



3.1 | Evaluate: How Age-Related Factors Inform Design

The importance of age as a variable in learner analysis was explained in a 2015 web article by the Pew Research Center:

Age denotes two important characteristics about an individual: their place in the life cycle – whether a young adult, middle-aged parent, or retiree – and their membership in a cohort of individuals who were born at a similar time. The nature of age as a variable allows researchers to employ an approach known as cohort analysis to track a group of people over the course of their lives. Age cohorts give researchers a tool to analyze changes in views over time; they can provide a way to understand how different formative experiences interact with the lifecycle and aging process to shape people’s view of the world (para. 2-3).

These two characteristics about individuals have both been researched with respect to how they inform the design of instruction. Research on differences related to a person’s place in the life cycle has provided information on distinctions between how children and adults learn (i.e., pedagogy versus andragogy). The second characteristic – membership in a generational cohort – yields generalizable information on the characteristics of the different generations that can also inform an instructional design.

Distinctions between How Children and Adults Learn

The following general distinctions between the adult and child learner are adapted from The National Center for Research in Vocational Education (NCRVE, 1987). As noted in the table, groups of children often exhibit more similar characteristics than do groups of adults. We’ve added a column on how those differences could impact instruction:

Child Learner	Adult Learner	Possible Implications for Design
Children are other-directed, depending on adults for material & psychological support, & life management.	Adults are largely self-directed. They support themselves & manage their own lives, though they still depend on others for many psychological needs.	• Provide more instructional structure for children. • Provide both children & adults with affirmation. • For both children & adults, make clear connections between the instruction & learning goals. • Stress life-long learning. • Children may require more external motivators (good grades, praise rewards, etc.) & adults may need instruction that activates their internal motivators (feelings of worth, self-esteem, achievement, personal goals, etc.). • Emphasize to adults why the instruction is worth their time & effort.
Children perceive one of their major roles in life to be a learner.	Adults perceive themselves to be doers; using previous learning to achieve success as workers, parents, etc.	
Children generally learn what they are told to learn.	Adults learn best when they perceive learning outcomes as valuable to their own development, work success, etc.	
Children view content as important because adults tell them it is, & they believe it will be useful in the future.	Adults often have very different ideas about what is important to learn, & are concerned with the immediate applicability of learning.	

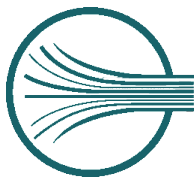


Child Learner	Adult Learner	Possible Implications for Design
Groups of children in educational settings are typically about the same age, come from similar socioeconomic backgrounds, & have similar interests.	Adult learning groups are likely to be composed of persons of many different ages, backgrounds, education levels, interests, motivations, etc.	• Data on children can frequently be gathered from parents, teachers, school records, etc. • Collect data directly from adult learners when possible.
Children perceive time as passing more slowly than do adults.	Because adults perceive time as passing more quickly, they are more concerned about the effective use of time.	• Ensure adult satisfaction with authentic, real-world problems & applications. • Break instruction into shorter segments to maintain interest & attention.
Children have a limited experience base, & less well-formed expectations for formal learning experiences. Their “filter” of past experience is smaller than that of adults.	Adults have a broad experience base to relate to new learning. They also have well-formed expectations which may be negative or positive based on their previous formal learning experiences.	• Attempt to ascertain prior knowledge, & relate new content to previous experiences. • For adults, provide the ability to skip content if already familiar with it. • Include confidence-building activities in the instruction for children & adults. • Clearly state requirements & expectations.
Children generally learn quickly.	Adults typically learn more slowly than children, but they learn just as well.	• Provide opportunities to review instruction. • Provide adults with pacing options.
Children are open to new information & will readily adjust their views.	Adults are much more likely to reject or explain away new information that contradicts their beliefs.	• Provide adults with instruction that includes scenarios, role-play & real-world experiences that may challenge their beliefs.
Children’s readiness to learn is linked to both academic development & biological development.	Adults’ readiness to learn is directly linked to needs to fulfill their roles (e.g., workers, spouses, parents), & coping with life changes (divorce, retirement, family member’s death).	• Use proven measurements to check children’s readiness to learn. • Address the relevance of the instruction to adults by conveying its usefulness, & relating it to their interests, goals, & prior experiences.

Generational Differences in Learners

According to the Pew Research Center, “generations are one way to group age cohorts. A generation typically refers to groups of people born over a 15 to 20 year span” (2015, para. 4), however date spans for the common generational categories vary in the literature.

Researchers at Pew (2015; Dimock, 2019) provide several generalizations concerning the characteristics of different generations that some advocate considering when designing instruction. Keep in mind that such generalizations should always be confirmed through your learner analysis. In fact, many



researchers caution against basing instructional designs on such generalizations, due to the inconclusive status of the research supporting them. In his literature review on generational differences in the workforce, Tom Reeves wrote:

It is important to acknowledge that there is a great deal of variance among the distinguishing characteristics within any given generation, and thus it is unjustified to assume that if a person was born in 1985, he/she would have most of the characteristics of Gen Y, or that someone born in 1960, and thus a late Boomer, would be not as technologically sophisticated as a person born into Gen X or Gen Y” (2008, p. 3).

“The consensus of scholarship and opinion is that there are generalizable generational differences that are worth taking into consideration with respect to attitudes, work habits, and motivators. ...However, it is definitely not recommended to make assumptions about any one individual ...based upon his/her membership in a chronological generational cohort (p. 20).

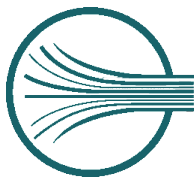
Below is a collection of characteristics for the current generational groups (Dimock, 2019; Oblinger & Oblinger, 2005; Pew Research Center, 2015; Reeves, 2008; Tipton, 2017; and Williams, 2015):

Baby Boomers – Boomers were born between 1946 and 1964, in the period between the end of World War II and the introduction of the birth control pill. Boomers have been described as *living to work*, are generally optimistic, and have a strong work ethic. They also like structured group work, relationship-building exercises, and frequent feedback in learning situations; and they significantly influence today’s policies and products.

Generation X – Gen-Xers were born between 1965 and 1980. This generation was originally referred to as the *Baby Bust* to describe the low birth rates characteristic of these years as compared to previous generations. In contrast to Boomers, members of Generation X have been described as *working to live*. They are generally self-reliant and self-directed; they prefer flexibility and choice in learning and believe learning should be enjoyable; they also have clear and consistent expectations and value contributing to the whole.

Millennials or Generation Y (a.k.a., **Net Generation**) – Millennials or Gen-Y learners were born between 1981 and 1996, and according to Pew Research, this group surpassed Baby Boomers as the most prevalent age group in the workforce as of 2015. With respect to their knowledge of technology, some studies have divided this group into two distinct two subgroups: Early Millennials (born 1980-1987) and Recessionists (born 1988-1996, and who entered, attended, and graduated from college as the Great Recession of 2008 impacted the economy). Early Millennials often have little-to-no experience with online instruction. Millennials have been described as living in the moment; they expect the immediacy of technology and frequently multi-task; they are highly social and enjoy group work and experiential activities, like personalization, and expect learning environments enriched with multimedia. This generation is the most racially and ethnically diverse adult generation in U.S. history, and its members came of age during the explosion of the Internet and are able to remember the terrorist attacks of 9/11 (Dimock, 2019).

Generation Z (a.k.a., **iGeneration**) – The most recent generation to enter the workforce are those individuals born from around 1997 to 2012. Individuals in this group are social, non-linear learners, who enjoy interactive and networked learning environments that are characterized by multimedia and “always on” technology (Dimock, 2019). This generation, having never known a pre-Internet world, is growing up in a digital, globally-connected age characterized by remote working, visuals and videos, and heavily influenced by social media.



Generation Alpha – The most recent generation in learning environments was defined by social researcher Mark McCrindle in 2005 (Williams, 2015) as Generation Alpha, and includes individuals born from ~2010 to 2024 (ibid), who are the children of the Millennials. They are logged on and linked up and are characterized as the most materially-endowed and technologically literate generation yet. They are named Alpha because they are the first generation born entirely within a new century.

Generational Infographics – McCrindle Research is a consulting and market research firm and as such is not an authoritative source on generational characteristics. For example, McCrindle Research (n.d.) describes Generation Z as digitally oriented and career-focused. However, researchers caution that generational differences are often overstated and should be interpreted carefully, as empirical evidence for strong cohort effects is limited (Rudolph et al., 2020). More recent, peer-reviewed research emphasizes that generational differences are small, inconsistent, and best explained by age and life stage effects (Jaqua & Dinkjian, 2025). The McCrindle website does, however, feature some infographics of the generations that you may find interesting: <https://mccrindle.com.au/article/topic/generation-z/gen-z-and-gen-alpha-infographic-update/>

References:

- Dimock, M. (2019, January 17). Defining generations: Where millennials end and generation Z begins. *Pew Research Center*. [web article]. Available at: <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Jaqua, T., & Dinkjian, A. (2025). Bridging the generational gap at work: A research-based perspective on differences and practical strategies. *Open Journal of Human Resource Management*, 6(2), 1–7. <https://doi.org/10.22259/2639-197X.0602001>
- McCrindle Research. (n.d.). Gen Z and Gen Alpha infographic update. <https://mccrindle.com.au/article/topic/generation-z/gen-z-and-gen-alpha-infographic-update/>
- National Center for Research in Vocational Education (NCRVE). (1987). *Plan instruction for adults, Module N-4*. Columbus, OH: Ohio State University. Retrieved from: http://www-ed.fnal.gov/lincon/staff_adult.shtml.
- Oblinger, D. G., & Oblinger, J. L. (Eds.) (2005). *Educating the net generation*. Boulder, CO: EDUCAUSE. <http://www.educause.edu/educatingthenetgen/>
- Pew Research Center. (2015, September 3). *The whys and hows of generations research*. [web article]. Available at: <https://www.people-press.org/2015/09/03/the-whys-and-hows-of-generations-research/>
- Reeves, T. C. (2008). *Do generational differences matter in instructional design?* [Literature review] Available at: <https://paeaonline.org/wp-content/uploads/2016/07/10c-Gen-Diff-Matter.pdf>
- Rudolph, C. W., Rauvola, R. S., Costanza, D. P., & Zacher, H. (2020). Generations and generational differences: Debunking myths in organizational science and practice and paving new paths forward. *Journal of Business and Psychology*, 36(6), 945-967. <https://doi.org/10.1007/s10869-020-09715-2>
- Tipton, W. L. (2017). *The net generation at work: Younger employees' understanding of productive/counter-productive information across communication channels*. (Unpublished doctoral dissertation for Communication and Information). University of Tennessee, Knoxville. https://trace.tennessee.edu/utk_graddiss/4660
- Williams, A. (2015). Meet alpha: The next 'next generation.' *The New York Times*. [web article] Available at: <https://www.nytimes.com/2015/09/19/fashion/meet-alpha-the-next-next-generation.html>