

Evaluation of Handoff Training in Pre-licensure Nursing Students Using Virtual Simulation

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PURPOSE	IMPLICATIONS
To evaluate if virtual simulation can improve handoff quality, accuracy, and efficiency	Virtual simulation is an effective tool to deliberately practice handoff

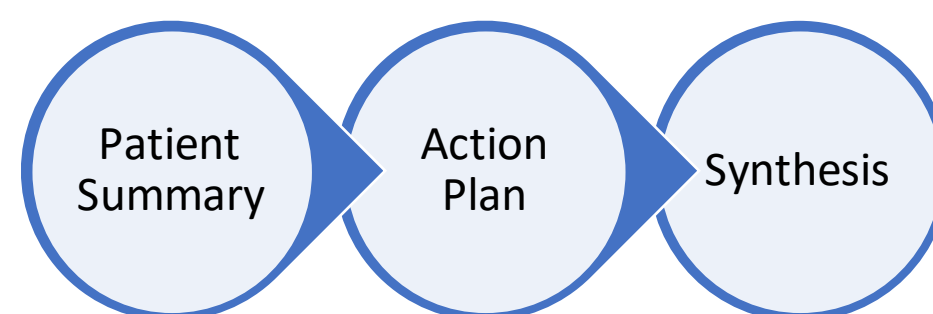



INTRODUCTION

- Nurse-to-nurse shift change handoffs are defined as the transfer of information and responsibility in care across the continuum.
- Most frequent type of information transfer in a healthcare setting, averaging 2 million per year in a mid-size hospital.
- Failures during handoffs contribute to nearly 35% of all sentinel events and medical errors each year.
- Few studies have rigorously evaluated outcomes of nursing handoff training and education methods

METHODS

- 90 pre-licensure nursing students at a Midwest nursing participated in handoff training using the N-PAS (Patient Summary, Action Plan and Synthesis) handoff tool
- Following training, handoff quality, accuracy, efficiency and workload were measured using the Handoff CEX Sender and Receiver instruments, NASA Taskload instrument, and N-PAS checklist
- Students completed three medical-surgical Laerdal Vsim cases and audio recorded a handoff for each case
- All handoffs were scored by two independently trained nurses

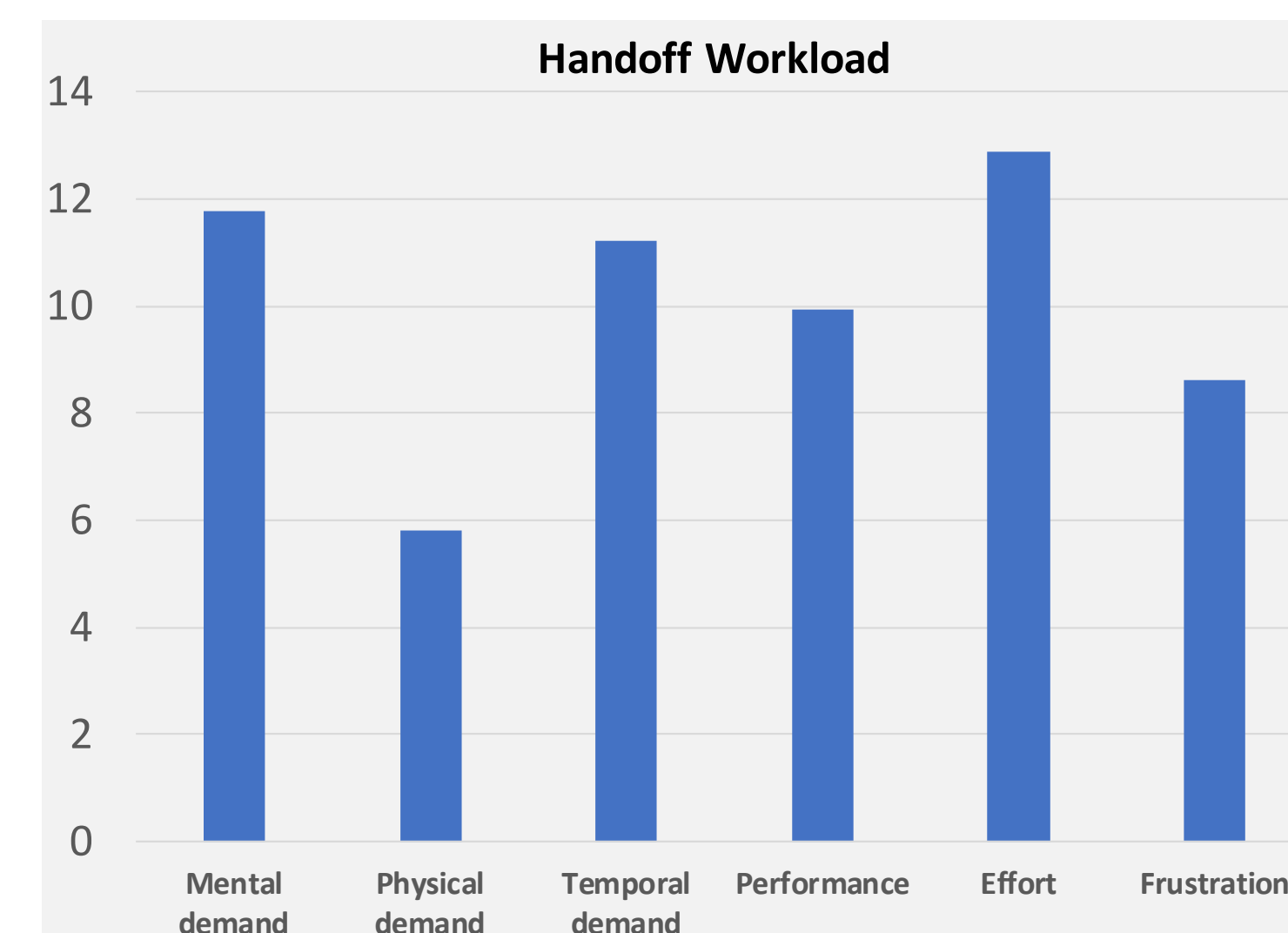
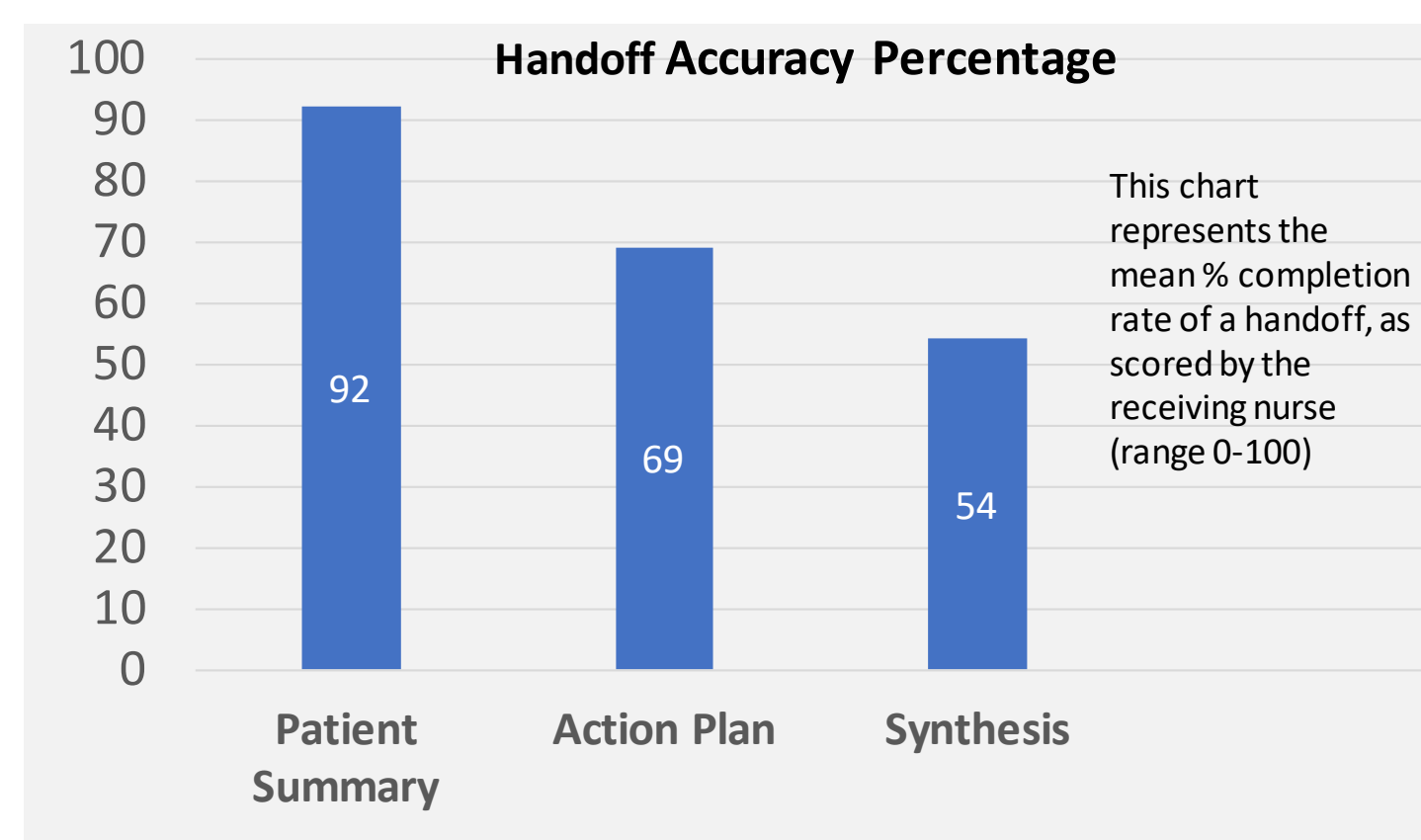


CURRICULUM		
Training	Practice	Evaluation
Didactic <ul style="list-style-type: none"> • Meaning and need for handoffs • Handoff process • Barriers to handoffs • Call for standardization • Examples of handoff tools • Overview of N-PAS tool Case Studies <ul style="list-style-type: none"> • Execute a verbal handoff • Evaluate a verbal handoff 	Virtual Simulation <ul style="list-style-type: none"> • Complete three Laerdal Vsims • Audio handoff each Vsim using the N-PAS tool 	Handoff Quality <ul style="list-style-type: none"> • Measured using Handoff CEX Handoff Accuracy <ul style="list-style-type: none"> • Measured using N-PAS checklist Handoff Efficiency <ul style="list-style-type: none"> • Measured by time to complete handoff Handoff Workload <ul style="list-style-type: none"> • Measured by NASA tool

IN-CLASS EVALUATION FINDINGS

Hand-Off Quality			
Domain	Sender N = 60	Receiver N = 60	Difference
	Mean (SD)	Mean (SD)	P value
Setting	5.55 (2.37)	5.88 (2.24)	.441
Organization	6.62 (1.58)	7.50 (1.33)	≤.001
Communication	7.08 (1.55)	7.49 (1.51)	.094
Content	6.72 (1.58)		
Judgement	6.98 (1.41)	7.37 (1.66)	.162
Professionalism	7.33 (1.46)	7.78 (1.52)	.099
Overall	7.07 (1.49)	7.46 (1.38)	.140

Scores for each domain ranged from 1-9 with 1 = unsatisfactory and 9 = superior



The above chart represents the mean workload score, as perceived by the sending nurse. Scores range from 0-21 with 0 = low demand and 21 = high demand

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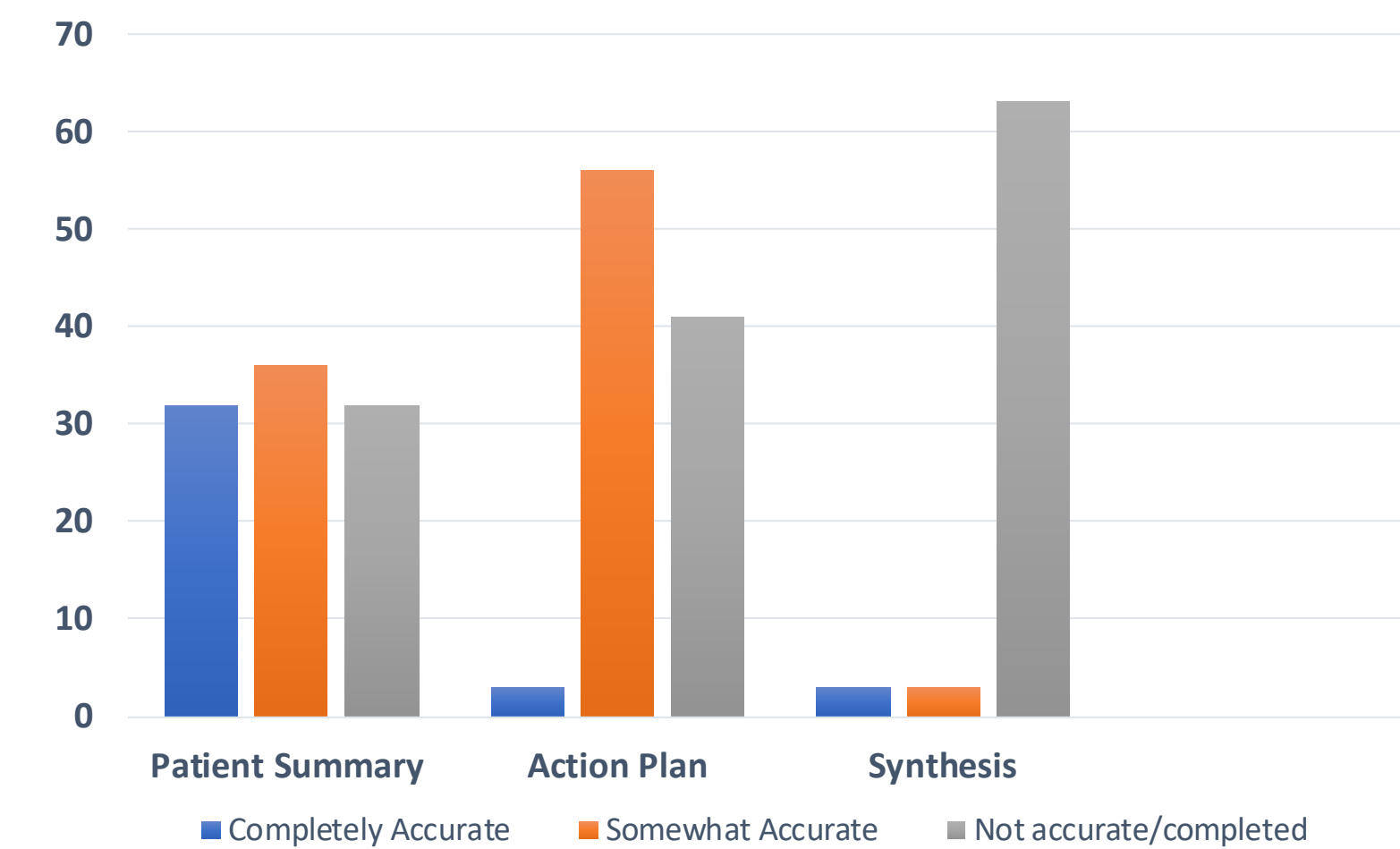
PRELIMINARY AUDIO HANDOFF DATA

Handoff Efficiency

- Mean time to handoff Sample Case = 2.15 minutes

Handoff Accuracy

Sample Vsim Case – Brown Handoff Data (N = 8)
Percent of Handoff



CONCLUSIONS

- Our study demonstrated that students lack accurate handoff skills and need deliberate and continued handoff training.
- Virtual simulation is a useful tool for training handoff competency however more research is needed to determine the progression of handoff skills as students progress in a nursing program.

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