Use of an Observer-based Assessment Measuring Individual Interprofessional Competency in a Didactic Case Collaboration Activity

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KEY FINDINGS

1. **The IPEC-Competency Assessment Tool of Individual Students (I-CATIS) enabled observer-based evaluation of individual student IPEC Competency in a didactic-IPE activity.**
2. **The I-CATIS is adaptable to apply to a variety of didactic IPE activities and can incorporate the recently released 2023 IPEC Core Competencies.**
3. **Evaluators were able to use the I-CATIS efficiently and reliably.**
4. **Students found the I-CATIS information valuable for improving interprofessional skills.**

BACKGROUND

- A gap exists in best practices for observer-based evaluation of individuals using the Interprofessional Education Collaborative (IPEC) Core competencies.[1,2]
- Most currently used IPE assessments[3-5]:
  - Are self-assessments by students, or
  - Evaluate the whole team rather than individual students, or
  - Do not use the IPEC Competencies directly.
- The IPEC Competency Assessment Tool for Individual Students (I-CATIS) was developed to address gaps in assessing individual students' competencies and for evaluation by trained observers.

Study Question: How can a school utilize trained **evaluators** to assess **individual** students on interprofessional **competencies** during a didactic case collaboration activity?

- Aim #1: Apply the I-CATIS instrument to efficiently evaluate a small group of interprofessional students using trained third-party observers
- Aim #2: explore students' understanding of their I-CATIS results and satisfaction with the feedback

METHODS

- **Participants**: 3rd year pharmacy and dental students, 2nd year dental hygiene students; 5 trained evaluators (residents, graduate students).
- **Class Activity**: A pharmacy-dental patient case collaboration involving infective endocarditis antibiotic prophylaxis, tooth extractions, anticoagulation for atrial fibrillation, and pain management needs.
- Ten groups (6-10 students each) met for 2 hours on recorded Zoom.
- **I-CATIS**: 13 pre-determined IPEC sub-competencies evaluated, using scale anchors Minimal (M), Developing (D), Competent (C), and Not Observable (N/O).
- **Assessment**: Five evaluators were trained on I-CATIS and evaluated 2 student groups each.
  - Inter- and Intra-rater reliability testing was performed.
  - Students were sent their I-CATIS ratings and asked for feedback.
  - Evaluators were asked for feedback on use of I-CATIS.

RESULTS

Figure 1. Overall Distribution of Scale Anchors

Minimal 11%
Developing 41%
Competent 48%
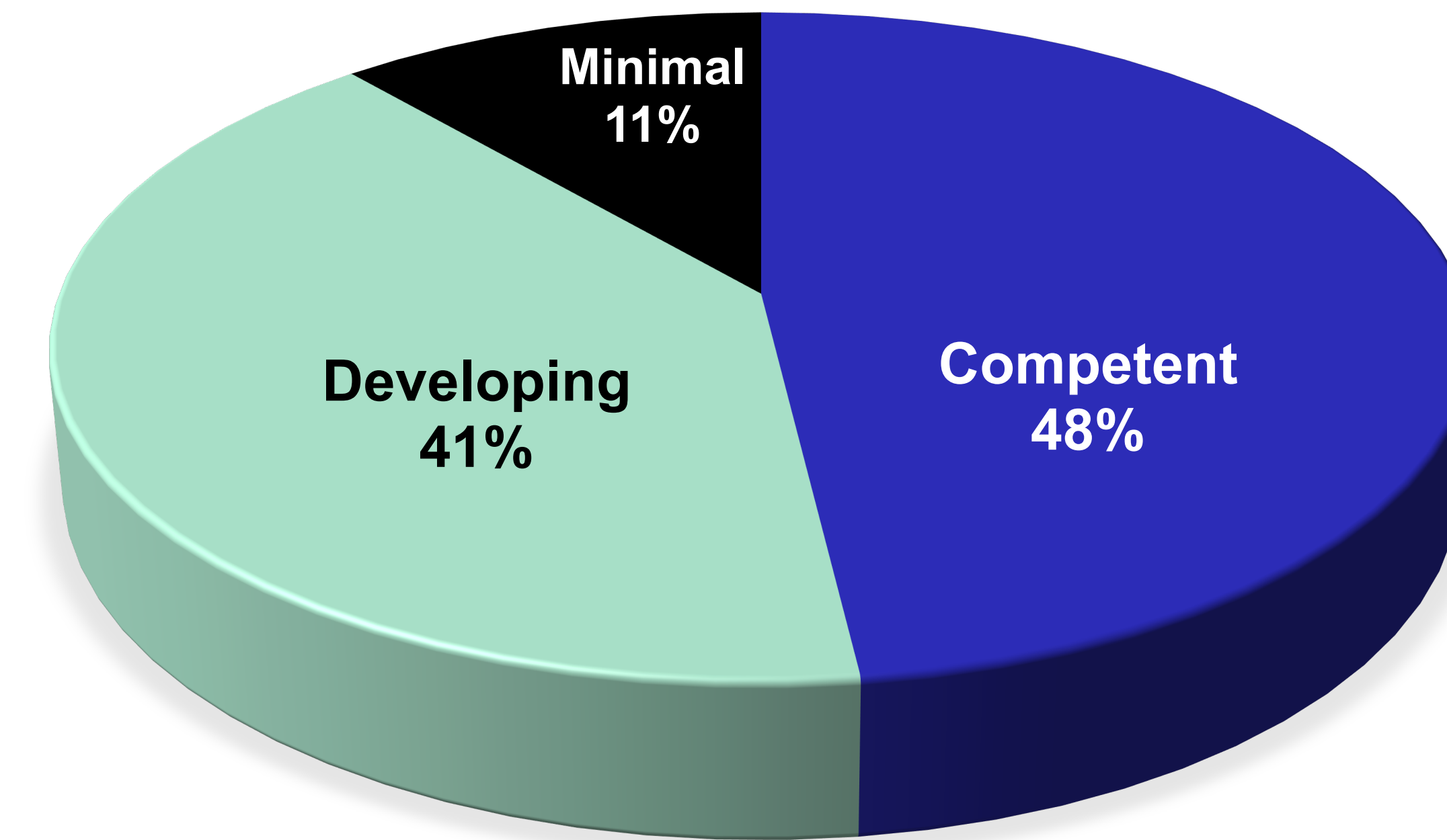
"Not Observable"=21.6%

IPEC 2016 Sub-competencies

Most "Competent"	VE4, CC4, RR2, TT3
Most "Minimal"	RR4, RR6

Significantly higher ratings _between professions_ on competencies RR1 (DH vs others) and CC3 (DDS vs others) (<0.05 via Kruskal-Wallis)

"Not Observable" (N/O) rating
- RR9: Most N/O ratings of all competencies, across all professions
- RR1 : 2nd most N/O ratings, across all professions
- No difference in N/O given between professions (Chi square)

Table 2. Observer-based vs Student-self Evaluation Ratings+

IPEC Competency	Evaluator median (range)	Students median (range)
VE4	3 (2-3)	3 (1-3)
RR1*	2 (1-3)	3 (2-3)
RR2	3 (2-3)	3 (2-3)
RR3*	2 (2-3)	3 (2-3)
RR4*	2 (1-3)	3 (2-3)
RR5*	2 (2-3)	3 (2-3)
RR6*	2 (1-3)	3 (2-3)
RR9*	2 (2-3)	3 (2-3)
CC3	3 (2-3)	3 (2-3)
CC4*	3 (2-3)	3 (2-3)
TT3	3 (2-3)	3 (2-3)
TT10	2 (1-3)	3 (2-3)
TT11*	2 (1-3)	3 (2-3)

VE: Values & Ethics, CC: Interprofessional Communication, RR: Roles & Responsibilities, TT: Team & Teamwork
+The student 6-point self-evaluation scale was extrapolated to align with the 3-point facilitator evaluation scale.
*p<0.05 per Mann Whitney U

Table 1. Score Distribution per IPEC Competency Category

IPEC Competency	Minimal	Developing	Competent
Values & Ethics	8%	23%	69%
Roles & Responsibilities	13.6%	45.8%	40.5%
Interprofessional Communication	8.1%	36.9%	55.1%
Teams & Teamwork	10.1%	38.5%	51.4%

Excluding "Not Observable" ratings

Intra-rater Reliability: 75% agreement
Inter-rater Reliability: 49% agreement

Evaluator Feedback Themes

- The I-CATIS tool was _easy to use_ for evaluating students in the IPE activity.[1,2]
- There was _sufficient time_ to evaluate each student on the competency statements.
- Improvements: Need better definition of minimal vs not-observable

Student Feedback Themes

- 95% agreed the I-CATIS feedback was valuable
- 91% agreed the I-CATIS feedback will improve interprofessional interactions
- Improvements: Unclear what evaluation sections meant; Not clear how they were evaluated; Did not know who was evaluating them; "Developing" score was not helpful for improvement.

CONCLUSIONS

- This study helps address the gap in IPE evaluation by testing a method of providing observer feedback to students on interprofessional skills defined by the IPEC Core Competencies during a collaborative team activity.
- Evaluators were efficiently trained on the I-CATIS and were able to apply it consistently and reliably across their group of students with ratings of students mostly as "developing" and "competent".
- Student self-ratings were generally higher than the evaluators for each competency.
- Several competencies were considered not observable by evaluators, and their applicability in this activity should be reconsidered
- The I-CATIS tool was noted as easy to complete by evaluators observing this small group activity.
- Students agreed the feedback was valuable and would improve interprofessional interactions, but wanted more clarity on who evaluators were and what to do with "developing" ratings.
- I-CATIS is adaptable to use of the 2023 IPEC Competencies.[1]

REFERENCES

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