Semi-Structured Interview

**Semi-Structured Interview Protocol**

- Notes: After obtaining consent, the researcher will conduct this semi-structured interview.

   **Statement**

   Thank you for your participation. You are invited to participate in an online interview on cultural learning patterns of blind individuals pursuing Science, Technology, Engineering, and Mathematics (STEM) disciplines. This is a dissertation research project being conducted by JooYoung Seo, a Ph.D. candidate supervised by his advisor Dr. Gabriela T. Richard in Learning, Design, and Technology Program at the Pennsylvania State University.

   You will be asked several questions about your perspectives and experiences on learning STEM-related subjects as being blind. The interview should take about 30 minutes to 1 hour of your time. This study is completely voluntary. You can skip questions you don't feel comfortable with and you may opt out at any time. Your responses will be recorded and you can review any part of the tapes and request they be destroyed. All responses will be kept confidential.

   **Interview Questions**
   *Visual Impairment Information*
- Please briefly describe your current visual impairments using your own words. (e.g., Visual angle, clarity, and any characteristics).: [ ]

- What is the main cause of your visual impairments (e.g., eye disease, glaucoma)? : [ ]

- When did you acquire your visual impairments?: [ ]

- What is your visual acuity in both eyes with the use of a correcting lens? (e.g., 10/200 in the left eye; light perception in the right eye).

   – Left eye: [ ].

   – Right eye: [ ].

- How do you self-identify your visual impairments among four categories?:

1. normal vision.

2. moderate vision impairment.

3. severe vision impairment.

4. Blindness.

## *Learning Experiences in STEM*

- Since when have you been interested in STEM subjects?

- What subject are you interested in or majoring in specifically?

- Were/Are you the only blind student in STEM classes? What did/do your STEM classes look like?

- What are the most challenging issues for you to learn STEM-related content as being blind?

- How have you addressed those problems? / What strategies have you utilized?

- Do you have a blind mentor and/or role model who encourages you to pursue STEM disciplines?

- What has best motivated you to keep continuing STEM?

- How supportive have people around you been as you study STEM subjects (e.g., family members, teachers, and colleagues) ?

- In what way have your visual impairments affected your desire to learn STEM subjects?

### *Experience with the NFB Mailing Lists*

- Have you ever used any of the following NFB mailing lists?

1. The NFB Science and Engineering Division mailing list.

2. The NFB Computer Science mailing list.

3. Artists-Making-Art.

4. BlindMath.

- How long have you used each of the NFB mailing lists so far?

- How often do you use each of the NFB mailing lists?

- Which one of the following best describes your primary role in each of the NFB mailing lists to which you are subscribing?

1. Mentor, who gives advice or provides askers with some related information.

2. Mentee, who asks questions and advice from other members.

3. Peripheral observer, who does not actively participate in the conversation although tracks down what people talk about in the list thread.

4. Outsider, who subscribes to the list channel, while not paying particular attention to the list.

• How do the NFB mailing lists support your learning pathways for STEM?

• What do you think is the most valuable asset you can get from the online community for the blind, such as the NFB mailing lists?

• Do you think the current NFB mailing lists are sufficient to support your STEM pathways? Or, do you think you still lack some communities?

• Do you use offline or online communities other than the NFB mailing lists specified in this study to support your learning STEM subjects? If so, please describe.

### Perception about STEM
• Please complete the following three sentences in your words:

1. I feel learning STEM subjects is [ ].

2. I think pursuing STEM disciplines as being blind is [ ].

3. To succeed in STEM fields, a blind person needs [ ].

### Findings Check with Interviewee
• According to our text-mining results of the NFB mailing lists, we have found that [data science results based on the NFB public mailing archives will go here].

• What do you think about these patterns?

• Could you please share your insights into what it means to you and/or blind STEM learners? / How would you interpret the results?

### Demographic Information
• In what year were you born?: [ ]

• Your gender?: [ ]

• What is the highest degree or level of school you have completed?: [ ]

• Your occupation or grade in school?: [ ]

• Your race or ethnicity?: [ ]

• The current area where you live (city, town or county)?: [ ]

### Wrap Up
• Do you have any other thoughts you would like to share?

• Thank you very much for participating in this session.