Utility of a verbal case presentation exercise as a measure of skills competency

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Objective

The Advanced Geriatrics rotation, a required P4 APPE, uses a verbal case presentation as a final assessment. This work describes the utility of this exercise as a competency-based assessment. There are three aims: to describe structure and function of the exercise, to map its components to educational outcomes including ACPE Standards 2025 and AACP's proposed Entrustable Professional Activities, and report outcome data from a 2 year period.

Methods

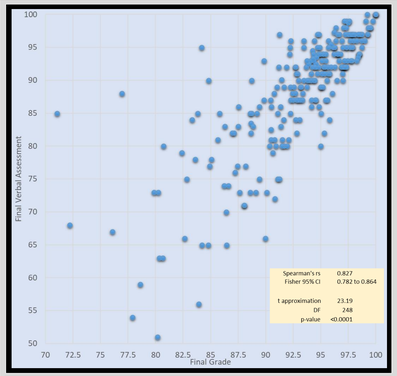
Deidentified grades from all final verbal (FV) presentations, activity descriptions from facilitator instructions and, where available, completed deidentified grading rubrics were reviewed. IRB review was not required. Individual components of each rubric were mapped to an educational competency. Performance patterns were evaluated for presentation grades, overall rotation grades, and individual rubric components to assess average scores and identify competency areas associated with high or low performance. Grade outcomes were compared between the FV and other rotation metrics, and between subgroups.

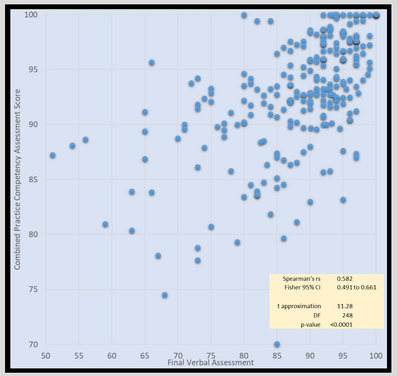
Results

A total of 250 deidentified presentations were evaluated from two academic years, with an average grade of 88 (51-100). These were graded by 24 and 20 preceptors in years one and two, respectively, across the four campus locations. A passing score was achieved 94.8% of the time (13 failing scores). The average rotation grade was 91% (71-100). Correlation of grade outcomes with other rotation metrics and subgroup comparisons are illustrated to the right. A subset of 117 rubrics were available for analysis. Rubric elements mapped to EPAs related to "determining a patient's problems" and "creating a care plan". Additional educational outcomes represented include ACPE 2025 2.1.a, 2.1.b, 2.1.c, and 2.1.e, as well as Appendix 1 content including pathophysiology, pharmacology, pharmacotherapy, patient assessment, clinical chemistry, and pharmacokinetics. A sample rubric with these grading elements is shown in Figure 1. Elements associated with highest and lowest performance were related to assessment of the current problem and monitoring parameters, respectively.

Conclusions

The Final verbal presentation is an effective method for assessing competencies related to problem solving and care plan creation.

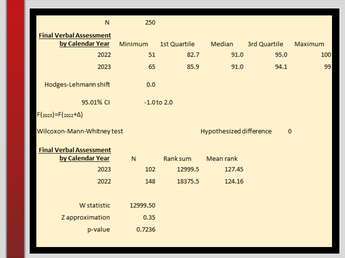




Correlation of FV grade with other rotation metrics

Final rotation grade:
The grade outcome of the Final Verbal exam was strongly correlated with the final rotation grade. This was expected, as the FV grade comprises 20% of the summary rotation grade.

Clinical competency rubric:
The grade outcome of the Final Verbal exam also correlated with the grade outcome of the clinical competency rubric, an independent metric. In the clinical competency rubric, the preceptor evaluates the learner's ability to perform the elements of the Pharmacist's Patient Care Process and their overall knowledge of the core Geriatric Pharmacotherapy topics and disease states.



N	250

Final Verbal Assessment by Calendar Year

	Minimum	1st Quartile	Median	3rd Quartile	Maximum
2022	51	82.7	91.0	95.0	100
2023	65	85.9	91.0	94.1	99

Hodges-Lehmann shift	0.0
95.01% CI	-1.0 to 2.0
F(2023)=F(2022+Δ)	
Wilcoxon-Mann-Whitney test	Hypothesized difference 0

Final Verbal Assessment by Calendar Year

	N	Rank sum	Mean rank
2023	102	12999.5	127.45
2022	148	18375.5	124.16

W statistic	12999.50
Z approximation	0.35
p-value	0.7236

Subgroup comparison

There was no difference in grade outcome for the year-over-year or for the faculty preceptor and adjunct preceptor comparison. However, there was a small difference between outcomes in the comparison of the four campus locations, with the Dallas campus being lowest and the Amarillo campus being highest.

N	250

Final Verbal Assessment by Faculty vs Adjunct

	Minimum	1st Quartile	Median	3rd Quartile	Maximum
Adjunct	51	85.0	92.0	95.0	99
Faculty	54	83.2	90.0	94.0	100

Hodges-Lehmann shift	-1.0
95.01% CI	-3.0 to 1.0
F(Faculty)=F(Adjunct+Δ)	
Wilcoxon-Mann-Whitney test	Hypothesized difference 0

Final Verbal Assessment by Faculty vs adjunct

	N	Rank sum	Mean rank
Faculty	164	20085.0	122.47
Adjunct	86	11290.0	131.28

W statistic	20085.00
Z approximation	-0.92
p-value	0.3596

N	250

Final Verbal Assessment by Campus

	Minimum	1st Quartile	Median	3rd Quartile	Maximum
ABI	54	83.7	90.5	94.3	99
AMA	51	88.7	93.5	97.0	100
DFW	56	82.0	89.0	94.0	99
LUB	68	88.8	92.0	95.0	97

Kruskal-Wallis test

Final Verbal Assessment by Campus

	N	Rank sum	Mean rank
ABI	48	5780.5	120.43
AMA	41	6427.5	156.77
DFW	131	15063.5	114.99
LUB	30	4103.5	136.78

H statistic	11.43
X^2 approximation	11.43
DF	3
p-value	0.0096

Final Verbal activity: design, materials, administration, and grading rubric

Case materials

Final Verbal cases are pulled from a rotating bank of case vignettes that are routinely modified and peer reviewed.

- Case authors prepare a vignette featuring a complicated patient (4 drug therapy problems) in a 1 - 2 page written format that includes all subjective and objective information.
- The Geriatric Pharmacotherapy APPE syllabus enumerates specific topics that are the focus of the rotation's required content knowledge.
- Students will know, in advance, that the case vignette will focus on some combination of these, but they will not know which.
- Specific to the case vignette, case authors also prepare a facilitator worksheet that functions as an answer key. It is structured to follow the grading rubric using a checklist, such that the grader need only check off which elements the students present.

Activity structure

Case review (30 minutes):

- If 2-3 students are assigned to a rotation, start times are staggered in 30 minute increments, so that one student is preparing a case while another is presenting.
- Each student reviews the case in a private space to prepare their presentation.
- They may write on the case or scratch paper.
- Calculators are allowed, but no references.

Case presentation (30 minutes):

- Students verbally present their assessment and plan, supported by the subjective and objective data from the case.
- Following this, the grader may ask questions about the student's presentation or general challenge questions about the therapeutic topics associated with the case. (Graders are encouraged to save questions until after the student has finished speaking, and to switch to a different color pen to record answers given in this portion of the activity.)
- When the activity is complete, the grader may share the key and review it with the student.

Figure 1. Standardized grading Rubric

Name: Sample	Date:	Block:

PHAR 4678 Verbal Final Exam Rubric

Creatinine Clearance

	Achieved?	Points (max 4)
Creatinine clearance was - correctly calculated (within 5 ml/min) - presented without preceptor prompting	4 - Presented & correct	4.0

CrCl comments:

Problem #1 Assessment and Plan

		Prompting Required for this Section?	Section Points	Critical Error Deductions	Problem Points (max 19)
The problem was correctly identified	Yes				
Critical Error Made?	None				
A - Current status of the problem was correctly assessed (uncontrolled, acute, etc)	Yes	No	2		
A - Adequate justification (using S/O information) of the problem was achieved	Yes	No	2		
A - Accurate assessment of the current therapy related to the problem is completed	Yes	No	2		
A - Goals for the problem are stated and correct	Yes	Yes	1		
P - Non-pharmacological interventions are given and appropriate	No	Yes	0	0	15.0
P - Plan for existing therapies related to the problem given and appropriate	Yes	No	1		
P - Pharmacological interventions are appropriate (e.g. correct medication)	Yes	No	2		
P - Pharmacological interventions are complete (e.g. correct sig)	Yes	No	2		
M - Monitoring plan (with time frame) for intervention safety given and appropriate	Yes	Yes	1		
M - Monitoring plan (with time frame) for intervention efficacy given and appropriate	Yes	No	2		

Problem #1 comments: Grade generated for hypothetical example

Problem #2 Assessment and Plan

		Prompting Required for this Section?	Section Points	Critical Error Deductions	Problem Points (max 19)
The problem was correctly identified	Yes				
Critical Error Made?	None				
A - Current status of the problem was correctly assessed (uncontrolled, acute, etc)	- Select -	- Select -	0		
A - Adequate justification (using S/O information) of the problem was achieved	- Select -	- Select -	0		
A - Accurate assessment of the current therapy related to the problem is completed	- Select -	- Select -	0		
A - Goals for the problem are stated and correct	- Select -	- Select -	0		
P - Non-pharmacological interventions are given and appropriate	- Select -	- Select -	0	0	0.0
P - Plan for existing therapies related to the problem given and appropriate	- Select -	- Select -	0		
P - Pharmacological interventions are appropriate (e.g. correct medication)	- Select -	- Select -	0		
P - Pharmacological interventions are complete (e.g. correct sig)	- Select -	- Select -	0		
M - Monitoring plan (with time frame) for intervention safety given and appropriate	- Select -	- Select -	0		
M - Monitoring plan (with time frame) for intervention efficacy given and appropriate	- Select -	- Select -	0		

Problem #2 comments:

Problem #3 Assessment and Plan

		Prompting Required for this Section?	Section Points	Critical Error Deductions	Problem Points (max 19)
The problem was correctly identified	- Select -				
Critical Error Made?	- Select -				
A - Current status of the problem was correctly assessed (uncontrolled, acute, etc)	- Select -	- Select -	0		
A - Adequate justification (using S/O information) of the problem was achieved	- Select -	- Select -	0		
A - Accurate assessment of the current therapy related to the problem is completed	- Select -	- Select -	0		
A - Goals for the problem are stated and correct	- Select -	- Select -	0		
P - Non-pharmacological interventions are given and appropriate	- Select -	- Select -	0	Critical Errors?	0.0
P - Plan for existing therapies related to the problem given and appropriate	- Select -	- Select -	0		
P - Pharmacological interventions are appropriate (e.g. correct medication)	- Select -	- Select -	0		
P - Pharmacological interventions are complete (e.g. correct sig)	- Select -	- Select -	0		
M - Monitoring plan (with time frame) for intervention safety given and appropriate	- Select -	- Select -	0		
M - Monitoring plan (with time frame) for intervention efficacy given and appropriate	- Select -	- Select -	0		

Problem #3 comments:

Problem #4 Assessment and Plan

		Prompting Required for this Section?	Section Points	Critical Error Deductions	Problem Points (max 19)
The problem was correctly identified	- Select -				
Critical Error Made?	- Select -				
A - Current status of the problem was correctly assessed (uncontrolled, acute, etc)	- Select -	- Select -	0		
A - Adequate justification (using S/O information) of the problem was achieved	- Select -	- Select -	0		
A - Accurate assessment of the current therapy related to the problem is completed	- Select -	- Select -	0		
A - Goals for the problem are stated and correct	- Select -	- Select -	0		
P - Non-pharmacological interventions are given and appropriate	- Select -	- Select -	0	Critical Errors?	0.0
P - Plan for existing therapies related to the problem given and appropriate	- Select -	- Select -	0		
P - Pharmacological interventions are appropriate (e.g. correct medication)	- Select -	- Select -	0		
P - Pharmacological interventions are complete (e.g. correct sig)	- Select -	- Select -	0		
M - Monitoring plan (with time frame) for intervention safety given and appropriate	- Select -	- Select -	0		
M - Monitoring plan (with time frame) for intervention efficacy given and appropriate	- Select -	- Select -	0		

Problem #4 comments:

Preceptor Challenge of Case

	Performance	Points (max 15)
Able to answer questions posed by the preceptor regarding (but not limited to): - evidence-based justification of therapies chosen - alternative drug regimens, if applicable - pharmacokinetics/pharmacodynamics of therapies chosen - major characteristics of disease states/problems (pathophys, s/s, monitoring, etc) - justification for not choosing alternative therapies	12 - Acceptable Responses	12.0

Challenge comments:

Communication

	Performance	Points (max 5)
Able to communicate effectively throughout with minimal guidance needed	4 - Good	4.0

Communication comments:

Bonus Points

	Performance	Points (max 2)
Bonus points earned should be explained below	- Select -	0.0

Bonus Point justification:

This grading rubric applies regardless of what case vignette is used. Created in MS Excel, each cell in each section applies standardized point values and graders interact with each by selecting categories from drop down menus such as "Yes" or "no".

For each rubric element, a student might be successful addressing an issue when prompted by Q/A, thus a column is included to assess whether the response was prompted. A "yes" answer in this cell adjusts the score to yield partial credit.

Each drug therapy problem section of the rubric also provides the option to apply a point deduction for a critical error, in the event the student recommends something very inappropriate, or fails to recommend something important, such that it could cause harm or death to the patient.

There are additional sections specific to calculation of estimated creatinine clearance (top), communication ability, response to general preceptor question/answer challenge (distinct from prompt questions related to drug therapy problems) and optional bonus points. Point values in these cells are selected from a categorical list.