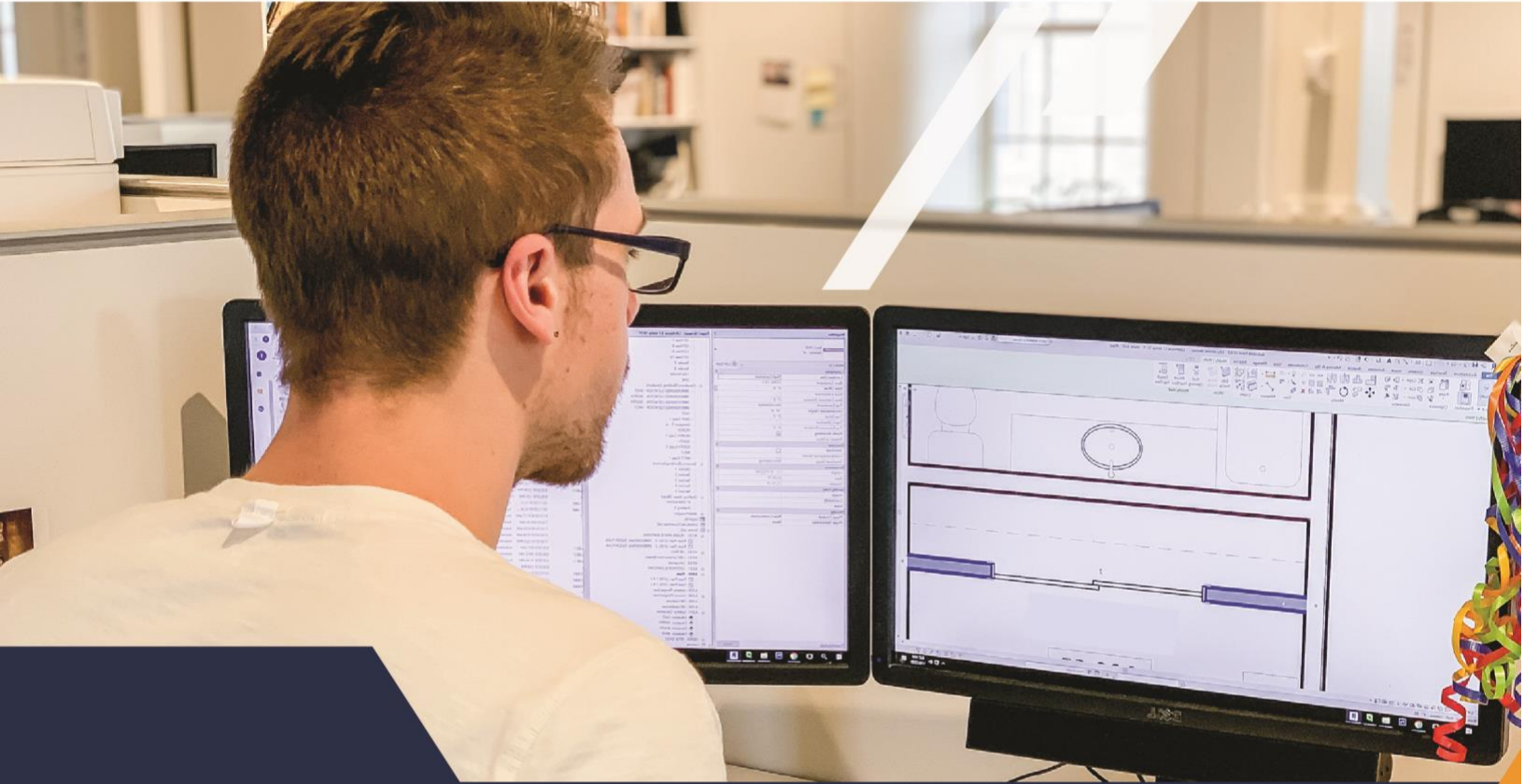# Design Process
1.2 Universal Design Education

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1.   Overview

The earlier the development team starts thinking about it, the more likely universal design will be fully incorporated throughout a project. Issues such as the needs of future users and accessibility are often left until later phases of design when products are being selected. But at that stage, the site is fixed, the spatial organization of the building established, and the space program finalized. The universal design process works best if these and other early design decisions include universal design thinking.

Thus, one of the first activities a development team needs to do at the start is educate its members about universal design and make sure the team is fully aware of what it means for the design process. Education should not stop at the pre-design phase. Throughout the development process, there may be needs to educate new members of the team. And, as the project progresses, new issues will come up. Thus, it is important to plan an educational program at the beginning and to provide (or obtain) resources to manage it throughout the project.

2.   Issues to Consider

Identifying and recruiting experts. At this point in time, there are very few professionals with experience in the full scope of universal design, especially the eight Goals of Universal Design that serve as the conceptual framework for the isUD™. In addition, there are even fewer who are knowledgeable about isUD™. Thus, it is important at the start of any project that the in-house team leader have the resources needed to recruit and train the universal design team. If knowledgeable, the leader could do the training or embark on a period of study to gain the knowledge necessary to do so. Another approach is to hire an outside consultant to provide the training expertise. If it is the first universal design project that an organization will undertake, the in-house leader can work closely with the expert and become knowledgeable enough to do the training in future projects.

Identifying in-house resources: Many organizations have personnel who are knowledgeable about aspects of universal design and could be members of the universal design team. For example, staff who have responsibilities for diversity, accessibility, accident safety, injury protection and infection control. Organizations may also have inclusivity committees and advisory boards with members who are advocates for interests of underrepresented groups like women, racial minorities, the LGBTQ+ community members and people with disabilities. So, identifying the human resources already available to the team is the first step in education. In an organization committed to inclusion, universal design should be a shared task that all individuals in the organization need to address in their respective roles (Law, 2010). Individuals with relevant knowledge should be recruited for the team and given responsibility for advancing universal design as part of their job. They may need some education to understand the bigger picture of universal design, but they can also be helpful in educating other team members on specific topics when the need arises.

Educating team members. Several methods of education are available. There are many books on the topic of universal design. Continuing education opportunities at conferences and online provide another source of information. However, it is important to note that, in the design fields, many books and continuing education programs with universal design in their title are actually only focused on accessibility code compliance. Even within the domain of disability issues, this

is not sufficient to understand universal design as currently conceived. It is important to find resources that reflect the broader approach upon which the isUD™ is based and, in particular, the idea of intersectionality. Designing for disability, for example, means designing for racial and gender equity, aging, etc. and vice versa.

Selecting design consultants. One of the most important decisions a client will make for achieving a universal design is the selection of design consultants like architects, interior designers and landscape architects. The IDEA Center has worked on many isUD™ certification projects. In our experience, many design firms think that if they know the accessibility codes they do not need any further education or consultants. At this point in the evolution of universal design, we cannot expect that all designers will be up to speed on the concept. So, willingness to learn, engagement of expert consultants, interest in design participation are all important issues to consider in selecting design professionals.

3. Related Standards

There are no standards for education during a design project. However, professional licensing requirements and professional associations have continuing education requirements and some associations give priority to health and welfare topics like universal design and accessibility. Courses approved by professional associations are likely to be more rigorous and well-designed than informal events. The IDEA Center has a robust set of online courses on universal design, including some short introductory courses and also provides speakers who can customize a program for a particular audience. See http://idea.ap.buffalo.edu/training-services/ for further information.

4. Measurement and Verification

It is important to measure the impact of trainings and workshops at different stages (Sufi et al., 2018) to track potential issues and continually improve the programs. Feedback from participants can be gathered:

- Before, to structure and adapt the program based on the existing competencies of participants and their expectations (pre-quizzes, sign-up information)

- During the program, to identify potential problems as well as get an idea of the progress of participants (on-going feedback, running scores)

- At the end of the workshop or training session, to measure knowledge gained from the program and identify ways participants are planning to use this knowledge in the future (quizzes, post-evaluation questionnaires, brief essays)

- Soon after the completion of the program to get post-course feedback (surveys)

- 4 to 6 months after completion, to assess the long-term impact and influence of the workshop or training program on participants (surveys)

5. Design Considerations

i. *Workshops with project development team occur during more than one phase of design and/or construction (e.g., pre-design, schematic design, design development, construction documents, etc.).* Prior to the start of a project, a workshop should be conducted to get every member of the design team on the same page with universal design and isUD™.

This workshop can include some brainstorming activities to identify the critical universal design issues that are specific to the project based on the population served, the nature of activities in the building, the physical context of the project, or the workforce of the organization.

This event can be followed by a series of workshops coinciding with the phases of design, as an efficient way to engage stakeholders and experts on the design team. To be efficient in the use of time, these workshops can look backward to assess achievement to that point through a review of the current state of the design and also look ahead to the next steps, e.g. identifying the next set of issues to address and knowledge needed.

An effective workshop requires good preparation and good execution. Ideally, the design professionals hired for the project should have experience organizing and facilitating effective workshops. There are consultants who specialize in running design workshops and can fulfill that role as well. Running a design workshop is not the same as facilitating an ordinary meeting so it is important that a consultant have experience with design projects.

The workshops could be preceded by research activities to gather information to be discussed at the event like best practice reviews, focus groups, interviews and surveys. And follow up activities could be included to address information gaps identified at the workshops. Focus groups are generally more efficient than interviews although they may inhibit participants from offering personal views, especially in the presence of employers. A sequence of focus groups is often used in product and interactive design at the "user requirements" stage (alpha), the prototype design stage (beta) and working prototype stage (gamma). This is a good model that could be implemented in architecture. The universal design team could be participants in these events, supplemented by other stakeholders as needed. There are experts in planning and implementing focus groups for design and considerable literature on how best to run them.

ii. *Experts in the field develops a universal design training program for designers and key stakeholders.* In reviewing credentials, the client can ask design firms if their staff has had continuing education on this topic and find out what type of training that has included. A design firm may be selected for reasons other than universal design experience and knowledge. In such cases, clients should insist that the firm agrees to participate in an educational program as part of their contract. Their willingness and investment in such education is a good indicator of their real interest in this topic. If an expert consultant is hired to guide the universal design aspects of the project their scope of work can include developing and leading such a program.

It should be made clear during negotiations with design professions, and even written into a contract, that isUD^{TM} certification is a requirement of the project. The client could insist that firms identify a staff member to become the lead in their organization for isUD^{TM} certification and work closely with the universal design team. However, a more effective approach may be for the client to hire a UD expert to act as the client's representative. Since acoustics, thermal comfort, illumination, landscape design and other technical aspects of design are critical for achieving isUD^{TM} certification, the client can also request that the design firm include appropriate consultants on their team and interview and approve them as well.

iii. *Designers and key stakeholders have access to universal design education materials.* The isUD^{TM} system is designed, through the format of Solutions and the supplementary material in these Design Resources, to facilitate access to educational materials. Team

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members can be provided access to the isUD™ and the workspace for tracking the progress of a project. The IDEA Center team has written two books that are useful for educating the development team. *Inclusive Design: Implementation and Evaluation* (Maisel, Steinfeld, Basnak, Smith, & Tauke, 2017) is a good resource for planning a project and to identify the issues that need to be addressed throughout the design process. *Universal Design: Creating Inclusive Environments* (Steinfeld & Maisel, 2012) is a comprehensive resource book that can be used as a primer on the knowledge domains. The Center is also developing online and in person continuing education programs based on the isUD™ that provide approved continuing education credits for architects and have been successfully accepted by the professional societies of other disciplines. These will focus on successful applications of the isUD™ system using case studies of the projects that have been certified.

6.   References

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