

The development of a **multiple mini-interview (MMI)** for admission to a graduate speech-language pathology program



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Objectives

- ① Compare MMI with traditional interview processes in their ability to predict a candidate's academic and clinical success
- ① Describe the design of an MMI, including interview tasks involved, non-cognitive attributes being assessed, and other logistical details
- ① Describe the correlation between MMI results and clinical performance, its implication on the admission process, and ways to improve MMI's predictive ability when used for admission



Overview

- ⦿ Current problems with traditional admission tools
- ⦿ What is MMI?
- ⦿ MMI for a graduate SLP program
- ⦿ Results
- ⦿ Discussion



The Problem

Why do we need to rethink our admission system?



SLP profession

- ⦿ Academic achievement
- ⦿ Knowledge base

➤ Cognitive attributes

- ⦿ Clinical competency
- ⦿ Skills, personal qualities

➤ Non-cognitive attributes



Expansion of the scope and size of the SLP field

- Scope of service
 - Improved early identification of disorders
 - Growing aging population
 - Increased survival rates from trauma and premature birth
- Number of SLP practitioners
 - Promising career prospects associated with attractive benefits and social status

Heightened competition calls for a systematic admission process that can identify the best candidates



Problems with traditional admission tools

1. UGPA

- Correlated with academic performance alone (Baggs et al., 2015; Forrest & Naremore, 1998; Halberstam & Redstone, 2005)
- Difficult to compare UGPA across different candidates from different universities and disciplines

2. Panel Interview

- Limited predictive power of clinical performance

3. Personal Statement

- Low reliability and generalisability (Eva et al., 2004a; Lemay et al., 2007)



Problems with traditional admission tools

- Some health sciences programs began adopting MMI into their admission procedures



The Multiple Mini-Interview

What is MMI?



Basics of the MMI

- Structured admissions method evaluating the clinical competence of students in health sciences
- A circuit of several short interview stations
 - Completing a task
 - Discussing a scenario-based problem
 - Responding to a simulated situation
- Evaluated with a standard rating form



Strengths of the MMI

- **Discriminative validity:**
Discriminatorily assesses non-cognitive attributes from cognitive attributes
(Eva et al., 2004b, 2012; Hecker et al., 2009)
- **Predictive validity:**
Predicts in-program and inaugural clinical performance
(Eva et al., 2004a, 2012; Lee et al., 2016)



Strengths of the MMI

- **Reliability:**

High inter-item reliability and inter-rater reliability

(Lemay et al., 2007; Pau et al., 2013)

- **Feasibility:**

No additional human or time resources

- **Acceptability:**

Customisable

Allows accurate portrayal of abilities

Induces less anxiety

Does not require specific subject knowledge



Strengths of the MMI

- ✓ Validity
- ✓ Reliability
- ✓ Feasibility
- ✓ Acceptability

Could MMI be a solution to the needs faced by SLP programs?



The development of an MMI

The aim and methods



Project aim

- To develop an MMI specific to graduate SLP programs
- To address these research questions:
 1. Is there **correlation** between
 - (i) MMI results and academic performance, and
 - (ii) MMI results and clinical performance?
 2. Is MMI an internally **reliable** assessment tool?
 3. Is MMI **feasible** and **acceptable**?



Participants

- 17 Year 2 students from Master of Science in Educational Speech-Language Pathology and Learning Disabilities (MScESLPLD) program at the Education University of Hong Kong
- 4 assessors who are either faculties of MScESLPLD (3), or community SLP practitioner (1)

Participants

- 2-year full-time postgraduate program

Curriculum		
1 st Year	Professional Study	
2 nd Year	Practicum (4 blocks)	Professional Study

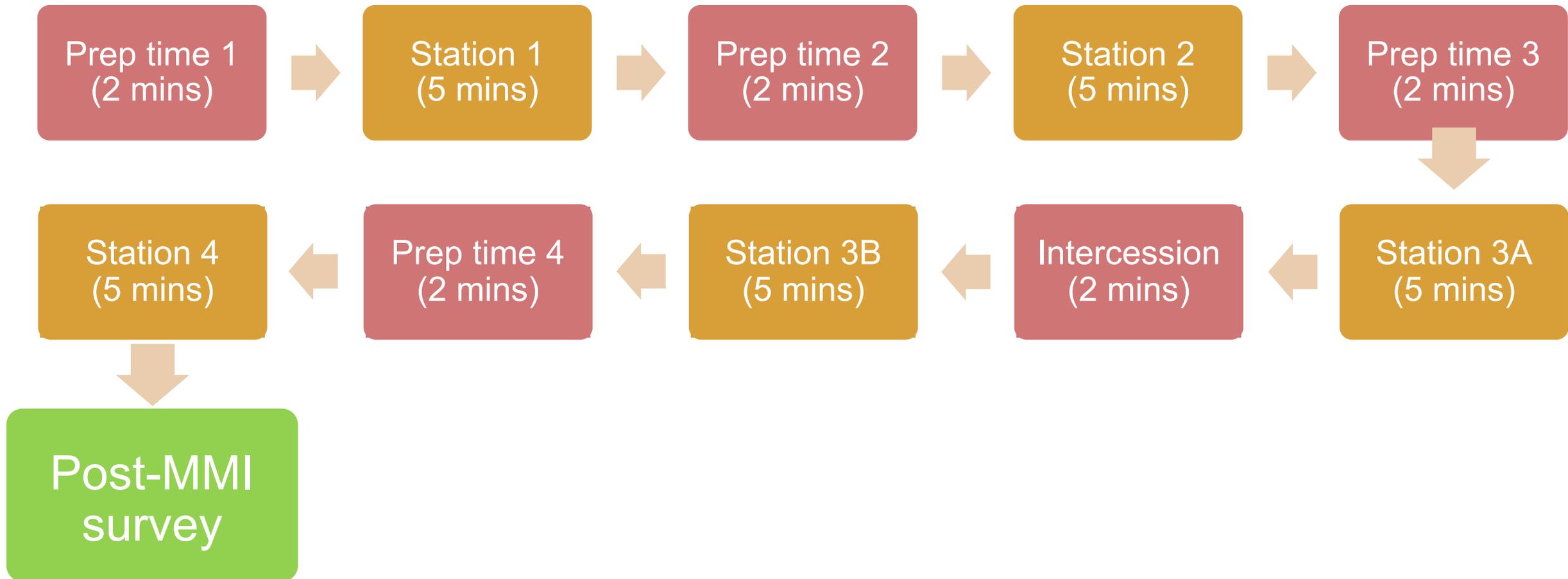


The MMI for graduate SLP program

- Stations
 - Four 5-minute interview stations
 - Each designed to elicit one of these non-cognitive attributes:
 - Communication
 - Reasoning
 - Collaboration
 - Professionalism
 - Candidates rated by assessors against a 5-criterion 10-point rating scale



The MMI for graduate SLP program





The MMI for graduate SLP program

INSTRUCTIONS FOR COORDINATOR

1. Each student participant (candidate) will be assigned and identified by a random number throughout their MMI experience. The number will be written on a label displayed visibly on the candidate. This will serve as the “Candidate No.” to be recorded on the Candidate Log, in chronological order.
2. Once a candidate enters your room, it is not necessary to go through the task or scenario with them before they begin, as they would have all been given 2 minutes before each station to familiar themselves with the instructions and should start interacting with Sara as soon as they enter the room. You may however prompt them as necessary, for example “you may begin”.
3. Once a candidate finishes their task, invite them to proceed immediately to the next station.
4. Each station is allowed a maximum of 5 minutes per candidate. Please keep strictly to the time as it is essential to the smooth-running of the whole MMI circuit.
5. The timer should start as soon as the candidate begins their task. Ensure the timer is visible to the candidate.
6. The task should be abandoned as soon as the time is up, regardless of whether it has been completed.
7. If the candidate feels the task is completed to satisfaction before the 5 minutes is up, or if the candidate has nothing more to add, they may finish and leave the station early.

● The MMI for graduate SLP program

- Station 1
- Communication

Reacting to a simulated situation involving an actress





The MMI for graduate SLP program

Station 1: Hospital Placement

Duration: 5 minutes

You are Chris. You have been assigned by your school's clinical coordinator to partner with a classmate, Sara, for an 8-week hospital clinical placement at the Yan Sum Hospital in Kwun Tong. You are about to meet Sara at the university library to work on some clinical documents you were asked to prepare by your hospital clinical supervisor, Marie.

Last night, however, Sara's good friend, Kim, told you worriedly that Sara is considering not showing up to the first clinical session at the hospital, which is exactly two weeks from today. Neither you nor Kim knows why.

Sara is in the room. She speaks Cantonese.

(Upon talking to Sara, candidates will discover / Sara will reveal that her grandma passed away suddenly in the same hospital last month. She is scared to return to that hospital and is unsure about what to do next.)

The MMI for graduate SLP program

- Station 2
- Reasoning

Discussing a scenario-based problem with an examiner





The MMI for graduate SLP program

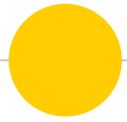
Station 2: Ideal Class Size

Duration: 5 minutes

Universities are commonly faced with the complicated task of balancing the educational needs of their students and the cost required to provide learning resources to a large number of individuals. As a result of this tension, there has been much debate regarding the optimal size of classes. One side argues that smaller classes provide a more educationally effective setting for students, while others argue that it makes no difference, so larger classes should be used to minimise the number of instructors required.

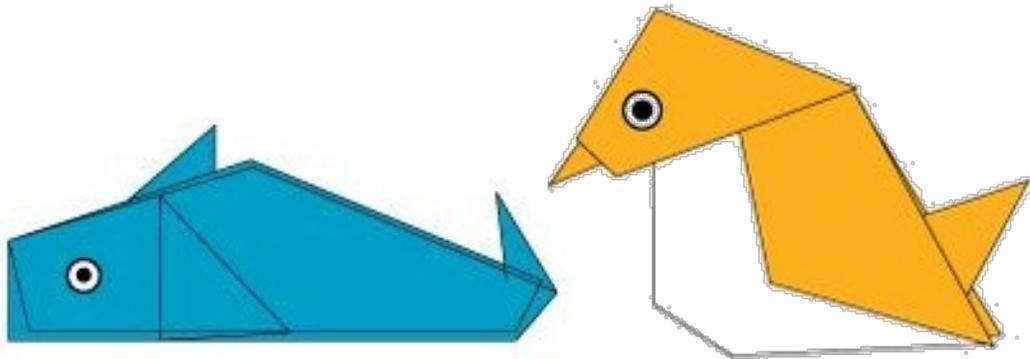
Discuss your opinion on this issue with the examiner.

You may use either English or Cantonese.



The MMI for graduate SLP program

- Station 3
- Collaboration



Collaborate with another candidate to complete a task





The MMI for graduate SLP program

Station 3: Origami

Duration: Part A– 5 minutes; Part B– 5 minutes

Part A: When you enter the room, there will be a sheet of paper that illustrates how to complete an origami (paper folding) project. On the other side of the room, there will be another candidate who cannot look at you but has a blank piece of paper. Verbally guide your colleague to completion of the origami project.

Then proceed to part two (following a 2-minute intercession).

Part B: There will be a blank sheet of paper in front of you. On the other side of the room, there will be another candidate who will provide you with instructions regarding how to turn this page into an origami (paper-folding) project. You will sit with your back toward the other candidate. You cannot look at the other candidate, but you may communicate verbally.

You may use either English or Cantonese for both parts.



The MMI for graduate SLP program

- Station 4
- Professionalism

Discussing their response to a hypothetical scenario

Station 4: Pregnant girlfriend (Professionalism)

Duration: 5 minutes

You are a school-based speech-language pathologist at a secondary school. One of your clients, a 17-year-old male, whom you have been seeing weekly for the past 8 months, is obviously upset when he comes in to see you today. He tells you that he has just found out that his 16-year-old girlfriend is pregnant. He says that neither he nor his girlfriend knows what to do and that he feels he cannot speak to his parents about this situation. He asks you not to speak to his parents or teachers about this.

What would you say? Discuss your response with the examiner.

You may use either English or Cantonese.



The MMI for graduate SLP program

- Candidates evaluated with a standard rating form
- 5 items:
 1. Ability to understand the scenario
 2. Communication skills
 3. Strength of arguments or instructions given
 4. Suitability for a career in SLP
 5. Overall performance

1. Ability to understand and address the objectives of the scenario

1 2 3 4 5 6 7 8 9 10

Weak ←————→ Strong

2. Communication skills displayed

1 2 3 4 5 6 7 8 9 10

Poor ←————→ Excellent

3. Strength of the arguments / instructions presented

1 2 3 4 5 6 7 8 9 10

Weak ←————→ Strong

4. Suitability for a career in speech-language pathology

1 2 3 4 5 6 7 8 9 10

Not suitable at all ←————→ Highly suitable

5. Overall performance

1 2 3 4 5 6 7 8 9 10

Poor ←————→ Excellent



The MMI for graduate SLP program

- Post-MMI questionnaire for candidates and assessors about their MMI experience
- Also collected from candidates:
 - UGPA
 - Year 1 GPA
 - Final GPA
 - Grades of individual practicum blocks



The results



Correlation between overall MMI results and **academic** performance

- No significant correlation between overall MMI results and academic performance
- Academic performance is significantly correlated with UGPA

Correlation between overall MMI performance and UGPA, GPA at Year 1, and overall GPA

	UGPA	Overall MMI performance
Year 1 GPA	.764**	.461
Overall GPA	.620**	.122

The Education University of Hong Kong
 Master in Science in Educational Speech-Language Pathology and Learning Disabilities
 Course Commencement Timeline

Course Title	Lecture (hour)	Period of Commencement				
		Year I		Summer Semester	Year II	
		Semester I	Semester II		Semester I	Semester II
Medical Aspects of Special Education, Communication Disorders and Learning Disabilities	45					
Phonetics and Phonology for Education	39					
Language Development	39					
Speech, Language and Communication Disorders	39					
Structure of Chinese for Education	45					
Learning Disabilities, Reading and Writing Disorders	39					
Acoustics for Speech, Language, Hearing and Learning	39					
Educational Counseling, Therapeutic Process and Teaching Pedagogy	39					
Audiology and Aural Re/habilitation in Educational Settings	39					
Assessment and Intervention for Speech, Language, Communication and Learning	45					
Language Disorder in Children and Adolescent	39					
Supporting Students with Social, Emotional, Behavioral and Developmental Disabilities in the Classroom	39					
Advanced Studies 1	39					
Bilingualism and Bilingual Education	39					
Research Methods and Evidence-based Practice	39					
Advanced Studies 2	39					
Advanced Research Methods	39					
Independent Research Project	78					
Advanced Studies 3	39					
	Direct-Client-Contact (hour)					
Practicum 1	90					
Practicum 2	90					
Advanced Practicum 1	72					
Advanced Practicum 2	72					



Correlation between overall MMI results and **clinical** performance

- Significant correlation for practicum block 2

Correlation between overall MMI performance and UGPA, GPA at Year 1, and overall GPA

	UGPA	<i>p</i>	Overall MMI performance	<i>p</i>
Practicum block 1	.101	.365	.280	.166
Practicum block 2	.221	.224	.653**	.006
Practicum block 3	.144	.312	.258	.187
Practicum block 4	.231	.214	.085	.386
Mean practicum result	.246	.198	.392	.083



Correlation between individual MMI tasks and clinical performance

- Significant correlations found in specifically two MMI tasks with some in-program clinical results

Correlation between individual station scores and in-program clinical performance

	Station 1	<i>p</i>	Station 2	<i>p</i>	Station 3	<i>p</i>	Station 4	<i>p</i>
Practicum block 1	-.086	.385	.355	.107	.519*	.029	-.096	.373
Practicum block 2	.248	.197	.316	.136	.682*	.004	.376	.092
Practicum block 3	.193	.255	.263	.182	.324	.129	-.307	.143
Practicum block 4	-.151	.303	.646**	.006	.085	.386	-.079	.394
Mean practicum result	.069	.406	.577*	.015	.462*	.048	-.105	.360



Internal reliability

- High internal consistency among the 5 items on the standard rating scale (coefficient alpha = 0.96)
- Low inter-station reliability (coefficient alpha = 0.47)



Feasibility and acceptability

- Good feasibility and acceptability reported by candidates and assessors
- Post-MMI survey
 - 6 questions for candidates
 - 3 questions for assessors



Feasibility and acceptability (Candidates)

1. Do you believe that you were able to present an accurate portrayal of your ability?

1
Definitely not

3
Not really

5
Somewhat
4.7

7
Definitely

2. Compared to a traditional interview, do you think the MMI would cause candidates more or less anxiety?

1
A lot more

3
A little more

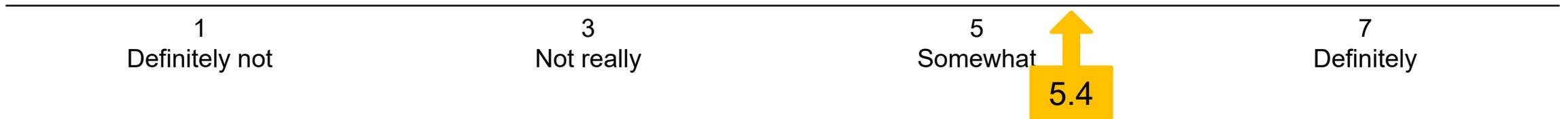
5
A little less
4.6

7
A lot less

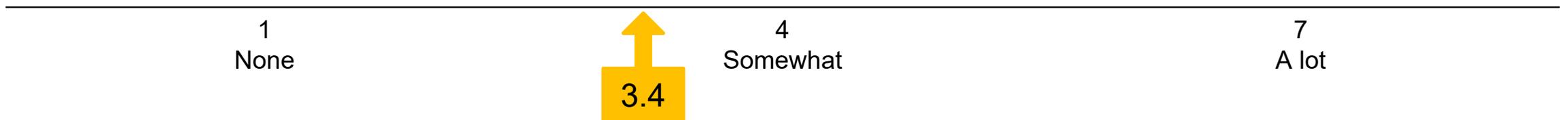


Feasibility and acceptability (Candidates)

3. Were the instructions given before the MMI stations adequate to prepare you for the experience?



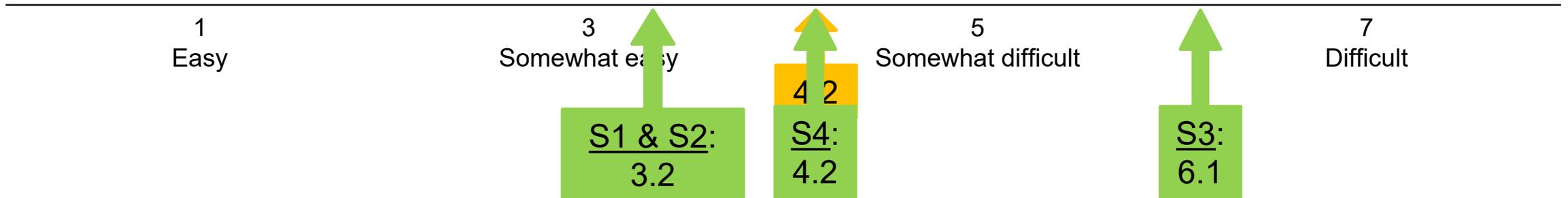
4. Do you think any of the stations required specialized knowledge in speech-language pathology?



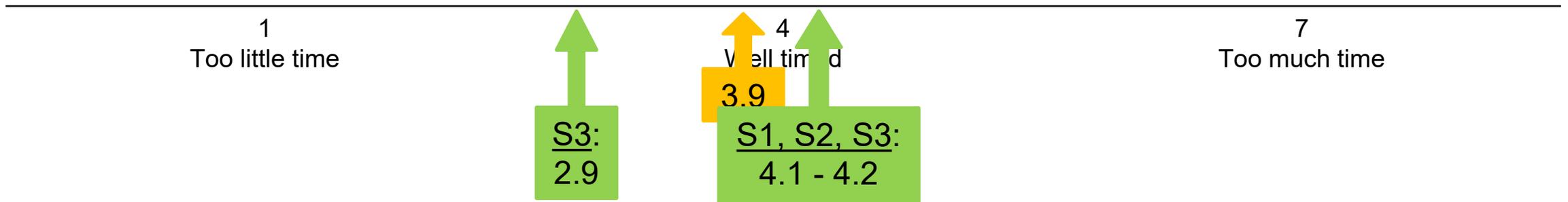


Feasibility and acceptability (Candidates)

5. How difficult was each station?



6. Was the time given to each station appropriate?





Feasibility and acceptability (Assessors)

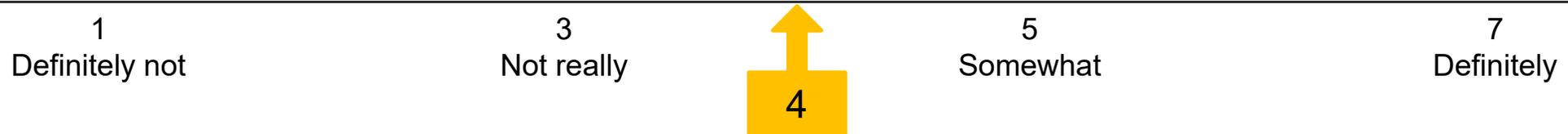
1. Do you believe that you were able to develop an accurate portrayal of the candidates?



2. Compared to traditional interview, do you think the MMI would be more or less difficult to administer?



3. Do you believe that the instructions given to candidates before your station were clear enough?





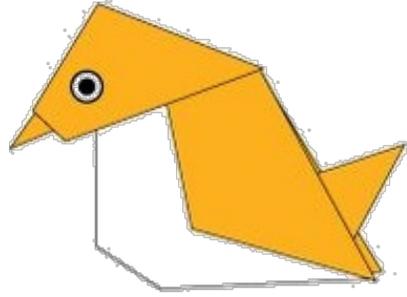
Discussion

Implication for admission procedures for graduate SLP programs



Discussion

- Need to assess non-cognitive abilities
- Content validity is key
- Need 'real situation' for assessment of 'true performance'
- Pressing task (e.g. Station 3 origami), although has nothing directly related to clinical practicum, resembles the clinical situation where one needs to make instant analyses, prompt decision, and under stress



Thank you

