



Supplement of

How to transfer knowledge to Generation Z

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How to transfer knowledge to Generation Z

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1. Aim

With this poster, we aim to raise awareness of the challenges of generational transition in the German nuclear industry. We present potential solutions for transferring and preserving knowledge in the future.

2. Why

Germany phased out the peaceful use of nuclear energy in 2023 by shutting down the last three nuclear power plants. At the same time, a generational shift is imminent within the next 5–10 years, as a significant number of knowledgeable experts will be retiring. Simultaneously, the first “fully digitalized” Generation Z enter the job market.

3. Note!

Generation Z learning methods and preferences differ significantly from the previous generation (see Fig. 1) (McKinsey & Company et al., 2018). This requires the development and establishment of new methods and didactics (Chillakuri, 2020).

4. Research Approach

The methodology for knowledge transfer to newcomers and career changers was developed experimentally with beta testers, since no approaches from core didactics in the nuclear education environment could be used. Together with learning psychologists learning attributes were evaluated, tested, and combined in such a way that a multi-level learning concept (see Fig.2) met the expectations of the target group. Scientific researches were also taken into account: Generation Z is characterized by a strong commitment to digital technologies, a high affinity for collaboration and a preference for interactive and visual learning methods. In contrast to previous generations, Generation Z increasingly prefers informal, flexible, and contextual learning (Cilliers, 2017). Attention span, which has changed compared to previous generations, was taken into account.



Verbal	→	Visual
Sit & Listen	→	Try & see
Teacher	→	Facilitator
Job Security	→	Flexibility
Commanding	→	Collaborating
Closes book exams	→	Open book exams
Book & papers	→	Glass & devices



Fig.1: Job and learning expectations of Generation X vs. Generation Z (McGowan, 2018).

5. Outcome: Multilevel-Learning

To address these attributes, a multilevel learning concept was developed. The concept includes various digital on-demand and asynchronous/reverse learning formats that facilitate an attractive and flexible learning environment. A variety of media types, such as e-learning videos, podcasts, animated films, and virtual realities, were well-received by the participants. To maintain attention, playful elements (gamification) were inserted into the format. Additionally, online expert discussions were established, as personal exchanges convey experiences and collaboration elements, leading to a higher level of memorability.

6. Transfer Knowledge Approach & Conclusion

The future of nuclear safety and competence in Germany depends on a successful transfer of knowledge in the coming years. A lack of adaptation of learning methods and didactics to the needs of current and future generations risks the loss of a significant portion of accumulated expertise. This loss poses a risk to nuclear safety, can drive up costs, and can lead to project delays of several years.

- E-learning videos
- Podcasts
- Animations films
- Quiz
- Workbook
- Online live sessions
- Reverse learning
- Individual learning path
- Live exchange

- Relevant nuclear safety topics
- Learning path with focus on relevant content
- Nuclear safety culture from beginning
- Content always available

- Collaboration during education
- Networking with experts
- Experience exchange

- Online & on-demand
- 100% digital
- Flexible & anytime available
- Meets GenZ expectations

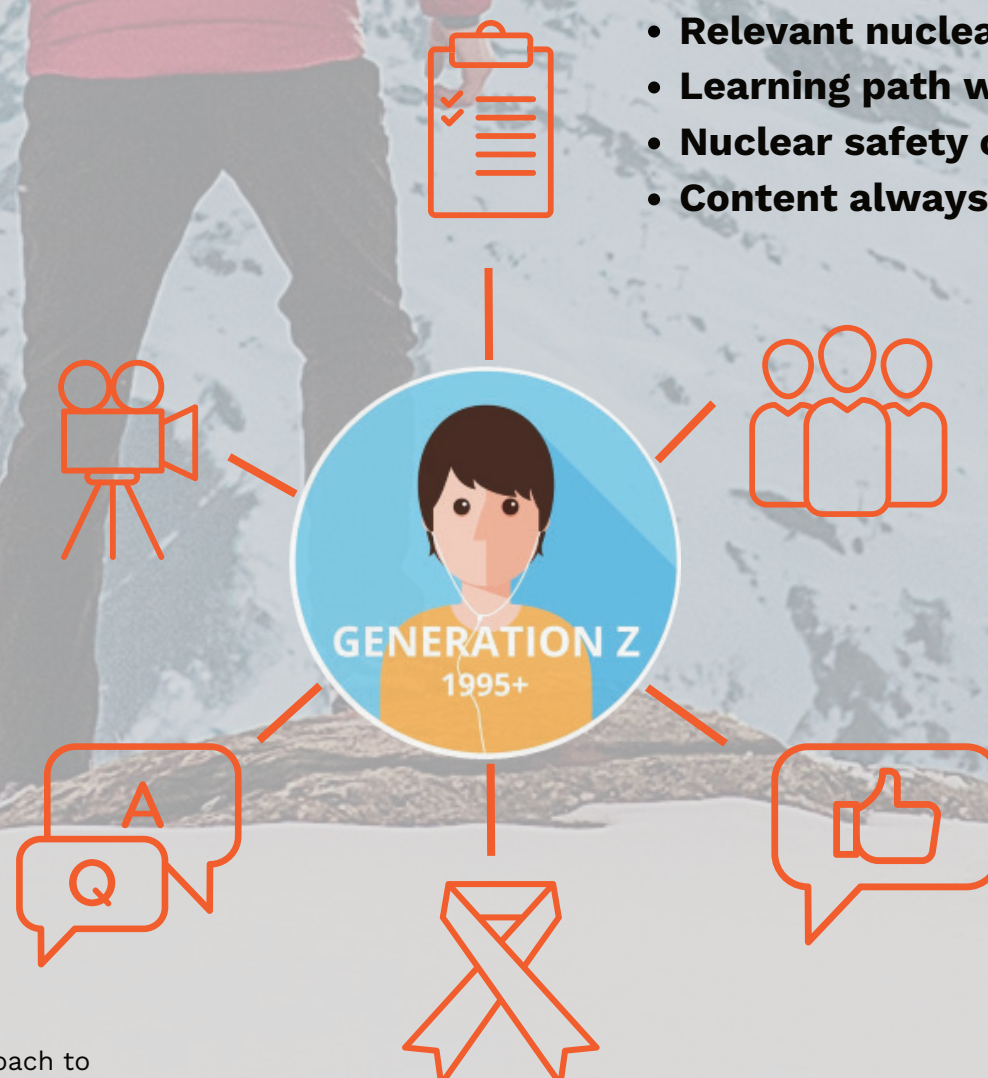


Fig.2: A multi-level learning approach to knowledge transfer and GenZ expectations

- State of the art education
- Content coming from experts
- Information stored & scalable