

The effectiveness of concept mapping in facilitating 2nd Year undergraduate medical students understanding of factors affecting glomerular filtration rate (GFR)

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INTRODUCTION

Glomerular filtration is the first step in the urine formation and glomerular filtration rate (GFR) is the best indicator of renal disease. Factors affecting GFR is generally perceived by the undergraduate medical students as a topic or a concept difficult to visualize, understand and retain. To facilitate meaningful learning among learners creating a concept map would help in clearer understanding of concepts.

Objective:

1. To compare the effectiveness of construction of concept map on short essay question scores among students
2. To compare the short essay question scores between male and female undergraduate medical students
3. To understand undergraduate medical students' perception about concept mapping in medical education

MATERIAL AND METHODS

The study was conducted with 29 second-year undergraduate medical students. After the didactic lecture on glomerular filtration, an introductory session on the purpose of concept mapping and its relevance was explained. Students were randomly divided into four groups and each groups were given an assignment to create a concept map on the topic "factors affecting GFR".

An online feedback through google forms was collected from the students to know about their perceptions of concept maps as a learning tool. At the end of the module, a summative assessment was conducted in which scores of two short essay questions (SEQ) of 10 marks each were compared.

The SEQ1 and SEQ 2 scores were compared using paired t test. P-value of < 0.05 was taken as significant.

RESULTS

Table 1: Comparison of mean short essay question (SEQ) scores

	SEQ 1	SEQ 2
Mean	7.11	5.68
Standard deviation	2.08	2.71
p-value	0.00016063*	

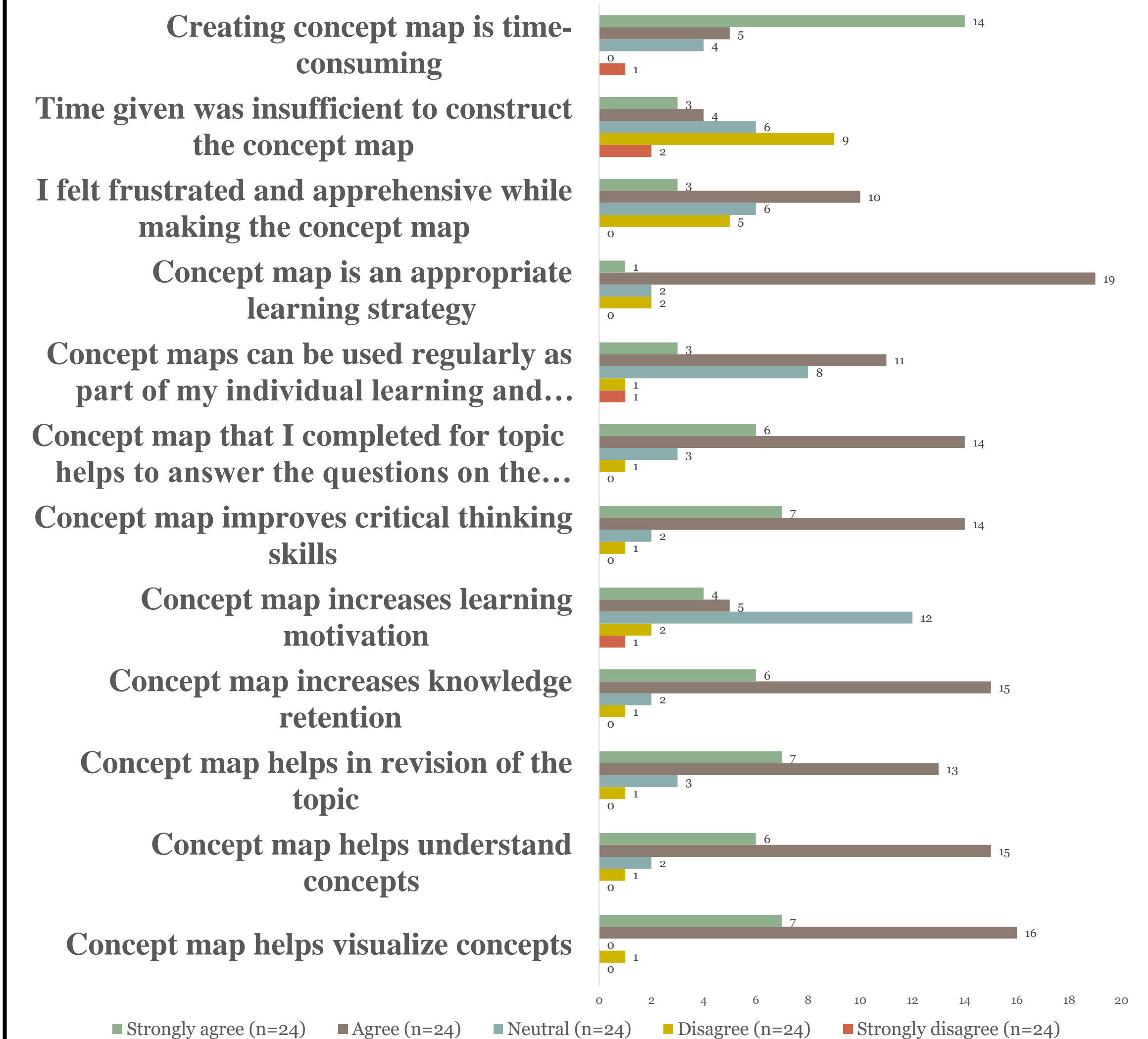
Table 2: Gender-wise distribution of short essay question (SEQ) scores

GENDER	SEQ 1				SEQ 2			
	n	Mean	SD	P value	n	Mean	SD	P value
Female	13	7.35	2.45	0.6477	13	6.65	2.54	0.1058
Male	14	6.96	1.81	0.8386	14	4.96	2.68	0.8031

CONCLUSION

Most of the students, agreed that concept maps help to visualize and understand concepts Our study results showed that concept mapping is useful in knowledge retention which was shown by a considerable improvement in the SEQ score.

Students' feedback on concept mapping as a learning tool



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