

## **Radical Change Theory: Framework for Empowering Digital Youth**

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## **Radical Change Theory: Framework for Empowering Digital Youth**

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### **Abstract**

Eliza T. Dresang influenced numerous researchers and professionals by equipping them to understand and better serve digital youth. This paper revisits her theory of Radical Change, which explains the synergistic combination of changing resources and youth in the digital age. The presented research applies and extends the theory by investigating the information behavior of digital youth. The study has two phases —Phase 1: content analysis of research literature; Phase 2: group and individual interviews with young adults who are members of an online community called Scratch. Selected findings illustrate the ways in which digital youth have an increased sense of control over learning, creative, and social aspects of their life. The study demonstrates that Radical Change theory provides a unique perspective to ferret out the potential of non-traditional information behaviors. The theory continues to be a tool for enhancing a sense of agency for digital youth by increasing their capacity to learn, create, and socialize. Future research applying the theory could explore how the dynamic interactions between changing resources and youth may have an impact on youth obtaining twenty-first-century skills.

### **Introduction**

Eliza T. Dresang was best known for her theory of Radical Change, which explains changes in information resources and human information behavior in the current digital age. Her theory and research have influenced numerous researchers and professionals as they seek to understand digital youth. In this paper, the term “digital youth” refers to contemporary children and young adults (ages birth through eighteen years) who were born into this interactive and connected digital culture, regardless of their varying levels of access to technologies or digital media skills. In order to honor and remember Eliza T. Dresang, this paper attempts to answer the following questions:

Q1. What is the theory of Radical Change?

Q2. How does the theory help us understand the information behavior of digital youth? That is, what radical changes do contemporary youth experience when they interact with information?

Q3. What does the future of the theory look like?

To answer these questions, I begin with a review of Radical Change theory and research that has applied this theory. I will then present selected findings from my dissertation research, which was conducted with the guidance of Eliza T. Dresang. I had the privilege of working with her directly and take up her pioneering work of Radical Change by applying, testing, and extending the theory. The findings demonstrate the value of the theory in explaining the information behavior of digital youth. This paper concludes with a look toward the future of the theory.

The emphasis of this paper is on the theory's perspective on youth empowerment, as Dresang had always strived for empowering youth through her scholarly, professional, and personal achievements. The theory of Radical Change is fundamentally grounded in her belief in "the child-as-capable-and-seeking-connection."<sup>1</sup> This paper proposes the future of the theory as a tool for enhancing a sense of agency of digital youth.

## **Radical Change Theory**

Radical Change theory suggests that many of the changes in information resources and human behavior in this digital age can be explained through these core concepts: *connectivity*, *interactivity*, and *access*. While the theory is currently being used to investigate both resources and behavior, it was originally developed to explain changes in youth literature. The theory's explanatory power to study human behavior was revealed later by research studies that applied the theory across disciplines, such as library and information studies, education, and English.

### *Initial Development: Youth Literature with Digital Characteristics*

Radical Change theory was initially developed in the mid-1990s to explain changes in youth literature in the digital age, in which society became increasingly more interactive and connected through digital networks. Serving as a lens through which to examine, explain, and use contemporary literature for youth growing up in the digital age, the theory was developed based on the following four assumptions, which support children's sense of agency:

- Children are capable and are seeking connections.
- The digital environment nurtures children's capabilities.
- Handheld books offer digital-age connections.
- Adults and youth are partners in the digital world.<sup>2</sup>

Dresang explained that these assumptions are an optimistic view of youth, not universally held in the 1990s or even currently; nonetheless, it is a perspective that many youth services librarians have embraced in order to create participatory partnerships with youth.<sup>3</sup>

The core concepts of Radical Change theory, referred to as digital age principles, capture key characteristics of the digital society and include the following:

- *Connectivity*: A sense of community or construction of social worlds that emerge from changing perspectives and expanded associations in the real world or in literature.
- *Interactivity*: Dynamic, user-initiated, non-linear, non-sequential, complex cognitive, emotional, and physical behaviors and relationships with and among components of literature.
- *Access*: Breaking of long-standing information barriers, bringing entrée to a wide diversity of formerly largely inaccessible opinion and opportunity in society and sophistication in literature.<sup>4</sup>

Radical Change theory contends that an increasing percentage of contemporary literature for youth reflects characteristics of the digital age principles and that these Radical Change books may appeal to youth growing up in the digital age. For example, indicators for Radical Change books include words and pictures reaching new levels of synergy, non-linear organization and format, multiple layers of meaning, youth who speak for themselves, subjects previously forbidden, unsolved endings, and more.<sup>5</sup>

The initial development of Radical Change theory made groundbreaking connections between printed books and digital culture, which initially seemed to be competing and incompatible. Dresang writes:

When I first conceived the Radical Change theory, almost everyone agreed that digital technologies were changing radically, yet almost no one acknowledged that concomitant change in a growing cadre of printed books for youth. Moreover, those who did take note of the changes in books saw little or no relationship between these alterations and the Digital Age in which they were written,

illustrated, and published. Consequently, in discussions of the integration of technology in education, printed books were often either forgotten or treated as a completely different, unrelated entity.<sup>6</sup>

Radical Change is still the only widely used theory that makes this connection between printed literature for youth and the digital environment.

### *Theory Application and Expansion*

Research studies applying the theory posited that its applicability is not limited to literature for youth. These studies applied the theory to different types of information resources beyond books. Further, studies used the theory to observe human behavior in response to the information resources that reflect the concepts of connectivity, interactivity, and access. For example, Sylvia Pantaleo explored children's understandings of and responses to diverse resources—such as books, visual art materials, films, games, and the Internet—using Radical Change theory. Her research found that children are capable of reading, comprehending, and enjoying non-traditional information resources with Radical Change characteristics. Pantaleo further suggested that these Radical Change resources can be used to teach critical thinking skills, visual literacy skills, and interpretive strategies, in addition to providing pleasurable aesthetic reading experiences for digital youth.<sup>7</sup>

Dawnene D. Hasset (formerly Hammerberg) applied Radical Change theory to observe how elementary school children read and write. The theory was used to investigate how early elementary reading comprehension and writing instructions could be updated to reflect the characteristics of contemporary reading materials. She found a disconnect between the ways in which children are taught to read and write at school and the materials they are currently reading. Hasset's study suggested new technologies that promote interactive, non-linear, and hypertextual forms of communication and that call for new ways of reading and comprehending.<sup>8</sup>

Radical Change theory was also used to study reading behaviors of adults. Marta J. Abele observed pre-service teachers' responses to children's books with Radical Change characteristics. The pre-service teachers not only recognized differences between Radical Change books and more traditional children's books, but also positively responded to the books with digital characteristics. Abele reported that Radical Change books require a higher level of interaction for readers and that the books would make good partners with technology in

classroom teaching to attract digital youth.<sup>9</sup> These research studies from different disciplines reveal the theory's applicability to human behavior in general.

The versatility of the theory's potential applications was suggested to explain a range of contemporary information behaviors.<sup>10</sup> Dresang demonstrated how the theory provides a new perspective to explain the information behavior of youth in the digital environment by reexamining existing studies on the topic. She found that many of the studies tend to focus largely on the deficiencies and the need for improvement instead of recognizing the potential of new and non-traditional behaviors in this digital age. She suggested that "to view youth information-seeking behavior as generally lacking is to overlook the new behaviors nurtured and facilitated by the digital environment and to miss the golden nuggets embedded in these studies."<sup>11</sup> The study presented in this paper attempts to report some of the "golden nuggets" using the theory's unique perspective that empowers youth. The theory argues that behaviors that were previously interpreted as a lack of skills or failure might be understood as new types of thinking and learning, which reflect properties of the digital society.

## **Methodology**

The presented study tested and expanded Radical Change theory to investigate the information behavior of digital youth. The theory was applied throughout the entire inquiry process; it spurred the research questions of the study, provided a framework for facilitating systematic data analysis, and offered an insight to interpret digital age information behavior.<sup>12</sup> The research questions included the following:

1. What are the key characteristics of information behavior of youth in the digital age?
  - 1.1. How do youth act independently?
  - 1.2. How do youth form identity and perceive others?
  - 1.3. How do youth interact socially with others?
2. How can Radical Change Theory be applied and further developed to explain youth information behavior in the digital age?

The study consisted of two sequential and qualitative phases—Phase 1: content analysis of research literature; Phase 2: group and individual interviews with youth. Phase 1 of the study involved conducting content analysis of literature to identify the behaviors of contemporary youth that represent Radical Change core concepts of connectivity, interactivity, and access, as

well as behaviors that do not represent these concepts. This approach to literature analysis was selected in order to cover diverse contexts, such as different age groups, tasks, and both school and everyday life settings building upon previous research efforts. The literature selected adhered to the following criteria: (1) research-based, (2) topics that address information-related activities across the disciplines, and (3) subjects born between 1992 and 2005, that is, youth ages 5–18 in 2010, the year when data was collected. An effort was made to separate the research evidence from unsubstantiated anecdotes and rhetoric. The collected literature was analyzed using a Directed Qualitative Content Analysis approach; the theory provided an initial coding framework while the researcher still immersed herself in the data to allow new themes to emerge inductively. That way the findings captured all patterns of behavior that both align and refute the theory.<sup>13</sup>

Phase 1 findings were tested in Phase 2 with a purposeful sample of youth, ages 12–15, who actively engage in digital media practices using Scratch. Scratch is a graphical programming language, also referred to as an online community for Scratch users, developed for youth to create various digital projects—such as interactive stories, games, simulations, magazines, animations, music, and art—and to share these creations on the Web.<sup>14</sup> Scratch was identified to be an exemplary place to investigate Radical Change information behavior of youth, because Scratch members formed a vibrant community to create various user-initiated projects using a highly interactive programming tool. Different from a traditional text-based programming language, Scratch takes the building-block approach: users create programming scripts simply by dragging and dropping colorful building blocks that indicate different commands. Scratch also makes it easy for youth to import, combine, and create sound, image, and video within the program. It has been used in schools, universities, libraries, and everyday life to promote young people’s twenty-first-century learning skills, such as computational skills, collaboration skills, and information and media literacies. Youth who are active members of Scratch were recognized as likely to be capable of providing deep and detailed descriptions of the topic, since they are heavily immersed in digital culture and engaged in active information behavior embedded in digital media creation practices.

The researcher identified three of the most information-intensive projects in the Scratch community: the Interactive Journalism Institute for Middle Schoolers (IJIMS), Scratch Wiki, and Scratch Resources. The goals of IJIMS included developing middle school students’ interests in

twenty-first-century writing, media, math, and computing skills through interactive journalism and digital storytelling.<sup>15</sup> The IJMS students created an online magazine using Scratch and other digital media in a collaborative setting. They conducted interviews with members of the community, wrote articles, and worked as a group to create an interactive magazine with assistance from teachers and undergraduate mentors. Young Scratch members voluntarily initiated and maintained Scratch Wiki and Scratch Resources. Scratch Wiki is an information website where Scratch members share information on various aspects of Scratch. Scratch Resources is a digital media library developed to share tutorials, characters, and sounds, which is also contributed to by members of the Scratch community and can be used for Scratch projects.

Eight IJMS students and four developers of Scratch Wiki and Scratch Resources were recruited for group and individual interviews, which were informed by Brenda Dervin's Sense-Making Methodology.<sup>16</sup> All IJMS students were eighth-graders and included four girls and four boys from diverse racial and ethnic backgrounds. The four boys, ages 12–15, who developed Scratch Wiki and Scratch Resources participated in the interviews online, because they lived in different parts of the world, including Belgium, the Netherlands, and the United States; they are all fluent in English. Data analysis applied the directed qualitative content analysis technique.<sup>17</sup>

## **Findings: Youth Empowerment through Learning, Creating, and Socializing**

The study findings identified the patterns of information behavior that represent the concepts of Radical Change theory: connectivity, interactivity, and access (see table 1). The findings suggest a holistic perspective for observing youth information behavior as interplay between various factors, such as young people's (a) intrapersonal processes, (b) identity formation and value negotiation, and (c) social interactions. The findings propose that digital youth engage in non-linear and interactive information seeking, use, and creation activities with an increasing sense of ownership; they form identities and negotiate value systems while they interact with a range of information from different, often conflicting, information sources; and they expand the boundaries of interpersonal information behavior by connecting to diverse resources, people, and communities to meet their information needs.

Table 1. Types and Characteristics of Digital Youth Information Behavior<sup>18</sup>

<b>Radical Change Types</b>	<b>Characteristics</b>	<b>Definitions</b>
Type One: Intrapersonal Process	Personalizing	The design of one’s own information environment to facilitate access to and use of information concerning personal interests.
	Interactive seeking	Dynamic, fortuitous, and self-controlled information seeking behaviors.
	Squirreling	The way youth extensively gather and keep information in the digital environment in the form of downloading.
	Remixing	The creative reuse of information in order to produce new information or expressive materials.
	Tinkering	Interactive mode of information production, which starts as an idea and the idea evolves by continual modification, trials and errors, and experimentation.
	Visualizing	Affinity for visual and graphic display of information and synergistic integration of the use of text, image, and multimedia in their information behavior
Type Two: Identity and Perspectives	Self-expression	The ways youth express themselves by producing and publishing information that reflect their identity and perspectives to the connected information world.
	Seeking Identity-related Information	Information seeking regarding identity issues such as gender, race, and sexuality.
	Negotiating Value Systems	The ways youth process diverse perspectives and deal with ambiguity when interacting with various information, people, and communities.
	Sense of Empowerment	A greater ownership and a sense of agency over information activities as a result of new and innovative behaviors and the nature of the information environment in the digital age.
Type Three: Social Interactions	Networking	The act of reaching and connecting resources, people, and communities to meet one’s information needs through technological networks, such as the Internet or mobile networks.
	Access to Collective Knowledge	The ways youth access and contribute to the aggregated information that is developed by individuals, especially on the Web
	Collaborative Problem Solving	Information behavior performed by two or more people working together in order to complete tasks or develop new information.
	Socio-emotional support	The ways youth exchange non-work related comments or actions to build rapport and trust during collaborative/collective information behavior.

This section presents selected findings from the study. These are characteristics that clearly represent the concepts of Radical Change theory when digital youth learn, create, and socialize. Interpreted through a lens of Radical Change theory, these behaviors have the potential to enhance a sense of agency in youth. Substantiated examples are from both Phase 1 (research literature analysis) and Phase 2 (interviews with Scratchers) findings.

### *Learning*

**Information Seeking.** Youth in this study showed a greater ownership over their own learning in the digital environment through information seeking. Findings suggested that information seeking is a way of learning or acting that makes young people’s learning more meaningful. The fact that contemporary youth have access to a range of information at their fingertips seemed to increase their confidence in learning new things, including knowledge and skills they have not been taught in school or from adults. A boy who is a Scratch Wiki administrator said that he learned the skills and knowledge needed to develop Scratch Wiki by looking around online: “It was mostly just by looking around the Internet, you know, whether from [the] Scratch website—people post various stuff there—or looking at tutorials at other wikis.” The founder of Scratch Resources mentioned that the development of the online media library “was possible just because there were a lot of useful sites out there,” especially since he had not taken an IT (information technology) lesson in school or elsewhere.

Contemporary youth can also look up information on sensitive topics that they are reluctant to ask other people to learn about, because nowadays they have access to information that was previously unavailable or difficult to access. Amanda Lenhart et al. reported that teens “use the internet to look for information on health topics that are hard to talk about, like drug use, sexual health or depression. A bit more than one in six (17%) internet-using teens look online for information about sensitive health topics. . . . [Teens] were more likely to look online for answers to health questions that were hard to ask of others.”<sup>18</sup>

**Collective Knowledge.** Digital youth have access to collective knowledge—that is, the aggregated information contributed by individuals—especially on the Web such as *Wikipedia*, online forums, and expert communities. It allows them to pursue in-depth knowledge on specialized topics in their interest area. While some youth with specialized interests can become

discouraged due to the lack of local resources, the increasing availability of search engines, online forums, and networked publics permits them to access online resources for an initial introduction to a particular area.<sup>19</sup> Interviewees in Mizuko Ito et al.'s study accessed and shared information about their interests by participating in online communities. A teenage member of a fan sub community (a fan community to translate and create subtitles for foreign films or TV shows) described "how initially he was attracted to the specialty because of the depth of knowledge that he could pursue within an expert community. 'It just got interesting because other encoders were like, "here are some tips and tricks." . . . There were so many tricks in how to handle that stuff that it got pretty interesting.'"<sup>20</sup>

My interviews with youth concurred that digital youth seek out and create information on their areas of interest through an expert community, such as Scratch, where the members share and collectively build the aggregated information on specific areas of interest. For example, they use and contribute to developing collective knowledge through Scratch Wiki. It is a community effort to generate a knowledgeable source on Scratch. As an interviewee mentioned, "Well, if anyone has a question, like they wondered something, it's a spot where hopefully they'll be able to find an answer."

**Remixing.** Remixing provides a unique learning opportunity—that is, learning by example. Remixing is the creative reuse of information or projects to produce new information or expressive materials. Scratch was designed to make it easy for users to remix others' projects. All Scratch projects are under the Creative Commons Attribution-ShareAlike License, which allows freedom to share and remix projects. Once a project is remixed, the Scratch program automatically produces credit for the original project. An individual interviewee explained:

So, remixing is a very important part of Scratch. Without remixing, we wouldn't have been half as cool. And, the good thing is that because of all of this remixing, every single project out there is a tutorial. You can, so if you're interested in drawing a cake, you can just download a project and that has a cake in it and just see how it works and start playing with it. And, that's not possible on any other site or platform or whatever.

Several interviewees concurred: "When I see other people that have added more intricate, more difficult things to their Scratch project, then I'm, like, 'Oh, how did you do that?' I will ask them

how to do that. And then I will want to go add that to mine to make my scratch better than it already was.” Remixing in Scratch accelerates learning the programming language: “I mean, it [remixing] is really important. When you’re learning . . . a typical new programming language, you have to rely on the people that are specifically supplying tutorials, and in Scratch you can just explore projects. You can say, ‘Oh, I like this.’ And, then you download and you see how it’s made.”<sup>21</sup>

### *Creating*

Findings revealed that youth feel a sense of empowerment when they create things and make a participatory contribution to the community. The Scratch Wiki administrators mentioned that they liked Scratch Wiki because it is a community effort by youth themselves: “It’s quite cool how people can share information over there, because before you had just the Scratch Support on the website. And, only the [MIT] Scratch Team could upload content to there. And, it’s kind of cool, how now all this help and support is provided by the community, other than the Scratch Team.”

A boy mentioned how he feels when he engages in creative activities using a tool that allows flexibility and choices:

What I like about Scratch is how it’s not just passive. We’re actively working with media and it allows everyone to do so. And, that’s important. The longer I use Scratch, the more I start to hate TV. It’s very weird. But, I mean, TV is just such a passive medium. You just look at it. You’re looking at the television and it just comes to you for a long time. And, I guess, I can still watch a nice movie, but it has to be nice. Just this annoying television shows [*sic*], well, it’s really annoying, just so passive and you just lose your time sitting without doing anything, and I sort of like to be productive. And, I like how Scratch allows me to do it, but I bet there are more people who like to be productive, and it also allows them to be. With script you can basically do whatever you want. You can make a very big diversity of projects, and you can use it to make PowerPoint-like presentations with some graphics. I already did for school. That’s very cool. But, you can make games, information about yourself, and that’s what I like about it.

You're not really restricted to games or whatever, you just start and do whatever you want.<sup>22</sup>

Young people's creative activities are a way of expressing themselves. The digital environment in particular offers young people the chance to be powerful and to express their identity and creativity.<sup>23</sup> Youth find value in expressing themselves online, because self-expression online plays several roles in their identity construction, including self-reflection, catharsis, self-documentation, identity experimentation, and social validation of self from their audience.<sup>24</sup> Meanwhile, by creating and publishing information within a specific area of interest, young people define themselves as experts, geeks, freaks, or artists within particular communities.<sup>25</sup> For instance, personal web pages maintained by youth reveal a range of information and opinions of youth, such as favorite music, sports, daily experiences, jokes, photos, and more.<sup>26</sup>

Scratchers in this study were engaged in expressive activities, particularly digital media production, in both school and everyday life. An IJIMS participant mentioned, "I have been using Scratch [when I was not] in IJIMS. One particular time [I created Scratch projects] was just on my own . . . trying out what was on my mind." An interviewee's description revealed how his Scratch production is a way of self-expression:

Interviewee: It [working with Scratch] does help because that's one of those programs where you're not limited. You can do a lot of things. It's pretty much putting your emotions in a computer screen. And it kind of helps. It's kind of relieving in a way.

Interviewer: Can you explain the word "relieving"?

Interviewee: You can just put it out there, and you know that it's down there, so you can go back and look at it another time. So if you were feeling sad, you could go there, and you could just make a Scratch and just let it out.

### *Socializing*

Youth have an intrinsic need for social and connected information behaviors.<sup>27</sup> Traditional interpersonal information behaviors where youth seek and share information with peers, family members, teachers, and librarians in their local communities are still prevalent. Digital youth,

however, are capable of expanding the boundaries of their interpersonal information behaviors by interacting with diverse people and forming communities of practice beyond geographical restrictions.<sup>28</sup>

By the time the interviews were conducted in 2010, Scratch did not provide many communication tools other than public forums and comments. Despite that, Scratchers from different parts of the world collaborated all the time. An interviewee discussed Scratch members' strong need for collaboration:

Well, the weird [thing] about people collaborating on Scratch is that except for remixing, there is really nothing that helps you collaborate. And, people just find their way of doing it. So, there are Scratch Companies you might have heard of. So, people form a group using a gallery. They usually all just use technologies that were not intended to be used as a collaborative platform. . . . [T]hat also makes collaboration on Scratch cool. People seem to be, they really want to do it and they don't just do it because it's there. They find their own way of collaborating. That's really cool.

All interviewees in Phase 2 were actively interacting with others during their problem-solving or knowledge-creation activities—that is, creation of an online magazine in IJIMS and development of Scratch Wiki and Scratch Resources. Scratch Wiki itself, in particular, is where youth collaboratively create knowledge about Scratch. The nature of Wiki—that is, being edited by anyone and having the ability to see previous versions—enhances the collaborative/collective aspect of Wiki as an information resource, as discussed by two participants:

As far as collaboration, what's really nice on the Wiki is that you can of course compare the text from the previous revisions, [which] I think is one of the helpful things about collaboration, which you can't always do, like, maybe you're in a collaboration and you remake a project. You can't really see directly what changed.

The good thing about the Wiki is that it can be edited by everyone. And, still always stores older versions. So, when someone does something wrong, they don't have to feel shy or whatever, you can just revert the edit.

During collaborative problem solving or creation activities, youth frequently exchange non-task-related comments or actions to build rapport and trust. Although they have never met in

person, the individual interviewees mentioned that they make “lots of good friends in Scratch.” Interviewees point out the many modern technologies that help them overcome the geographical distance and build relationships and trust one another:

There’s stuff to help people talk online. It can help you make friendships and things, even without meeting, though it is kind of sad, like oh, you probably will never be able to meet this person.

On Scratch, there are the forums. And as you use them, you start to see people and sort of generally become friends with some of them. . . . If we share interest in something, then it helps. And the people that we were in with our collaboration group, they’re friendly.

Another interviewee concurred that one could build relationships and trust online:

In the modern Internet, you know, here we use emoticons, you know, especially if you’re a kid, you understand, you know, like texting—you understand how to use abbreviations and kind of how people act. And, for example, you end up—people will exaggerate things of course, you know, but it’s all part of the process. Yeah. We also have to, like, when meeting new people, you know, we have to assume good faith. We never try to act—assume that they’re trying to do something bad or assume that they were trying to do a certain thing. So that’s kind of an important thing about being on the wiki.

### *Opportunities and Challenges*

The findings show the ways in which digital youth have an increased sense of control over learning, creative, and social aspects of their life; as Dresang suggested earlier, Net Generation youth are increasingly in the driver’s seat.<sup>29</sup> Digital age information behavior offers a new type of learning opportunity, which supports both autonomous and social learning. Information seeking—especially in which youth can choose what to explore in what order in the digital environment—allows them self-taught and autonomous problem solving. Beyond seeking and use, engaging in productive and creative information behavior seems to provide digital age youth with an enhanced sense of empowerment. As information creators, digital youth have a growing chance to be powerful and express their creativity and identity. They also create information collaboratively and contribute to the development of collective knowledge. Moreover, youth feel

a sense of agency during their social interactions, especially when their voices are accepted and they can make a meaningful contribution to the information world to which they belong. As demonstrated in the study, Radical Change theory provides a unique perspective to ferret out the potential of non-traditional behaviors to empower youth who are immersed in digital culture.

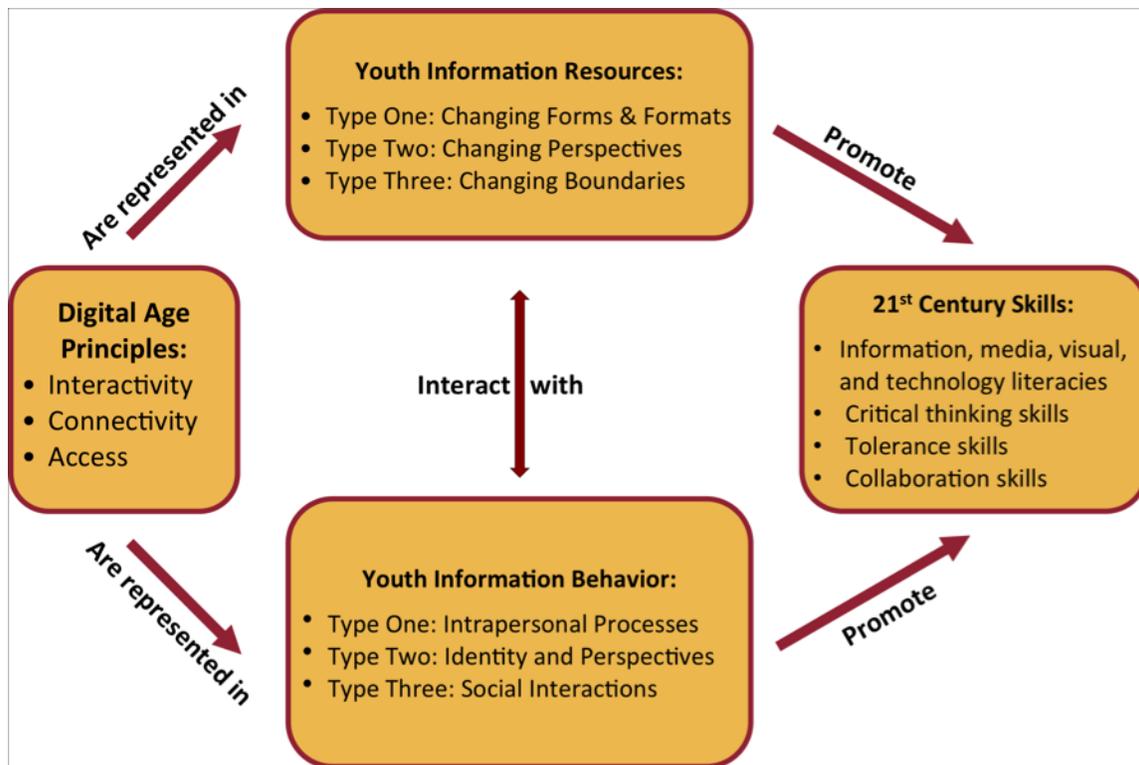
The theory, however, is not naive enough to overlook challenges in the digital environment. While most digital youth appreciate an increasing amount of information at their fingertips, processing a range of information demands a high level of thinking skills and information-credibility judgment. Today's youth must be equipped with digital information literacy skills in order to have a meaningful learning experience through information seeking. The creative information behavior of youth raises ethical issues concerning ownership as well as the problem of a digital participation gap, because advanced technologies that facilitate creation require a high cost. Collective knowledge can be challenged by quality concerns since anyone without traditional authority can contribute. Furthermore, constant connectivity and increasing online interaction bring up issues of privacy and online safety. The availability of diverse perspectives does not always lead to a broadening perspective or high tolerance when young people's social interaction is deliberately limited to a circle of like-minded people. Such challenges have implications for the future of Radical Change theory.

## **Future of the Theory**

While the theory may not provide direct applications to all those challenges in the digital environment, Radical Change theory offers a valuable perspective for tackling the difficult issues for both professionals and scholars. The theory guides us to choose an approach to supporting a sense of agency in youth, instead of being intimidated by the dangers of the digital environment and attempting to protect "the innocence of youth" by limiting their access to information and technologies. I believe that the implications of the theory include the significant role of information professionals guiding and supporting digital youth in ways that do not stifle the digital age principles of connectivity, interactivity, and access. The principle of access can be seen as providing the foundation for Radical Change in both information resources and youth behaviors. Dresang explains that "an affirmative regard for Radical Change resources rests in part on a belief that the principles of intellectual freedom (based on the First Amendment) are applicable to youth as well as to adults." She further suggests that "the danger of withholding

information from youth far exceeds the danger of providing it. The onus is on us, the adults who care for and work with young people, to guide them to it, give them the background to sort through it and interpret it, and write, edit, and publish it in books that give them the opportunity to reflect upon and absorb it.”<sup>30</sup> Fostering digital youth’s twenty-first-century skills, such as digital information literacy, is key in order for them to truly take advantage of opportunities through the interactive and connected digital environment.

I offer the following diagram as a potential way that Radical Change theory can guide future research. It is a framework for studying the information behavior of digital youth, radical resources, and the outcomes for youth in obtaining twenty-first-century skills. Dresang recognized the framework to be “the next step in understanding digital age children’s information behavior and the role of libraries in meeting their needs.”<sup>31</sup> The diagram flows from the digital age principles—interactivity, connectivity, and access—to the Radical Change resources and behaviors that represent the principles. It depicts interaction between resources and people. Owing to its emphasis on the synergistic combination of users and information resources in the digital age,<sup>32</sup> researchers can benefit from the theory in investigating how digital age resources and changing users interact and influence one another. The theory can also be applied to exploring the effectiveness of Radical Change resources in promoting the twenty-first-century skills of digital youth, just as Pantaleo’s findings proposed that Radical Change resources are tools to teach critical thinking skills, visual literacy, and more.<sup>33</sup> Finally, the diagram calls for future research that explores how the interaction between changing resources and youth may have an impact on youth obtaining twenty-first-century skills, because these are critical skills in enhancing a sense of agency in youth by increasing their capacity to learn, create, and socialize.



## Notes

1. Eliza T. Dresang, *Radical Change: Books for Youth in a Digital Age* (New York: H. W. Wilson, 1999), 58.
2. *Ibid.*, xxiv.
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