Response to The Shallows: How The Internet is Changing Our Brains

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Technology and I have always had a tenuous relationship. I began programming in high school by drawing flowcharts to represent algorithms on paper. With plastic template and a freshly sharpened pencil in hand I meticulously imagined all the diamonds, triangles, and rectangles of my statements and the associated arrows indicating control flow *BEFORE* I touched pencil to paper. I thought long and deeply before composing. Though writing a program – I definitely used old technology.

But using old technology, I developed the skill of thinking something through thoroughly before I created a product. This skill, or discipline really, was very useful in my first college programming class which used punched cards. The cards had to be carefully typed, ordered, and one had maybe two times to try a program in a given night. Conceiving of not only the correct code but a good set of test cases before the first run was critical to success. The next semester the systems became interactive. Immediately, trying code out in small pieces and often became best practice. I didn’t change however and at times was more successful than my peers simply because I thought about the problem ahead of time. I still tend to work this way. My desire to think about something first benefits me greatly, but to the extent that I need to up my game as a computer scientist and even as a teacher, my struggle has always been just jumping in.

While I believe that trying out code soon and often is best practice, this change in technology has created a world of programmers who often don’t think first. They just try something. This contributes to inefficient code that is difficult to maintain and has subtle unanticipated problems. Without reflection and collaboration, tools and products tend to present a single, limited view of the world, or at least the vision of the world the programmer can code up first. As an example, consider the initial implementation of Facebook. This version had the perspective that someone is a friend or they aren’t. There was no ability to represent the complex set of relationships among individual people. It also forces user’s real name and gender to be pushed out to anyone else who has Facebook. This doesn’t consider those who may be victims of crimes, their children, or anyone who has a legitimate reason for not being found but still might want or need access to Facebook information. Let me be clear. I am not advocating that we have no product like Facebook. There are many positive uses. I just want a better built product that reflects some deeper understanding of society.

So, how do we use the internet and related technology well? We have to think about it. Specifically we need to reflect and consider how our interaction with technology is effecting us both individually and as a society. We then need to make a change if that effect isn’t positive, noting that there are many more choices than simply opting out. We can limit time we use technology, what products or websites we visit online, or where we allow ourselves to use technology recognizing that what will be appropriate will be based on the person, the situation, and the particular technology or product in use. How do we opt out of cultural changes that aren’t life giving? I think the answer is community. Similar to the way we work as religious communities to discern God’s word, we must work to discern when and how to participate in general cultural changes. This discernment has three main components; personal reflection or listening, study of relevant material or texts, and reflection within community. Through discussion and listening to each other, especially across disciplines, each of us can set our own appropriate boundaries. Community allows us to consider valuable input on what our boundaries should be, gives us feedback when we are falling short and supports us in meeting our goals.

Here is where academic excellence plays a role. As academics we must be a community that models both “jumping in” and holding fast to our values. Academia at best has always pushed the frontiers of knowledge while respecting and maintaining what has worked well in the past. Learning or determining a best practice is not about just using a new method or technology – it is about evaluating that method or technology and determining under what circumstances it is effective. The pace of change today makes it critical that we as an academic institution move our students up the pyramid of Bloom’s taxonomy and insist that they develop not just data about what is currently right or wrong, but rather what is the process by which we evaluate a technology. What are the characteristics of a technology or way of being in our discipline that lifts it up versus those that fail or don’t sustain. We also must dig deeper and teach our students concepts that will stand the test of time within our discipline. What is it that will NOT have changed in your discipline in 5-10 years? Now how do we teach and honor that?

Finally, academic excellence in this age must recognize we are all creators of technology. The improvements of Facebook have been the result of user feedback, decisions in our democracy are being crowd-sourced, and our students will be creating the Facebook of the future. It won’t just be technologists doing the creating and evaluating. It will be social workers, seminarians, athletes, and educators. Indeed I challenge you to find a discipline that is not using technology. Our challenge is to teach our students to “build a better Facebook at first” by helping each one understand not only what technology can and cannot do, but what it should do. My hope is this practice goes beyond a general “opting-out” and wisely incorporates and envisions systems that are life-giving.