



Research Article

QUALITY OF GROUP WORK LEARNING: PHARM. D. STUDENTS' EXPERIENCE FROM SAUDI ARABIA Elham Alshammari *

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ABSTRACT

Introduction: Group work techniques are used widely for learning and assessment throughout university courses, but they have not been validated for quality purposes in any Saudi college of pharmacy. **Materials and methods:** To explore the quality of group work techniques, a Student Attitudes toward Group Environment (SAGE) questionnaire with a component for 'quality of product and process' was used as a tool for data collection from all undergraduate Pharm. D. students in Princess Nourah Bint Abdul Rahman University during the period of May-September 2018. Descriptive statistics (mean and standard deviation) were used for presenting the results. **Result:** From all 703 Pharm. D. students enrolled, only 179 participated in the shortened questionnaire. The results indicated positive agreement to the items under investigation. **Conclusion:** The findings of the study showed that this type of learning process met quality criteria from the students' perspectives. Future work should include investigating the correlation with the results of the comprehensive pharmacy practice exam in Saudi Arabia to show if group work helped students achieve acceptable marks.

KEY WORDS: education, quality, group work, problem-solving, activities, Pharm. D.

INTRODUCTION

Princess Nourah Bint Abdul Rahman University (PNU), located in Riyadh, Saudi Arabia, is a female-only university which officially opened in 2009 and now there are 47,000 students registered with around seven hundred students enrolled in the Pharm. D degree. PNU is new in the region and under evaluation for academic accreditation for each programme. Graduates from the pharmacy college will be required to pass a comprehensive exam to be able to practice. Learning methods need to be extended beyond traditional teaching to ensure better understanding and preparation for the profession. Problem-based learning in small groups and group work activities have been used in most university courses. It is difficult to know if group work is a reliable method for assessing students, especially from a quality point of view. Does it carry the risk of overestimated grades or is it for the sake of good learning processes? This type of learning technique has been validated in several disciplines, but does it have the same outcomes in pharmacy colleges? The literature is rich¹⁻⁴ but to date group work has not been evaluated in any Saudi university. To answer the quality question, a focused tool needs to be selected carefully. Logically, the instructor's points of view will not be included as they are the course content expert and because of the fact that they follow the course specifications of the programme director of their college to teach and assess using a group environment. Therefore, the best way is to test the students' experiences. The Student Attitudes toward Group Environments (SAGE) questionnaire, by Kouros and Abrami (2006) has four factors addressed to test small group learning, one of the four was the attitudinal factor quality of product and process⁵.

The objective of this study is to examine how group work affects the quality of learning and grades from Pharm. D. students' perspective.

MATERIALS AND METHOD

Fifteen items were chosen from the SAGE questionnaire to represent the selected factor for quality of product and process. The shortened questionnaire was then distributed electronically (Blackboard software and emails) to all Pharm. D. students from different levels in the pharmacy college of PNU. The total number of students enrolled in the college of pharmacy is 703. Data were collected during the period of May to September 2018. Students had the option to select their responses on a five-point Likert scale ranging from "Strongly agree" to "Strongly disagree" (see Appendix A). The data were analysed using SPSS, version 24 (SPSS Inc., Chicago, IL, USA) for descriptive and analytical statistics.

ETHICS APPROVAL

Institutional board review approval was obtained for conducting the study (IRB registration number with KACST, KSA: H-01-R-059). All procedures were in accordance with the ethical standards of the Scientific Research Ethics Committee for Saudi Universities and with the 1964 Helsinki declaration and its later amendments.

RESULT AND DISCUSSION

From all levels of the Pharm. D. programme, 179/703 responded to the shortened questionnaire. A summary of students' responses to each item in the questionnaire is presented in table 1, noting that item numbers two and nine in the questionnaire were both reverse-coded for analysis. The overall reliability for the shortened questionnaire was tested and confirmed (Cronbach $\alpha = 0.92$). By examining the results cumulatively, students' work and quality were positively affected by group environment. The high percentages were in the "Agree" and "Strongly agree"

responses. For example, adding the percentage of positive agreement for item number 1 “When I work in a group I do better quality work” was (108/179, 60.3%), for item number 4 “My group members help explain things that I do not understand” was (154/179, 86%), item number 5 “The material is easier to understand when I work with other students” was (130/179, 72.6%) and for item number 14 “I learn more information when I work with other students” was (135/179, 75.4%) . For item numbers 10 and 11, the impressions (69/179, 38.5% and 62/179, 34.6% respectively) need further correlation with final grades to justify students’ perceptions. Although the questionnaire was

distributed to all undergraduate students with no exclusions or preferences, Figure 1 showed that from the 179 participants, the percentage of students at higher levels (years four to six) was 81% (n = 145) which was higher when compared to students from lower levels (years one to three) with a response rate of 19% (n = 34). This could be explained by the greater tendency of students from higher levels to participate in college tasks, events and questionnaires and their more extensive experience and understanding of the group work environment.

Table 1: Attitudinal factor quality of product and process from student attitudes toward group environments questionnaire (SAGE): means, standard deviations, numbers and percentages of agreement, disagreement, and undecided.

Item	Mean	SD	Strongly agree N (%)	Agree N (%)	Undecidable N (%)	Disagree N (%)	Strongly disagree N (%)
1) When I work in a group I do better quality work.	3.48	1.143	30 (16.8%)	78 (43.6%)	31 (17.3%)	28 (15.6%)	12 (6.7%)
2) The work takes longer to complete when I work with other students. *	2.9162	1.16538	22 (12.3%)	49 (27.4%)	44 (24.6%)	50 (27.9%)	14 (7.8%)
3) I enjoy the material more when I work with other students.	3.36	1.174	25 (14%)	78 (43.6%)	27 (15.1%)	35 (19.6%)	14 (7.8%)
4) My group members help explain things that I do not understand.	4.06	0.952	57 (31.8%)	97 (54.2%)	10 (5.6%)	8 (4.5%)	7 (3.9%)
5) The material is easier to understand when I work with other students.	3.77	1.034	39 (21.8%)	91 (50.8%)	25 (14%)	16 (8.9%)	8 (4.5%)
6) My work is better organised when I am in a group.	2.99	1.199	24 (13.4%)	41 (22.9%)	37 (20.7%)	63 (35.2%)	14 (7.8%)
7) My group members like to help me learn the material.	3.69	0.924	24 (13.4%)	102 (57%)	34 (19%)	12 (6.7%)	7 (3.9%)
8) The workload is usually less when I work with other students.	3.70	1.016	34 (19%)	90 (50.3%)	28 (15.6%)	21 (11.7%)	6 (3.4%)
9) I feel working in groups is a waste of time. *	3.4804	1.16282	13 (7.3%)	25 (14%)	38 (21.2%)	69 (38.5%)	34 (19%)
10) When I work in a group I get the grade I deserve.	3.10	1.066	14 (7.8%)	55 (30.7%)	59 (33%)	37 (20.7%)	14 (7.8%)
11) My marks improve when I work with other students.	3.10	1.001	13 (7.3%)	49 (27.4%)	71 (39.7%)	35 (19.6%)	11 (6.1%)
12) The material is more interesting when I work with other students.	3.37	1.194	27 (15.1%)	75 (41.9%)	30 (16.8%)	31 (17.3%)	16 (8.9%)
13) When I work in a group my work habits improve.	3.52	1.051	26 (14.5%)	83 (46.4%)	36 (20.1%)	26 (14.5%)	8 (4.5%)
14) I learn more information when I work with other students.	3.84	0.943	39 (21.8%)	96 (53.6%)	24 (13.4%)	16 (8.9%)	4 (2.2%)
15) It takes less time to complete the assignment when I work with others.	3.47	1.215	35 (19.6%)	76 (42.5%)	18 (10.1%)	38 (21.2%)	12 (6.7%)

*Reverse-coded for analysis

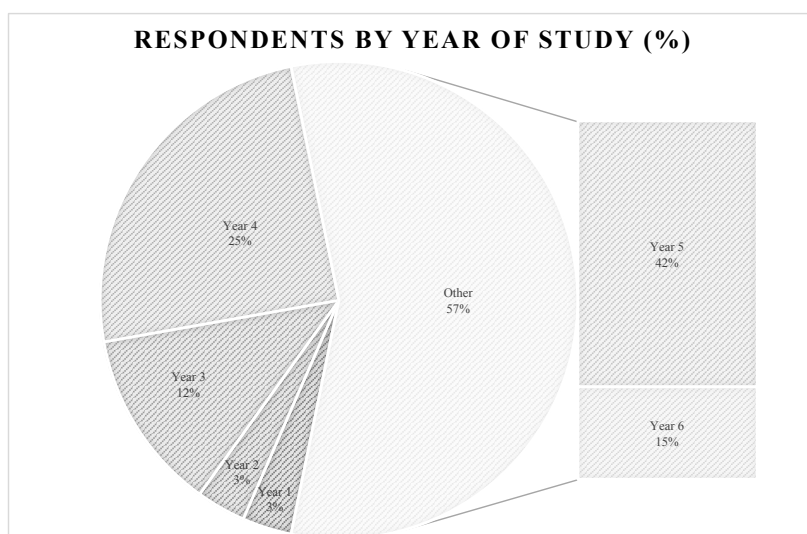


Figure 1: Attitudinal factor quality of product and process from student attitudes toward group environments questionnaire (SAGE) by year of study

APPENDIX A: Student Attitudes toward Group Environments SAGE Factor quality of product and process

Level/Year at university:
1. 1/1
2. 2/1
3. 3/2
4. 4/2
5. 5/3
6. 6/3
7. 7/4
8. 8/4
9. 9/5
10. 10/5
11. 11/6
12. 12/6
For each of the following questions you must choose the response that best applies to you "with responses ranging from a to e"
a) Strongly Disagree
b) Disagree
c) Undecided
d) Agree
e) Strongly Agree
1) When I work in a group I do better quality work. ()
2) The work takes longer to complete when I work with other students. ()
3) I enjoy the material more when I work with other students. ()
4) My group members help explain things that I do not understand. ()
5) The material is easier to understand when I work with other students. ()
6) My work is better organised when I am in a group. ()
7) My group members like to help me learn the material. ()
8) The workload is usually less when I work with other students. ()
9) I feel working in groups is a waste of time. ()
10) When I work in a group I get the grade I deserve. ()
11) My marks improve when I work with other students. ()
12) The material is more interesting when I work with other students. ()
13) When I work in a group my work habits improve. ()
14) I learn more information when I work with other students. ()
15) It takes less time to complete the assignment when I work with others. ()

CONCLUSION

This study is the first in the pharmacy education field in Saudi Arabia to explore the quality of group work and its effect on learning. From students' perspectives, the evidence gathered in the survey has a positive impact and is likely to help students achieve better understanding. This study will be useful to formulate a base for correlation with the result of the first comprehensive exam for pharmacy graduates scheduled in 2019. The findings of the study showed that this type of learning process met quality criteria from the students' perspectives and that students were in favour of group work.

FUTURE WORK

To check whether group work learning techniques benefit students in their preparation for the pharmacy profession, future work should include the correlation with cumulative college grades in the short term and/or in the longer term should be correlated with the comprehensive pharmacy practice exam scheduled for the first time in 2019 as a compulsory requirement for practice in Saudi Arabia.

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