EDC Education Development Center

The Case for Learning by Radio:
Teacher Support, Wide Accessibility, and Hands-on Experience in the Classroom

By: Simon Richmond

Radio technology provides a worldwide information distribution system that is instant, reliable, and free. While the Internet may have dethroned both radio and television, it continues to be plagued by problems in very rural areas and developing country contexts. The Internet is prohibitively expensive for the world's poor and often physically inaccessible. And to date, its technology is still rather complex and fragile, especially in tough environments. Contrast that with radio, a mature, universally available technology that is free, with extremely high penetration rates globally, relying on relatively simple and generally robust machines that require near-zero skills to operate.

Radio taps into our most powerful faculties: language and imagination. Humans rely deeply on our sense of vision, and the human brain is astonishingly adept at processing the torrent of visual imagery our eyes collect. Yet, radio has lived on well past the invention of the television. Although radio lacks a visual channel, this lack is less a flaw and more an asset in disguise. Language drives radio, and the argument can be made that it is the faculty of language, not vision, which is most central to helping humans understand the world. When radio focuses the listener's attention on an audible channel, our eyes are released from the task of tracking incoming information. Our imaginations are launched by the sound. Radio frees us to *see* with our minds while also freeing us to *do* with our hands ("Improving Education Quality Through Interactive Radio Instruction").

We have learned through radio since its invention. The first English interest in Marconi's technology was as a military tool for ship-to-shore communication, used quite literally to convey instruction. Since that time, radio has shone as a means of sharing news and information. But the best designed radio programming can do much more than pass on information. Radio can engage an audience mentally, emotionally, and physically all at the same time, and animated by the power of storytelling, it can boldly boast of being the first digital technology to create augmented reality ("Examining the Impact of Teacher Practice on Student Learning in Interactive Radio Instruction Classrooms: Lessons from New Delhi and Rajasthan").

Two Types of Radio Education

We have two types of educational radio: classic and interactive. Classic radio engages its listening audience while making zero assumptions about audience surroundings. One can listen to it in the car or in the shower. It works everywhere, and it is simple and cheap to produce. Almost all the radio we hear on any given day falls into the classic category. With classic radio education, the instruction occurs with nearly zero pedagogy, and it relies on our brain's ability to focus on what we are hearing. Because concentration is easier for adults than it is for children, classic radio instruction is rarely used for primary learners.

By contrast, interactive radio education is produced to keep a young audience well and truly busy. It is designed to engage learners as much as possible in responding to the content by assigning them tasks to complete and by constantly asking them to verbally respond to the radio (during carefully timed pauses in transmission). During an interactive broadcast, learners listen, but they also play, sing, move, and dance; answer questions; demonstrate skills to nearby listeners; evaluate each other's skills; and essentially engage in as many ways as possible to *practice* their new learning. It is a type of engagement that is not possible in front of a screen, because screens demand stillness and are largely visual engagement only. Interactive radio instruction is suitable for all ages, but perhaps is most enjoyed by those with a sense of play. It teaches by design, not by default, and it employs pedagogical research to wring maximum learning, through immediate practice and application, from the medium.

Interactive radio instruction is also different from classic radio because it relies on a set of assumptions about the listener's environment. Well-designed programs reduce those assumptions down to as few as possible. One common assumption is that people are listening in groups (and so can turn to each other to complete tasks). Another is that they are guided by a facilitator (a teacher, or a family member) who can enforce the radio's instructions, has a blackboard to record its content, and provides a live presence to convey personalized feedback to students. Some programs also expect the human facilitator to have a printed copy of a guide to each broadcast, so they can reference supplemental assignments for learners to complete after the broadcast and read ahead to prepare for upcoming lessons.

The greatest assumption of all is that the facilitator will trust the programming and engage with its instructions. To safeguard that trust, the writers behind the programming strive to never put their human facilitators on the spot. All the scripting is simple; the directions are immediately achievable; and the the actions of teachers remain respectable and dignified. The scripting will never assign an impossible task nor surprise the human facilitator with a request to conjure up some elaborate teaching aide. Instead, it constantly asks the facilitator to reinforce this point or to evaluate that student's answer or to continue with an exercise after the broadcast. There is an unspoken contract between radio, facilitator, and students that slowly emerges—the radio will direct and explain; the facilitator will reinforce and elaborate; and the students will engage and apply. This tacit relationship that the radio develops with teachers and students lies at the heart of the support that it can provide—demonstrating repeatedly with each broadcast how to introduce and model ideas and how to engage students ("Radio Instruction to Strengthen Education and Zanzibar Teacher Upgrading by Radio: Post Project").

But Does It Work?

Yes—it does work. Data on the best-designed interactive radio clearly show that children learn very well, at times even outperforming their peers who attend a formal school system.[1] And why shouldn't they? Interactive radio is one way to amplify the efforts of teachers, so that even learners in less-than-ideal classrooms can benefit from the best pedagogy that is realistically available. And it does this at scale. In the conventional educational system, a master teacher can only reach students in one single classroom at a time. But if that same master teacher is writing and broadcasting interactive radio scripts, he or she has no upper limit to the number of learners that can be reached.

The advantages don't stop there. The average teacher using interactive radio in a classroom is benefiting from a surreptitious in-service training program every day that she or he is on the job. Teachers using interactive radio programs have excellent instruction demonstrated for them and are playing an integral (but near effortless) role in executing some of the best pedagogical practices around: the constant asking and answering of questions, the reinforcement provided by the radio, the unceasing rhythm of alternating between modeling for and practice by the learners, and the consistent reminder to call on a girl child. These are all skills teachers must master.

The costs per learner are extremely low. Interactive radio has up-front costs related to the required planning, the labor-intensive writing and testing, and the more elaborate production required to compose music and build story worlds. However, after a series has been created, the programs can be broadcast for years with minimal recurring costs. For educational systems that dedicate staggering sums to paying teachers' salaries, it makes good financial sense to spend a small initial amount more to boost the impact of that salary investment and give teachers a highly effective teaching aide they can use for years.

So Why Isn't It Everywhere?

Classic radio IS everywhere—the airwaves are saturated with it day and night—but interactive radio is not. Many people overlook radio because they think it is dated, not recognizing that its age is proof of its effectiveness. Others want something more current, something "sexy" to demonstration their progressive ambitions, not recognizing that cutting-edge technology is untested and fragile and riddled with risk and, not least of all, that it doesn't reach everyone. And other people still are simply not convinced that it will work, and frankly why should they be? It is an incredulous claim that one child can learn from the radio with an untrained teacher, just as well as another child can learn in a fully equipped classroom. And yet, we have landed on the moon . . .

When you learn the mechanics behind interactive radio, its quality is so readily apparent that the question suddenly becomes, "How could we NOT use it?" When a team of master teachers completes all the lesson planning and creative writing; when a stable, ubiquitous technology distributes those materials expansively, freely, and with crystal fidelity; when a human facilitator carefully guides learners through the materials while tending to their individual mistakes; and when the learners themselves stay focused and engaged in an active and social state, how can it *not* work? Indeed, it is very close to a high trinity fusion of teacher, machine, and hands-on application.

Endnotes

1 See for example: Thukral, H. & Ho, J. (2009). Tuned in to student success: Assessing the impact of IRI. Education Development Center. http://idd.edc.org/resources/publications/tuned-student-success-assessing-impact-iri and; Naslund-Hadley, E. Parker, S. W., & Hernandez-Agramonte, J. M. (2014). Fostering early math comprehension: Experimental evidence from Paraguay. (2014). InterAmerican Development Bank. https://files.eric.ed.gov/fulltext/EJ1055163.pdf.

EDC Education Development Center

EDC 43 Foundry Avenue Waltham, MA 02453
Contact: contact@edc.org
Phone: 617-969-7100

Boston | Chicago | New York | Washington, D.C.