VU White Paper on Digital Literacy (ies)
December 1, 2017

DEFINITION AND STATEMENT ON DIGITAL LITERACY

The members of the ad hoc Digital Literacy committee were charged with

(1) providing a working definition of digital literacy, and

(2) suggesting curricular and noncurricular means of advancing digital literacy as one part of Vanderbilt's mission.

Below, we offer a working definition of digital literacy and provide a starting point for curricular and noncurricular solutions, which will be developed through conversations with faculty and staff across the university.

The educational technology pillar of Vanderbilt's Academic Strategic Plan notes that, "We must embrace those new education technologies that foster innovation in learning, teaching, and discovery." This committee wants to think beyond that statement. It is not simply a matter of embracing these technologies to foster innovation as it is coming to an understanding that the dominance of new technologies already foster innovation in how we collectively approach and think critically about the consumption and creation of new knowledge. As such, we urge Vanderbilt to take seriously the need to train all students, faculty and staff to be crafty producers and consumers of digital culture. We stress that such training is a matter of preparing students for the workforce and for their role as citizens in a global economy and culture.

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DEFINITION:

We define *digital literacy (or, indeed, digital literacies)* as **a constellation of practices necessary for full participation in contemporary culture (social, political, workforce)**. In addition to computational skills, a digitally literate person has the capability to **produce, curate, share and critically consume and synthesize information in a variety of digital (and non-digital) forms**. Moreover, digital literacy includes a person's **ability to communicate ideas through multiple means of digital design and to decipher and critically reflect on mediated communication while also assessing their own ethical responsibilities in participating or sharing information**.

Digital literacy is an educational expectation; it is required for all citizens, regardless of how often they communicate via digital means. Media ecologists indicate that the logic of a culture changes as its dominant media change, therefore the logic of contemporary culture is changing for everyone, regardless of media usage. Second, we assume that the means of communication themselves have a type of agency that acts upon, and alters, what it means to be human in each instance. People act "with" technologies, and technologies act "on" people. As a result, digital literacy must be an element of all education in the same way that literacy and reasoning must be. We propose that some, if not all, of the

following recommendations be implemented at Vanderbilt in order to assure that our students graduate digitally literate.

**We note that the following ideas were derived not simply from the committee but also from discussions held with directors of undergraduate studies (and faculty in similar positions) throughout the university during spring, summer and fall 2017. The entire list of individuals consulted is in Appendix 1.

CURRICULAR SOLUTIONS - MICROCREDENTIALS:

Because digital literacy is inherently a question of logic/reasoning and hence is a part of all ways of thinking, it should be taught "across the curriculum" through both formal and informal elements of education. For these reasons, we do not recommend a course designation requirement similar to the "W" or writing requirements and designations in the College of Arts & Science. Rather, we recommend that Vanderbilt develop a "microcredentialing" system to certify various types of digital literacy in its undergraduate (and, potentially, graduate) education. (Incidentally, it appears that a microcredential, or badging, system could simply be carried out through Brightspace, our LMS; it need not be put on a student's final transcript, although Registrar Bart Quinet assures us that we could interface the systems and put it on the transcript, if we decided to do so. The committee recommends that we leave these off the official transcript and work instead with Brightspace for microcredentials). As a sidenote: while Anchor Link, a system used by the Dean of Students' office, was considered for microcredentials, it was ultimately decided against because students can self-credential on the system, making all credentialing less meaningful.

A student would earn microcredentials in digital literacy by participating in a wide array of activities, including classes, Commons Seminars, modules developed in part by VIDL, the Wond'ry, or the libraries, through on-campus activities or organizations such as Vanderbilt Hack, and, of course (perhaps most notably, in the student's Immersion Vanderbilt experience). We could also have a short session during the required Vanderbilt Visions courses in which students learn a particular set of skills. Other ideas include modules developed by VIDL that would introduce students to specific tools and assess them on their use of these tools. Students could also petition for successful completion of a microcredential through internships and other documentable experiences. The point, however, is to make sure that these microcredentials are meaningful. Katherine Brooks of Vanderbilt's Career Center notes that such skills place our students much higher in many job searches.

To provide structure to a badge system, we recommend the formation of a committee to initially approve courses, modules and organizations, and to endorse student petitions for inclusion of other activities. Guidelines with specific parameters could be developed and oversight for approval of microcredentials could be housed in the Office of Immersion Resources. This makes great sense given the link between digital literacies and many immersion projects (and the logic of immersion).

We recommend that badges be offered in at least the following three areas:

1. *Critical Digital Literacy*: Students should be able to consume digital information in such a way that they are reflective about the authenticity of information, the ways in which information is shaped in terms of argument, wording, sounds, colors, ordering and all other sensory means of communication. Critical digital literacy involves the ability to assess and judge all elements of digital communication, as well as the ethical and social responsibilities of participating in a digital environment.

EXAMPLES: FREN 3224: In this course, students analyze video games about the Middle Ages to explore modern understandings of the past in new media. This involves an understanding of video games and how they function.

The library fellows are working on co-curricular dimensions of DIVE that will offer a course on the Power of Propaganda.

Both the library and VIDL offer workshops and working groups on a number of these issues.

2. ***Digital Visualization and Production***: Students should be able to produce and communicate messages via digital media and industry-level software. Holding firmly to the twin beliefs that one needs to be able to argue or communicate in contemporary dominant media and that understanding how information is produced and shared makes one a more knowledgeable consumer, production is a key element in digital literacy. We recognize that this is a broad category, embracing both STEM-focused visualizations as well as more artistic forms of humanities-based visualization and sound production.

   EXAMPLES: UNIV3279: A University Course co-taught by Ole Molvig and Bobby Bodenheimer that had students work in groups to produce virtual reality projects that were applied to literary projects, archaeology, art history, etc.

   FREN 3101: Texts and Contexts from the Middle Ages to the French Revolution has a component in which students research and create web articles about their interests as related to the course. These student projects can involve creating visualizations of data (interactive timelines, etc.).

   The library fellows are working on co-curricular dimensions of DIVE that will offer a course on GIS.

3. ***Computational thinking***: Defined loosely as the type of thinking and thought processes that go into thinking through a problem and its solutions in ways that humans and machines can effectively carry them out. Computational thinking involves abstraction of a problem, the expression of a solution and its execution. Computational thinking encourages students to not only solve problems that might have mathematical answers but also to develop public policies and/or digital strategies that lead to the solution of abstracted public problems.

   EXAMPLES: CS1101 is an engineering course (for majors and non-majors alike) that requires that students look at a problem and break it down into parts, figure out how to solve each part and then build the solution using Java programming language.

   Cliff Anderson, Akos Ledeczi, Julie Johnson and Doug Schmidt are currently designing a course offering of a version of a CS1000 course on computational thinking for non-majors in the fall, using Netsblox as the primary tool of instruction.

**We point out that some faculty members, while they heartily endorse the idea of badges, think there should be multiple badges for particular skills (e.g., a badge for GIS, a badge for Excel, a badge for Adobe Audition). The committee recommends that we start with the three microcredentials then move to create others as the program demands.

NON-CURRICULAR SOLUTIONS:

Digital literacy is not the responsibility of any one unit on campus; rather, it requires a collaborative effort from teaching faculty, librarians, educational technologists, academic advisors and more. The following non-curricular solutions are necessary on their own (i.e., to assure that digital literacies be part of the 'common sense' of an education) and in order to support curricular solutions. The following recommendations will require participation from many areas on campus in order to be successful.

1. If students are going to become more digitally literate, Vanderbilt needs to make the tools available to both the students *and the faculty* in order for them to develop proficiency using digital media. Even without a badge system as described above, many of the tools (from Adobe Creative Cloud to Audacity to GIS) still need to be made available on campus. In addition, we need to provide support (personnel, instructional videos, FAQs) for the use of all tools. At other universities that have moved in this direction (University of North Carolina, Duke), they have thus far done so with no new resources but instead with a shift in emphasis of existing resources. This should be something that we can replicate here.
2. The creation of a series of modules to help students and faculty learn multi-modal presentation skills and adapt to using new technologies should be advanced regardless of any system of badges or credit.
3. The Center for Teaching should redouble its efforts to help faculty incorporate more production/consumption of multimedia into their classrooms and provide the support to do so (e.g., the CFT's current "Teaching with Podcasts" series is one illustration of how this can be done).
4. Vanderbilt should invest in a full site license for the Adobe Creative Cloud package for all students, faculty and staff. While other tools are available, a full license and campus support of Adobe Creative Cloud would both enrich digital literacy on campus AND provide students with tools that would greatly enhance their marketable skills. A separate proposal for this recommendation was sent to the Office of the Provost earlier. Ultimately, we do not see the need for the advancement of digital literacy to be an additional burden on the campus. This is more a matter of making sure that Vanderbilt provide the resources—be it site licenses and/or support services—to help faculty enhance what they already do. We are not asking faculty to take on additional tasks; we see this call as a way to offer help to improve what they already do, and, for some, to unpack what they already do in such a way that enhances the mission of the university.

NEXT STEPS:

1. While the microcredential system is not an official curricular change or degree requirement, it might still be vetted through the undergraduate colleges. That process should begin immediately by having the office of the Associate Provost for Digital Learning establishing meetings with the Associate Deans for Undergraduate Studies in each college to help bring the proposal to a discussion within the college or school, using their own processes. The Associate Provost has begun this process external to the recommendations here.
2. The Associate Provost for Digital Learning will begin the process of making sure that the technical features are ready for microcredentialling. He will work with the Center for Teaching to develop plans for microcredentials that would be included on Brightspace.
3. The Associate Provost for Digital Learning should begin discussions with the library and VIDL in order to establish a series of modules or workshops that will help students learn tools and concepts

for multi-modal presentations and arguments, as well as the development of critical digital literacy competencies.
4. The Center for Teaching should be encouraged to make digital literacy a point of emphasis in their work with faculty.
5. Vanderbilt should begin the process of negotiating a site license for Adobe Creative Cloud, according to the timeline in the memo produced by the Associate Provost for Digital Learning. This timeline has us taking on licenses for 10-20 undergraduate classes in 2018-2019, the full sophomore class in 2019-2020, and the full undergraduate student body in 2020-2021. Relevant faculty and support staff would also be given a license.
6. Develop cross-college initiatives to help support University Courses and TIPs projects to develop digital representations of their work.
7. Tie discussions and work in digital literacy with the Research IT initiatives emerging from Vice Provost Raghavan's office.
8. The Associate Provost for Digital Learning will work with the Office of Immersion Resources to begin the establishment of a method for rewarding microcredentials.