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**QUT** Queensland  
University  
of Technology

# EXPERIENCING DISABILITY AS STARTING POINT OF BECOMING EMPATHETIC ARCHITECT [MENGALAMI DISABILITAS SEBAGAI TITIK AWAL MENJADI ARSITEK YANG BEREMPATI]

**Gunawan, Tanuwidjaja,**  
Lecturer of Petra Christian University  
and  
Ph.D. Cand. School of Architecture  
and Built Environment,  
Engineering Faculty,  
Queensland University of  
Technology, Australia  
Email: [gunte@petra.ac.id](mailto:gunte@petra.ac.id)

# 4<sup>TH</sup> ICEA 2021



4<sup>TH</sup> ICEA - 84<sup>TH</sup> ARCHITECTURE DEPARTMENT DIES NATALIS  
PETRA CHRISTIAN UNIVERSITY

Architects have an important role to play in the creation of inclusive, safe and resilient built environments. Yet as a profession we continue to design buildings and spaces which exclude, often the most vulnerable in our society, including older people and people with disabilities. Inclusive design is fundamental to architectural quality. Universal access is a basic human right.

This 4<sup>TH</sup> ICEA's objective is to achieve mission of department of Architecture to develop built environments sensitive and empathic towards human needs and more equitable society through the global development, maintenance and improvement of accessible and inclusive built environments. It works with students, architects, and the community at large. To encourage and promote equal access to the built environment, to remove barriers that create segregation, and to achieve sustainable buildings and places which are friendly, accessible and understandable for everyone.



# 4<sup>TH</sup> ICEA 2021



4<sup>TH</sup> ICEA - ARCHITECTURE DEPARTMENT  
54<sup>TH</sup> DIES NATALIS

FRIDAY FEBRUARY 26<sup>TH</sup> 2021  
13.00 PM-7  
ZOOM MEETING  
FREE / PAID FOR CERTIFICATE  
PETRA.ID/ICEA2021



**Joseph Kwan, MH**

Founding Director  
Universal Design and Accessibility Consultants  
Hong Kong - Malaysia - Sweden



**Gunawan Tonuswidjaja, Ph.D (Cand)**

Queensland University of Technology  
Australia - United Kingdom



**Suzanne de Laval, Ph.D**

Ch. Director of the UNICEF Innocenti  
Childcare Work Programme  
Sweden - United Kingdom



**Mia Tedjosaputro, Ph.D**

University of Nottingham Ningbo & West  
China - United Kingdom



**Ruby Damayanti, Ph.D**

Peta Cirebon University  
Indonesia - Australia

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- **YPAB, YPAC, Siswa Budhi (Special Schools) and all Resources persons with disabilities;**
- **PCU students joining the Service Learning;**
- **Inclusive Design Service Learning Team in PCU: Prof. Christina Eviutami Mediastica, S.T., Ph.D., and Luciana Kristanto, S.T., M.T.;**
- **Library@Petra Inclusive Redesign Team: Dr. Yusita Kusumarini S.Sn. M.Ds., Dian Wulandari, S.IIP., Luciana Kristanto, S.T., M.T., and Sherly De Yong, S.Sn. M.T.);**
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- **Queensland University of Technology (QUT), Engineering Faculty, School of Architecture and Built Environment;**
- **SCIArchitecture, and Studio Kata.**

# INFO ON OUR SERVICE LEARNING

## Our Research Website:

<https://desaininklusiukpetra.wordpress.com/2021/01/17/links-from-ig-and-fb/>

**Several Service-Learning or Outreach Programs under PCU Architecture Program Study (Prodi S1 Ars) or Engineering and Planning Faculty (FTSP) executed were :**

- **Improving Accessibility of All Users in Petra Christian University Library** (with UBCHEA, Aug 2016 – July 2017),
- **UN-Habitat Prepcom 3 Parallel event with the title of Seminar and Field Visit: Inclusive Building and Urban Parks in Surabaya** (in collaboration with UN-Habitat, Ministry of Public Works and the Public Housing Republic of Indonesia, Surabaya Municipality and Petra Christian University, July 2016)
- **Service Learning of Inclusive Design for Homes and Schools in Surabaya and Bandung, Participatory Design and Campaign** (with UBCHEA, Aug 2015 – July 2016)
- **Data Collection Survey on Disability and Development in Indonesia collaborating with Japan International Cooperation Agency** (with JICA, June 2015 – Sept 2015)
- **UNDK Mini Project, Portraying The Toileting Culture of Surabaya People: People's Perception and Toilet Design Diversity**, (with UNDK Indonesia and UBCHEA, May 2013 – December 2013)
- **Service-Learning Inclusive Design with Persons with Visual Disabilities in Special School Surabaya** (Independent project, August 2012 – July 2013)

# PRESENTATION STRUCTURE

- **Experiencing as People with Disabilities**
- **Why I am interested in Service-Learning with Disabilities?**
- **Literature Review of Inclusive Design**
- **Explanation on Inclusive Design Course in PCU**
- **Sharing Sample of Improving Access for All in Library@Petra**
- **Conclusion**



Image Source:

<https://www.ability.com/113556/a-library-of-1000-rgb-websites-discounted-for-ability-readers>,  
<https://doctoworld.com/productdetail.php?id=17661&na=43&country=37>

# MY OWN EXPERIENCE AS PEOPLE WITH DISABILITIES



As people with temporary disability in 2019, I experienced blurry vision and difficulty to carry heavy stuffs.

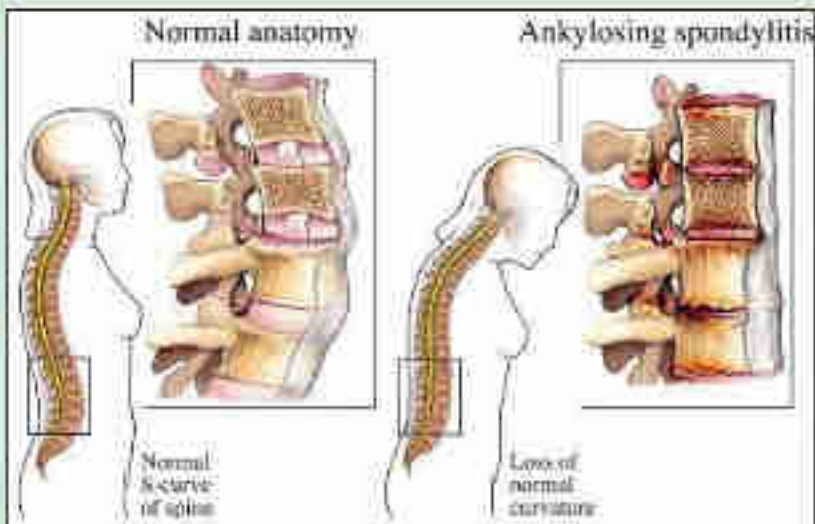


Image Source

<https://www.flickr.com/photos/communityeyehealth/5886300873/>, <http://pixabay.com/photos/speaker-people-beard-blurry/22902/>, [http://kotaka.net/media/0000352766234815125\\_1836267250](http://kotaka.net/media/0000352766234815125_1836267250), <https://www.healthdirect.gov.au/ankylosing-spondylitis>, <https://www.publicdomainpictures.net/en/view-image.php?image=175056&picture-category=344481&size=small>

# WHY I AM INTERESTED IN SERVICE-LEARNING WITH DISABILITIES

Who will benefit from service learning with people with disabilities?



people with disabilities



older people, people carrying heavy stuffs, pregnant women, and women carrying babies

Image Source:

<https://www.archdaily.com/913566/a-library-of-1000-light-residents-discounted-for-archdaily-readers>, <https://daxdesign.com/productdetail.php?id=17661&line=42&countryid=57>, <https://www.pinterest.com/44104/er/jpregnant-woman-full-body-just-hug>, <https://www.dreamstime.com/stock-photo-woman-baby-prom-related-image-image72717554>, <https://3dwarehouse.sketchup.com/view/1091939456100610418316516/priymodlp>

# WHY I AM INTERESTED IN SERVICE-LEARNING WITH DISABILITIES

- People with Disabilities is defined as, *“those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.”* (UNCRPD, 2007, Article 1).



- **People with disabilities have equal rights as other “normal” citizens**, as stated by the United Nations’ Convention on the Rights of Persons with Disabilities (UNCRPD). And we need to prescribe enablement policies and programs to remove the social barriers (WHO & WB, 2011).

# WHY I AM INTERESTED IN SERVICE-LEARNING WITH DISABILITIES

- **With the Act No. 8 the Year 2016, the equal rights of people with disabilities are acknowledged by the Indonesian Government following UNCRPD demand.**
- **Act No. 20 Year 2003, the education of People with Disabilities has been facilitated in the special schools for children with Disabilities and inclusive educational schools (JICA et al., 2015).**
- **However, the implementation is found not effective (Edwards, 2014). And many inclusive schools fail supporting the People with Disabilities (JICA et al., 2015).**



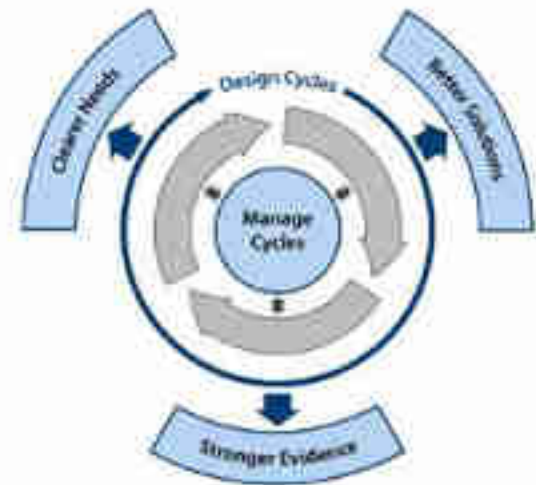
# WHY I AM INTERESTED IN SERVICE-LEARNING WITH DISABILITIES

- **Adioetomo, Mont, & Irwanto (2014) also suggest to build inclusive education facilities and its supporting system.** Several strategies proposed includes training and empowerment of teachers, regarding serving students with Disabilities.
- **Schools and Libraries are found essential for learning and preserving various collections.**
- **Therefore, Inclusive Decision Making or Inclusive Design (ID) framework is needed to create more inclusive education.**



# LITERATURE REVIEW OF INCLUSIVE DESIGN

- **Inclusive Design (ID)** is *“a creative process of building or other products/services that are accessible to, and usable by, as many people as reasonably possible”* (The British Standard Institution, 2005).
- However, the development in Indonesia under President Jokowi is going in fast pace (Warburton, 2016).
- Therefore, there is a need for simple inclusive design model for Developing Countries that can be applied in fast-track development.



# EXPLANATION ON INCLUSIVE DESIGN COURSE IN PETRA UNIVERSITY

## Syllabus

- This course teaches design principles that focus on user needs.
- Inclusive design principles are applied in a built environment design to achieve accessibility and useability by as many people as possible.
- And a small-scale project is given to students for applying inclusive design principles.



# EXPLANATION ON INCLUSIVE DESIGN COURSE IN PETRA UNIVERSITY

## Course Material and Process

- Introduction to Universal Design and Inclusive Design.
- Introduction to the spectrum of Inclusive Design Users.
- Simulation as people with disabilities.
- Basic Principles of Universal Design and Inclusive Design.
- Criteria for Inclusive Design.
- Literature Review of Access Regulation.
- Observation to School / Disability Homes / Library etc.
- Inclusive Design process.
- Participatory Design Workshop.
- Participatory physical improvement (Schools or Libraries when funding allow).



# LITERATURE REVIEW OF OTHER ACCESS REGULATIONS (ADA 2010)

## Ramps

### Where Ramps and Curb Ramps are Required [§303.4]

Ramps and curb ramps are required along accessible routes to span changes in level greater than  $\frac{1}{2}$ ". Elevators and, under certain specified conditions, platform lifts, can be used as an alternative. Portions of accessible routes with running slopes steeper than 5% also must be treated as ramps.

#### Bidang Miring

##### Di mana Bidang Miring dan Bidang Miring pada Trotoar Diperlukan [§303.4]

Bidang miring dan bidang miring trotoar diperlukan di sepanjang rute yang dapat diakses untuk menjangkau perubahan pada tingkat yang lebih besar dari  $\frac{1}{2}$  inci (12,5 mm). Lift dan, dalam kondisi tertentu, lift platform, dapat digunakan sebagai alternatif. Bagian dari rute yang dapat diakses dengan lereng yang lebih curam dari 5% juga harus dipertakukan sebagai tanjakan.

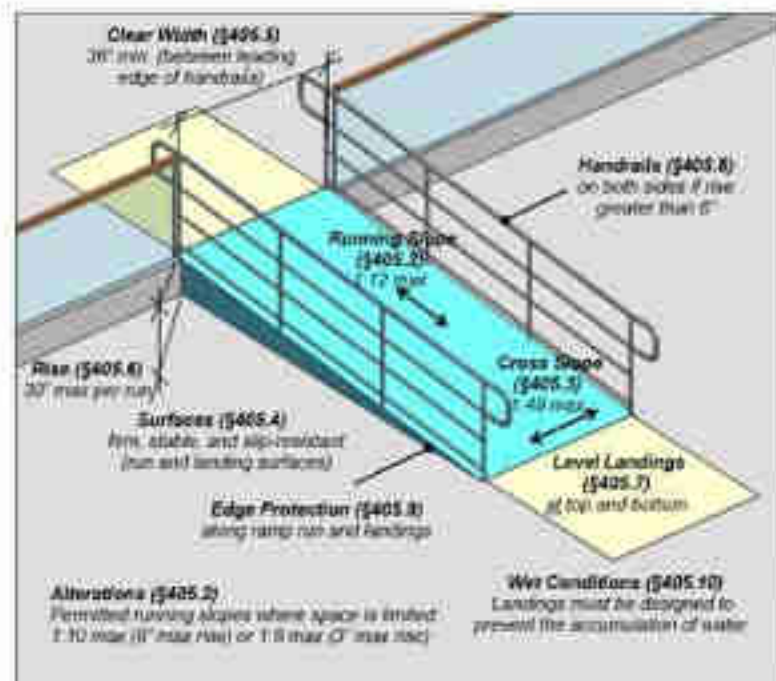


Figure Ramp Requirements [§405]

Gambar Persyaratan Bidang Miring [§405]

Sumber :

[https://www.ada.gov/2010ADAstandards\\_index.htm](https://www.ada.gov/2010ADAstandards_index.htm)

<https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards>

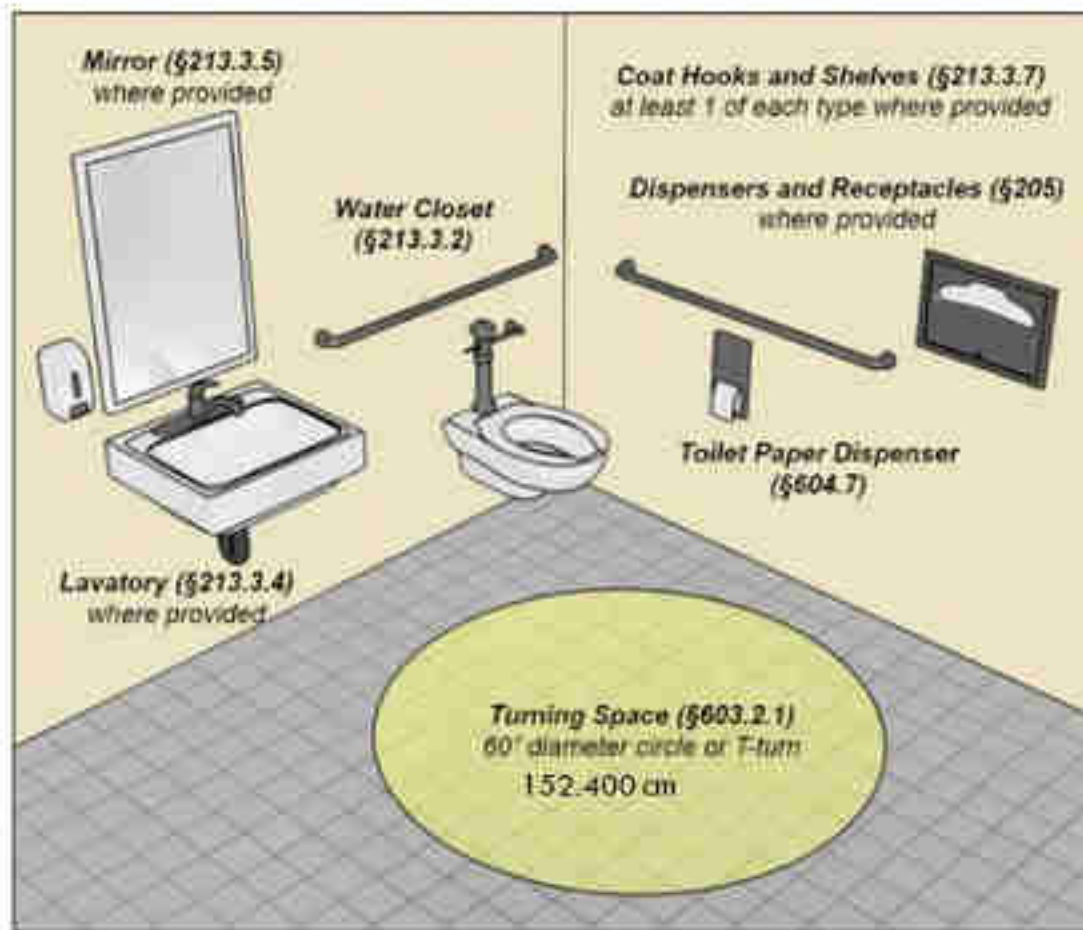
# LITERATURE REVIEW OF OTHER ACCESS REGULATIONS (ADA 2010)

## Components of Accessible Single User Toilet Room

Requirements in the Standards for toilet rooms address doors, turning space, plumbing fixtures, mirrors, dispensers, shelves, and other elements provided.

### Komponen Kamar Toilet Pengguna Tunggal yang Dapat Diakses

Persyaratan dalam Standar untuk pintu, alamat kamar toilet, ruang putar, perlengkapan pipa, cermin, dispenser, rak, dan elemen lain yang disediakan.



Sumber :

[https://www.ada.gov/2010ADAstandards\\_index.htm](https://www.ada.gov/2010ADAstandards_index.htm)

<https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards>

# EXPLANATION ON INCLUSIVE DESIGN COURSE IN PETRA UNIVERSITY

Petra Christian University Students' simulation as people with disabilities



# EXPLANATION ON INCLUSIVE DESIGN COURSE IN PETRA UNIVERSITY

Petra Christian University Students' simulation as people with disabilities and Participatory access evaluation in YPAB School



# EXPLANATION ON INCLUSIVE DESIGN COURSE IN PETRA UNIVERSITY

Discussion process in the Participatory Design Workshop in Surabaya



# EXPLANATION ON INCLUSIVE DESIGN COURSE IN PETRA UNIVERSITY

## Participatory Construction in YPAB School



# SHARING SAMPLE OF IMPROVING ACCESS FOR ALL IN LIBRARY@PETRA

- With the support of UBCHEA, a one-year participative redesigning program was conducted in Petra Christian University (PCU) Library (Wulandari, Tanuwidjaja, Kristanto, Yessica, Tondayana & Hariyono, 2017). There were several steps conducted:
  - Potential Users mapping in PCU
  - Access evaluation of PCU library
  - Sensitivity improvement course for PCU librarian, lecturers and students



# SHARING SAMPLE OF IMPROVING ACCESS FOR ALL IN LIBRARY@PETRA

- Inclusive Design students' exercise for PCU University Library, in consultation with Gunawan and Dr. Arina.
- Model Making for design communication
- Inclusive Design Workshop for PCU Library, involving people with disabilities, pregnant women, older people, and children.

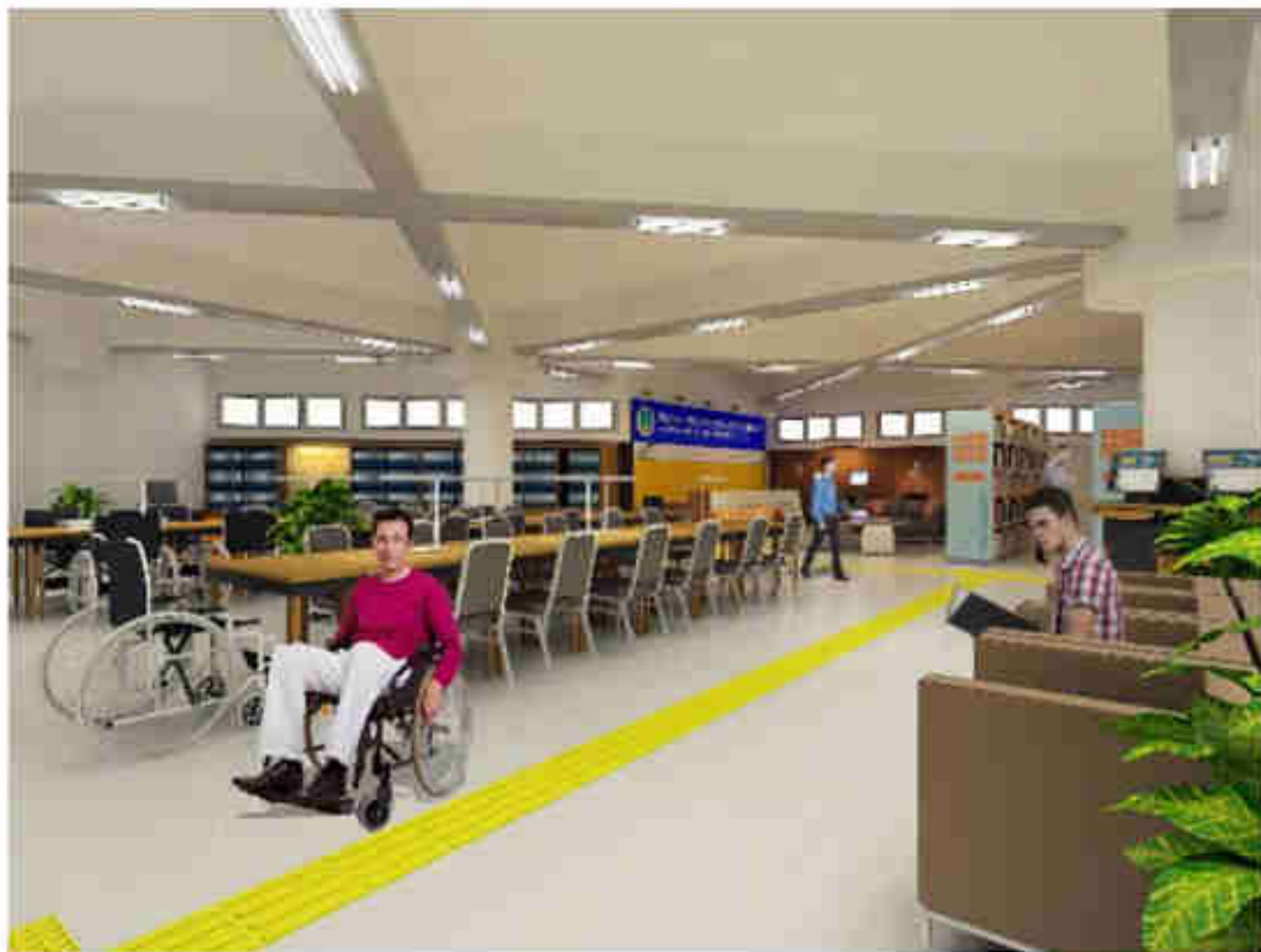


# SHARING SAMPLE OF IMPROVING ACCESS FOR ALL IN LIBRARY@PETRA

- Inclusive Design Workshop for PCU Library, involving people with disabilities, pregnant women, older people, and children.
- Special assistance program for older people, pregnant women, people with disabilities and children in Special Assistance Corner (Wulandari, Tanuwidjaja, Kristanto, Yessica, Tondayana & Hariyono, 2017).



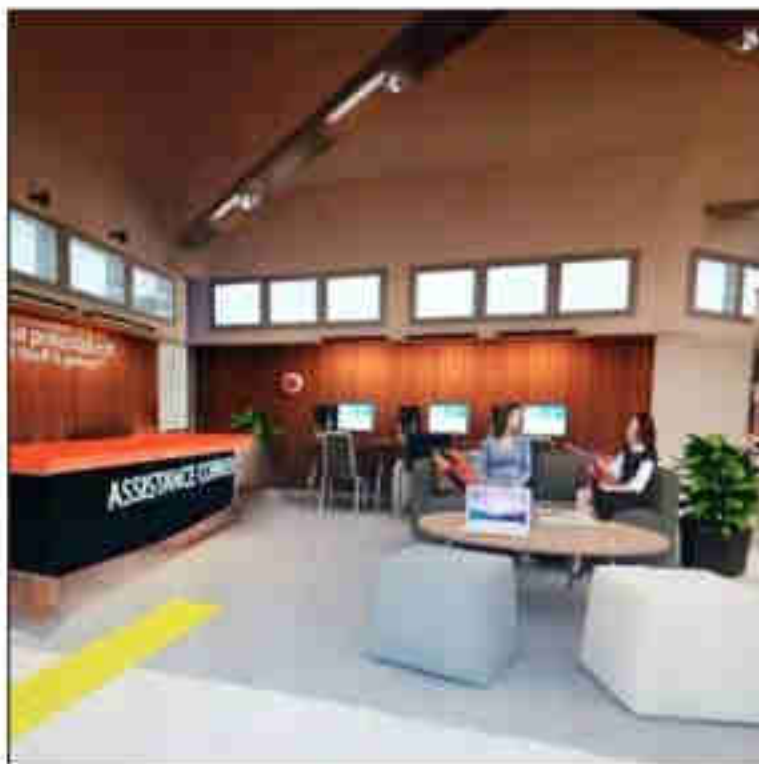
# RESULTS OF IMPROVING ACCESS FOR ALL IN LIBRARY@PETRA



# RESULTS OF IMPROVING ACCESS FOR ALL IN LIBRARY@PETRA



# RESULTS OF IMPROVING ACCESS FOR ALL IN LIBRARY@PETRA



# CONCLUSION

- We need to start **understanding the need of people with disabilities** in our Architecture curriculum.
- We need to **incorporate the International Access Regulation**, such as ADA 2010, into our Indonesian Access standard and teaching.
- We can be more emphatic with **simulation as disabilities and discussions with people with disabilities**.
- We need **stakeholder collaborations in increasing the access of people with disabilities** in educational buildings and housings.



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