On a warm day in June, my flight instructor informed me that it was time for my private pilot check ride. The check ride consists of an oral exam and a series of in-flight maneuvers performed on demand. I have faced many, many tests as an adult learner: my SAT's in high school, my driver's license test, tests in college, student teaching, my dissertation. None can compare with the rigor of my aviation check rides.

Prospective pilots are not allowed to take a check ride until a flight instructor says they are ready. Readiness is determined by checking students off on a number of performance competencies: for instance, stalls, steep turns, emergency procedures, dead reckoning and electronic navigation, air traffic control work, and cross-country procedures. Students are required to fly compass headings within plus or minus 20 degrees and within 100 feet of altitude. Once the primary flight instructor signs off on these competencies, a second instructor, often the chief flight instructor, conducts a stage check, a dry run of the actual check ride. Fail the stage check and you go back for more training. The flight student progresses to the check ride only when both flight instructors are satisfied that the student is ready.

The night before the check ride, I was given a destination for a cross-country flight. I had to

thoroughly plan the flight, including flight times, amounts of fuel, course headings, and take-off and landing distances at both departure and destination airports. I knew I would never actually fly the entire flight. Somewhere — and it could be anywhere — the FAA examiner calls for an emergency landing. He would ask me to perform an emergency landing, followed by a series of prescribed flight maneuvers.

How different this process is from learning and assessment in today's schools. Consider the state-by-state movement toward proficiency or competency exams. Often, these tests are put in place long before the adults or the kids are ready. The assumption is that test results will shock teaching and learning in the right directions. In many cases, the

tests come long before anyone even thought about the standards or goals that guide them. This is comparable to

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making me fly solo my first six months in an airplane and then throwing a test at me to see how well I'm doing, while I am flying straight and level or even crash landing.

I often wonder what would happen if, in schools, we devoted much more attention to helping kids develop successfully from the outset rather than just leaning on them with tests. Flight instructors refuse to allow a flight student to take a check ride unless they are absolutely certain the student will pass. Flight students are ready only after they have experienced vigilant instruction, constant practice, learning from mistakes, small successes *and* can demonstrate knowledge and competence in flying. What would happen if we based our public school assessments on the same assumptions, that we don't give high-stakes tests until we are certain that students are fully ready to show what they know and can do? What would our assessments be like if we became less concerned about gathering percentages of those who fail and more concerned about making everyone successful?

I still remember the jubilation I felt when I passed my private pilot check ride. But what stands out for me more than anything else about the experience is how well I was prepared.

Lifelong Learning

After I passed my private pilot test, I became intrigued with instrument flight. Instrument flying, the chief flight instructor told me one day, makes for a more complete pilot. I learned that instrument flying means integrating everything from my private pilot training with the nuances of the air traffic control system, the intricacies of aviation weather, and the scanning, reading, and interpretation of instrument charts and flight instruments. Private pilot training was difficult. I discovered that instrument flying was even harder.

I had wonderful teachers: my flight instructors. They loved and, in some cases, lived flying. Each had a gift for infecting me with their exuberance. They knew immediately when I became tired or irritable. Those were the times when they said, "Let me take the airplane." They performed the maneuver I was trying to master, sometimes with graceful proficiency and other times with awkward abandon. We laughed, and then I'd try again. Each instructor reminded me to just have fun with it. And I did.

Through my flight instructors, I realized that I could marry my two favorite pastimes, teaching and flying. When I told my flight instructors that I wanted to teach flying, they egged me on. As a professor, they noted, I was probably good at talking, and talking is the flight instructor's main tool.

My flight instructors have shown me the value of their enthusiasm for my lifelong learning. They taught me that there is always something new to learn in aviation and that it can be fun. The connection to literacy here is pretty obvious. When kids interact with others who are infectious in their enthusiasm for reading and writing, they can't help but become joyfully literate. When things get tough, teachers often "fly" a

little while, reading books or their own writing, inspiring their students to go on and have fun with it. It's no surprise that many kids, when asked, say that they want to become teachers, and many do just that. Many more become lifelong readers and writers, all because they were inspired by good teachers who themselves loved to read and write.

Conclusions

Even though I have studied the aerodynamics of flight and have a firm grasp of how it all works, there is a moment of magic to which I continually return. It's that moment when my plane is standing at the ready at the end of the runway about to take off. Feet on the brakes, I push in the throttle and listen to the engine

power up. I release the brakes, and the plane starts to roll. I feel the wind against the plane. The plane bucks and bumps as it senses the moment. At just the right time, I ease back the control wheel, and the plane takes off like a rocket ship. I don't even try to resist the "Yahoo!" that bursts from me at that moment.

I want that feeling of taking off for young readers and writers. They need to struggle to learn and succeed as I have so often in aviation. When they are lost, I want them to know how to find their way back to learning. Teachers are the key. Just as I have discovered an avocation for my lifetime, my hope is for our students to know the passion of reading and writing. This is what I have learned about literacy and learning by learning to fly.

Sources on the World Wide Web

There are many excellent Websites about aviation related topics such as navigation and aviation weather. These are some that you may find useful in your teaching.

Airline Owners and Pilots Association	http://www.aopa.org
Experimental Aircraft Association	http://www.eaa.org/
Young Eagles	http://www.youngeagles.org/
Landings	http://www.landings.com/aviation.html
Federal Aviation Administration	http://www.faa.gov
Air and Space Smithsonian Magazine	http://airspacemag.com/
Aviation History Magazine	http://www.thehistorynet.com/AviationHistory/
Piper Aircraft	http://www.newpiper.com/
Cessna Aircraft	http://www.cessna.textron.com/
The Weather Channel	http://www.weather.com
Intellicast Weather	http://www.intellicast.com/
Be a Pilot	http://www.beapilot.com/