



Physiotherapy students' rating on lecturers' and supervisors' clinical education attributes

Nana Kwame Safo-Kantanka^{1,*}, Jonathan Quartey^{2,†} and Samuel Koranteng Kwakye^{3,‡}

¹*Claron Medical Centre, Dodi Link, Airport Residential, Accra, Ghana*

²*Department of Physiotherapy, School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana, Accra, Ghana*

³*West Africa Football Academy, Sogakope, Ghana*

*nanakwame1997@gmail.com

†neeayree@googlemail.com

‡kwamed88@gmail.com

Received 24 May 2023; Accepted 30 August 2023; Published 5 October 2023

Background: Clinical education is considered a vital aspect of education of health science students. Attributes of clinical educators play a crucial role in determining the outcome of clinical teaching and learning. A good clinical educator ensures that students get maximum benefits of the clinical learning experience.

Objective: To determine the ratings of physiotherapy students on clinical education attributes of lecturers and clinical supervisors.

Methods: The study was conducted with 81 clinical physiotherapy students from two universities in Ghana. Two copies of McGill clinical teachers' evaluation (CTE) tool were used to obtain students' ratings on their clinical supervisors' and lecturers' clinical education attributes. Independent *t*-test was used to compare the means of students' level of study and ratings regarding the clinical education attributes of clinical supervisors and lecturers.

Results: Students had a high rating on their clinical education attributes of supervisors and lecturers with a mean score of (121.22 ± 18.12) and (122.11 ± 16.71) , respectively. Rating on clinical education attributes of supervisors ($p = 0.111$) and lecturers ($p = 0.124$) did not differ significantly between the different levels of study.

†Corresponding author.

Conclusion: Clinical physiotherapy students rated the clinical education attributes of their lecturers and supervisors high.

Keywords: Clinical education; clinical educators; clinical educators' attributes; clinical supervisors; lecturers.

Background

Clinical education is considered a vital aspect of education of health science students and it is a professional requirement for permanent licensure by most professional councils.^{1–3} There are three models of clinical education namely the internal, external and bridging.⁴ The internal model is one in which both the foundational and clinical sciences theory and students' clinical experience are provided in the same institution. This insular training model typically based on hospitals existed during the early stage in the development of physiotherapy as a profession and no longer exists today.⁵ The external model, now prevalent in the United States of America (USA), has theoretical education taught in an institution relatively divorced from clinical teaching provided in a clinical service setting of which students' affiliation experiences take place in free-standing hospitals, clinics and centres.⁵ The bridging model has separate institutions for theoretical and clinical education but with bridging arrangements to facilitate the clinical education. The bridge version of clinical education organisation is in use in most Commonwealth countries, for which clinical rotations are organised in hospitals that are affiliated with respective universities.⁵ The bridge version of clinical education organisation is used in Ghana too.

Clinical learning prepares the students to be able to work as primary healthcare providers.^{6–8} Lecturers and clinical supervisors play an important role in the clinical learning of undergraduate physiotherapy students. The characteristics of an ideal clinical educator as perceived by the students have been reported to be professionalism, being a role model for the students, describing the decision-making process, considering the self-respect of students, willingly helping the students, having appropriate knowledge of the respective subject and ability to demonstrate and convey that knowledge to the students.⁹

Identified clinical tutors' roles include a link lecturer role, clinical supervisory role, clinical

academic coaching role and supportive role.^{10,11} The link lecturer role primarily involves acting as a conduit between theory and practice. In this case, a lecturer employed by educational institutions is given responsibility for ensuring that the preceptors and students in practice are supported and informed on current educational practices.¹¹ The aim of the supervisory role is to support and help students to develop the necessary skills to become competent and knowledgeable practitioners.¹² The performance of supervisory role requires a holistic view of curriculum, pedagogical and organisational competence in supervision, development competence, cooperation and interaction competence, decision-making skills and familiarisation with the clinical setting.¹¹ The coach is a lecturer with both clinical and academic credibility, often working at consultant practitioner level, which focusses on goals that optimize the student's clinical role, professional and personal development.¹¹ The support of professional development comprises establishing objectives, planning the implementation of clinical practice, attending to the implementation, evaluating the clinical practice and supporting the student.¹¹

Maximised learning, following clinical instruction, is deemed best achievable if the teachers have formal preparation for teaching.⁵ Furthermore, the extant literature shows that a desirable clinical experience is one that can facilitate the connection between theory and practice.¹³ and is subjected to ongoing peer evaluation for quality improvement involving students in a humanistic and rigorous approach to practice. The teachers are regarded as professionals whom the students would want to emulate due to their positive perception of effectiveness.^{3,14}

Undergraduate physiotherapy education in Ghana is a Bachelor of Science (BSc) degree earned after four years of university education. The first two years are spent in the preclinical phase of training and the clinical phase follows for another two years. During the clinical phase, experienced

clinicians and academic staff teach students in teaching and certified hospitals. Newly graduated students undergo a one-year internship in an accredited teaching or certified hospital centre under the direction and supervision of experienced physiotherapists.

The role of the clinical educator in facilitating student education is complex because he or she is required to supervise, assist in the development of skills, observe performance, provide feedback, complete assessment, in addition to providing client/patient care and completing other clinical roles.^{15,16} A clinical educator's ability to provide freedom for discussion, be approachable, be supportive and helpful in the clinical setting¹⁷ and have a good level of rapport with students¹⁸ greatly influences learning in the clinical setting.¹⁹

The evaluation of clinical educators of undergraduate physiotherapy students is very important for getting better outcomes in clinical learning.⁵ The effectiveness of clinical education in health science programmes, particularly physiotherapy, depends on the attributes of clinical educators.²⁰ However, there appears to be lack of comprehensive data on how students perceive their lecturers' and supervisors' clinical education attributes in Ghana. Understanding the impact of clinical educators is crucial for enhancing the learning experiences of physiotherapy students and preparing future healthcare professionals in Ghana. Hence, this study, which was to rate clinical education attributes of physiotherapy lecturers and clinical supervisors using the validated McGill Clinical Teachers' Evaluation (CTE) tool.⁵

Materials and Methods

This cross-sectional study was conducted among clinical (third and fourth) year physiotherapy students recruited using a convenient sampling method from the Department of Physiotherapy, University of Ghana in Accra and University of Health and Allied Sciences in Ho. A minimum sample size of 77 was calculated using Taro Yamane's formula: $n = N/(1 + Ne^2)$.²¹ All students in levels 300 and 400 were included in the study whilst students in levels 100 and 200 were excluded because their course curricula are mainly theoretical- and classroom-based and hence not considered clinical year students.

Data collection instrument

A data capturing form was used to obtain demographic data of students and clinical educators (Appendix A). The McGill CTE tool (Appendix B) which is a self-administered questionnaire was used to assess students' ratings on their clinical supervisors and lecturers.⁵ The tool has high internal consistency and test-retest reliability. The reliability coefficient was 0.73 when used among Nigerian physiotherapy students.⁵ The "McGill CTE" tool is a 25-item questionnaire designed to assess the attributes of effective clinical teachers in the context of physiotherapy education. Each item is rated on a 5-point Likert scale, ranging from "1" for very strongly disagree to "6" for very strongly agree. Students are asked to indicate their level of agreement with each attribute statement. A higher total agreement score on a specific attribute indicates a more positive rating of clinical educators on that particular item. A total mean agreement score greater than 80 is considered indicative of a more positive rating of clinical educators on the attributes assessed by this tool.

Procedure for data collection

Informed consent was obtained from students before they participated in the study (Appendix C). The researchers explained the rationale of the study to the students, as well as their voluntary participation, after permission had been sought and obtained from their lecturers. Clear and explicit instructions were provided to the students on how to respond to questions related to teacher training and specialty while emphasis was placed on the need for accurate and honest responses. The students were assured that responses would be treated with confidentiality, and identities would remain anonymous throughout the study. Subsequently, a data capturing form (Appendix A) and a copy of the McGill CTE tool (Appendix B) which takes approximately 20 min to complete, was administered to the majority of the students in their lecture halls. The researchers approached the few students who were not present at the time of administration in the lecture halls in their hostels to facilitate the administration of the data capturing form and McGill CTE tool with assistance from the various class representatives. Questionnaires which were completed the same day were retrieved on the

spot. Those who were unable to complete the questionnaire on the same day were allowed a two-week window period to complete the questionnaires. After the specified period, the questionnaires were retrieved. Follow-ups were made via phone calls, text messages and personal visits every five days to ensure timely redemption of the instruments. Data were collected between March and May, 2019.

Data analysis

Data collected were entered into Microsoft Excel version 2016 and analysed using SPSS version 23. Response frequencies, means and percentages were used to summarise the data and displayed in a tabular and graphical format. Independent *t*-test was used to compare the means of students' level of study and ratings regarding the clinical education attributes of clinical supervisors and lecturers. The level of significance was set at 95%.

Ethical considerations

Ethical clearance (SBAHS-PT/10576949/SA/2018-2019) (Appendix D) was obtained from the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana before the study was carried out. Permission was sought from the authorities of the physiotherapy students in the universities. Informed consent was sought and obtained from students prior to the study.

Results

A total of 81 (84.4%) out of 96 questionnaires distributed were completed and returned. The students comprised 42 (51.9%) males, 48 (59.3%) third years and consisted of 42 (51.9%) students from the University of Health and Allied Sciences as shown in Table 1. Sixty-seven (82.7%) respondents indicated that they were visited during their clinical rotation as shown in Table 1. Fifty-three (65.4%) clinical educators were females, while 42 (51.9%) of all educators were in various specialties and 27 (33.3%) of them have had some form of teacher training.

Ratings on clinical education attributes of supervisors and lecturers

Although students scored their clinical supervisors highly on the attributes assessed with the McGill CTE tool, their ratings for lecturers were slightly higher.

Table 2 shows the ratings on clinical education attributes of clinical supervisors and lecturers.

The fourth-year (level 400) students reported a higher mean score of rating on clinical educators' attributes of supervisors compared to third years while the independent *t*-test showed that the difference between the two-year groups was not statistically significant as presented in Table 3. The fourth-year (level 400) students reported a higher McGill CTE mean score compared to third-year students (level 300) with regard to lecturers' clinical teaching attributes. The independent *t*-test showed that the difference between the two clinical years were not statistically significant (Table 3).

Discussion

The aim of this study was for clinical year physiotherapy students in Ghana to rate the clinical supervisors and lecturers on their clinical education attributes. Findings from this study show high

Table 1. Socio-demographic data of students.

	Number	Percentage (%)
Gender		
Male	42	51.9
Female	39	48.1
Total	81	100.0
Clinical year		
Level 300	48	59.3
Level 400	33	40.7
Total	81	100.0
Institution of study		
UG	39	48.1
UHAS	42	51.9
Total	81	100.0
Visits by lecturers		
Yes	67	82.7
No	14	17.3
Total	81	100.0

Notes: UG = University of Ghana, UHAS = University of Health and Allied Sciences.

Table 2. Ratings on clinical education attributes of supervisors and lecturers.

	<i>N</i>	Minimum	Maximum	Mean \pm SD
MCTE (supervisors)	169	65.00	148.00	121.22 \pm 18.12
MCTE (lecturers)	169	73	150	122.11 \pm 16.71
		Highest domain score		Lowest domain score
MCTE (supervisors)		Provides opportunity for discussion (5.15)		Occasionally challenges (4.42)
MCTE (lecturers)		Interested in helping me to learn (5.09)		Interested in social and psychosocial aspects of illness (4.72)

Note: MCTE = McGill Clinical Teachers' Evaluation Tool.

Table 3. Difference in means among different levels of study about students' rating of clinical education attributes of supervisors and lecturers.

	Third year	Fourth year	<i>t</i>	<i>p</i> -value
MCTE (supervisors)	118.60 \pm 19.59	125.03 \pm 15.25	1.603	0.111
MCTE (lecturers)	121.31 \pm 17.32	123.27 \pm 15.99	1.607	0.124

Note: MCTE = McGill Clinical Teachers' Evaluation Tool.

ratings for both supervisors and lecturers, indicating their effectiveness as clinical educators. The ratings of clinical education attributes were consistent among students at different levels of study. Areas for improvement include encouraging research-based evidence utilisation and emphasising the importance of social and psychological aspects of illness in clinical education.

The overall ranking of clinical educators' attributes (clinical supervisors and lecturers) by students of the physiotherapy department of both universities for this study is high. This may be due to the formal training provided by physiotherapy departments of both universities to the clinicians who supervise students on clinical placements, since maximum results are obtained from clinical placements when teachers have formal training on clinical teaching.⁵ Training clinicians on student instruction while on clinical placement informs clinicians about students' needs in that placement, thus making their tuition more advantageous to students. Studies in Pakistan and Nigeria reported that students ranked their clinical educators high on the McGill CTE tool^{4,5} which is similar to the

findings of this study. The attribute that received the lowest ranking in this study was "occasionally challenges points presented in text and journals", which corroborates reports by Ehsan *et al.*⁴ in their study conducted among Pakistani students in 2017. This study's findings suggest that there is room for improvement in the utilisation of research-based evidence by clinical supervisors in Ghana during clinical teaching. Clinical educators may not always challenge submissions made in journals and texts, which could be attributed to factors such as limited access to recent articles or the need for further exploration of this aspect of teaching. It is therefore essential for clinical educators to actively encourage evidence-based practices and engage students in discussions to foster a more research-oriented clinical learning environment.

The highest rated attribute in this study was "Provides opportunity for discussion". Students on clinical placement are expected to learn by observing what the clinicians are doing and make connections with what they already know from classroom learning. However, students may not get the connections right most of the times, thus the

willingness of the clinical educators to engage students in discussions is critical for successful learning by students in the clinical environment. It helps the supervisors to identify students' knowledge acquired during clinical rotations and their levels of understanding as well. Mulholland *et al.*²² revealed that British occupational therapy students appreciated an educator who challenged them appropriately and gave them constructive feedback during discussions, thus reaffirming the importance of discussions with students.

Comparing McGill CTE scores among the two levels showed that there was no statistical difference between the ratings. This finding may be attributed to the fact that it is the same supervisors who taught students in both third and fourth years when they were on clinical placement. This may also be due to the formal training offered to supervisors by the physiotherapy departments of both universities and because the supervisors also possess the necessary attributes to sufficiently facilitate clinical teaching and learning.

This study indicates that students highly rated the individual attributes of clinical teaching shown by their supervisors. However, it's important to note that the study did not consider gender when evaluating these ratings. This highlights the significance of emphasising the professional and clinical teaching attributes of the clinical supervisors regardless of their gender, in assessing their effectiveness. This study shows an overall high ranking of clinical educators' attributes of lecturers in the physiotherapy departments of both universities. This finding may be because lecturers have experience in both classroom and clinical teaching. Oyeyemi *et al.*⁵ showed a high rating of the teaching attributes of academicians too. Lecturers are involved in impacting both theoretical and practical knowledge to students. A blend of lecturers' educational and clinical expertise makes the whole clinical education process efficient, which is beneficial to students.

The overall rating of lecturers was slightly higher than that of clinical supervisors. This corroborates a similar study conducted by Oyeyemi *et al.*⁵ This was explained by a general assumption that the main role of academicians is teaching while that of clinicians is clinical practice. Lecturers who are practitioners (usually part-time) are likely to be very impactful in clinical education of students. Academicians, who teach in both the classroom and clinic setting, are likely to have had

more teaching experience than their clinician counterparts who only teach in the clinic setting.⁵ Such lecturers are most likely to be abreast with evidence-based practice and new developments in physiotherapy practice. Lecturers who are practitioners are more likely to be conversant with theory-practice mismatch in the sense that, some evidence-based practices may not be as efficient as it is supposed to be since patients or clients in different regions of the world may show different characteristics and response to a condition and treatment, respectively. Therefore, lecturers who are practitioners are likely to be superior in terms of clinical reasoning. The transfer of all this expertise to students greatly influences clinical education.

The least ranked attribute was "Seems interested in social and psychological aspects of illness". This can be attributed to the assumption that; lecturers value the biomedical aspect of management more than the psychological and social aspects.

The highest rated attribute was "Is interested in helping students to learn". This can also be attributed to the assumption that lecturers' value clinical education as very important in the training of students to become good practitioners. This makes lecturers willing to help students in all aspects involving clinical teaching and learning to make it beneficial.

A comparison of McGill CTE scores among the two levels showed no statistical difference between the ratings. This finding may be attributed to the fact that it is the same lecturers who taught students in both third and fourth years when they were on clinical placement. It may also be because the lecturers themselves possess these necessary attributes to sufficiently facilitate clinical teaching and learning.

According to Oyeyemi *et al.*,⁵ an ideal clinical education experience is one that takes place in a learning atmosphere that allows for establishing a mutually beneficial student-supervisor relationship. The positive rating by students may suggest that clinical education in physiotherapy departments of both universities fosters the creation of such relationship. This highlights the importance of professional and clinical teaching attributes of the lecturers.

While this study provides valuable insights into the ratings of physiotherapy students on the clinical education attributes of their lecturers and

clinical supervisors, it is essential to acknowledge certain limitations that may have influenced the results. The convenient sampling method utilised may have introduced sampling bias and therefore limits the generalizability of the findings. This study also relied on self-reported data from students, which may be subject to response and/or recall bias. It is important to note that the study focussed on students' ratings and did not explore the actual teaching practices of clinical educators. The category of participants used also limits the generalizability of the findings to other contexts and settings.

Conclusion

Both clinical supervisors and lecturers received high ratings, which underscores their effectiveness as clinical educators. Future studies could consider using more diverse and representative sampling techniques that could enhance the external validity of the results and incorporate direct observations of teaching sessions to complement the students' ratings and provide a more comprehensive evaluation.

Acknowledgement

We would like to acknowledge all physiotherapy students of the University of Ghana and University of Health and Allied Sciences who took time off their busy schedules to participate in this study.

Ethics

Ethics approval was sought from the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Sciences, University of Ghana.

Conflict of Interest

There were no competing interests from all authors in this study.

Funding/Support

None.

Author Contributions

NKS-K and JQ contributed to the study design and collected data. NKS-K, JQ and SKK cleaned and analysed the data obtained. JQ and SKK sourced and reviewed relevant literature. NKS-K, JQ and SKK wrote and reviewed the paper for important intellectual content, revised the draft and approved the final version for submission.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix A. Data Capturing Form

Kindly Provide the Needed Information to the Items Listed Below:

I. DEMOGRAPHIC DATA

Age of student: _____

Gender of student: _____

Level of study: _____

Name of institution: _____

Number of visits by lecturers during clinical rotations: _____

II. ABOUT YOUR CLINICAL SUPERVISOR

Gender of your current Clinical Supervisor (Check the one that applies)

Male

Female

Does your clinical educator have any teacher's training? (Check the one that applies)

Yes

No

Don't Know

Specialty of Clinical Educator: _____

Date: ____/____/____

Appendix B.

B.1. McGill CTE tool for clinical supervisors

Please indicate your opinion of the *clinical supervisors* who take you during clinical studies.

My clinical teacher:	Very Strongly Disagree (1)	Strongly Disagree (2)	Disagree (3)	Agree (4)	Strongly Agree (5)	Very Strongly Agree (6)
(1) Is enthusiastic and understanding						
(2) Seems interested in social and psychological aspects of illness						
(3) Inspires confidence in his/her knowledge of subject						
(4) Emphasises concepts rather than factual recall						
(5) Poses problem for me to solve						
(6) Provides opportunity for discussion						
(7) Encourages me to think						
(8) Attitudes to patients fit my concept of professional behaviour						
(9) Occasionally challenge points presented in text and journals						
(10) Is usually well prepared for teaching sessions						
(11) Conveys enjoyment of associating with me and my colleagues						
(12) Provides feedback and direction						
(13) Displays good judgment in decision making						
(14) Deals with colleagues and staff in a friendly manner						
(15) Teaching is suited to my level of sophistication						
(16) Invites comments rather than providing all the answers						
(17) Is interested in helping students to learn						
(18) Presents divergent viewpoints for contrast and comparison						
(19) Is clear and understandable in explanations						
(20) Encourages me to ask questions						
(21) Emphasises problem-solving approach rather than solutions <i>per se</i>						
(22) Dependability of attendance is good						
(23) Encourages me to take responsibility for my own learning						
(24) Emphasises clinical skills, not lab tests for patient management						
(25) Is usually readily available for discussion						

B.2. McGill CTE tool for lecturers

Please indicate your opinion of the *lecturers* who take you during clinical studies.

My clinical teacher:	Very Strongly Disagree (1)	Strongly Disagree (2)	Disagree (3)	Agree (4)	Strongly Agree (5)	Very Strongly Agree (6)
(1) Is enthusiastic and understanding						
(2) Seems interested in social and psychological aspects of illness						
(3) Inspires confidence in his/her knowledge of subject						
(4) Emphasises concepts rather than factual recall						
(5) Poses problem for me to solve						
(6) Provides opportunity for discussion						
(7) Encourages me to think						
(8) Attitudes to patients fit my concept of professional behaviour						
(9) Occasionally challenge points presented in text and journals						
(10) Is usually well prepared for teaching sessions						
(11) Conveys enjoyment of associating with me and my colleagues						
(12) Provides feedback and direction						
(13) Displays good judgment in decision making						
(14) Deals with colleagues and staff in a friendly manner						
(15) Teaching is suited to my level of sophistication						
(16) Invites comments rather than providing all the answers						
(17) Is interested in helping students to learn						
(18) Presents divergent viewpoints for contrast and comparison						
(19) Is clear and understandable in explanations						
(20) Encourages me to ask questions						
(21) Emphasises problem-solving approach rather than solutions <i>per se</i>						
(22) Dependability of attendance is good						
(23) Encourages me to take responsibility for my own learning						
(24) Emphasises clinical skills, not lab tests for patient management						
(25) Is usually readily available for discussion						

Appendix C. Informed Consent Sheet

I have been invited to partake in this study for the research titled “Clinical physiotherapy students’ perceptions on lecturers’ and clinical supervisors’ clinical education attributes”. My role as a student is to fill or answer the questions on the McGill CTE tool and to submit it to the researcher afterwards.

I acknowledge that the research procedures as described above have been explained to me and that any questions that I have asked have been explained to my satisfaction.

I have been informed of the alternatives to participation in this study including the right to not participate. I also understand that I may not benefit directly from this research and that my participation is voluntary.

I have also been informed that the confidentiality of the information I will provide will be safeguard and anonymity will be ensured in the collection, storage and publication of the research material.

I _____ have fully understood the aims, methods and conditions to participate in this study fully, I therefore consent my participation.

Student’s Signature

Date

Researcher’s Signature

Date

Appendix D. Ethical Approval Letter



UNIVERSITY OF GHANA

SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES

11th December, 2018.

Ref. No.:

Mr. Safo-Kantanka Nana Kwame,
Dept. of Physiotherapy,
SBAHS,
Korle-Bu.

Mr. Safo-Kantanka,

ETHICS CLEARANCE

Ethics Identification Number: SBAHS – PT./10576949/SA/2018-2019.

Following a meeting of the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Sciences held on Tuesday 11th December, 2018. I write on behalf of the Committee to approve your research proposal as follows:

TITLE OF RESEARCH PROPOSAL: PHYSIOTHERAPY STUDENTS' PERCEPTIONS ON LECTURES' AND SUPERVISORS' CLINICAL EDUCATION ATTRIBUTES.

This approval requires that you submit three-monthly review reports of the protocol to the Committee and a final full review to the Committee on completion of the research. The Committee may observe the procedures and records of the research during and after implementation.

Please note that any significant modification of the research must be submitted to the Committee for review and approval before its implementation.

You are required to report all serious adverse events related to this research to the Committee within seven (7) days verbally and fourteen (14) days in writing.

As part of the review process, it is the Committee's duty to review the ethical aspects of any manuscript that may be produced from this research. You will therefore, be required to furnish the Committee with any manuscript for publication.

This reviewed report is valid till 31st July, 2020.

Please always quote the ethical identification number in all future correspondence in relation to this protocol.

Thank you.

Yours sincerely,



Rev. Dr. Charles Antwi-Boasiako
(Chairman, Ethics and Protocol Review Committee)

Cc: Head, Dept. of Physiotherapy
School Administrator

COLLEGE OF HEALTH SCIENCES

• P. O. Box KB 143, Korle Bu, Accra, Ghana.
• Telephone: +233 (0) 303 972268 / 0303970950 • Email: sbahs@ug.edu.gh • Website: www.sbahs.ug.edu.gh

References

1. McMeeken J. Physiotherapy education — What are the costs? *Aust J Physiother* 2008;54(2):85–6.
2. Goldberg L, Koontz J, Downs D, Uhlig P, Kumar N, Shah S, Clark P, Coiner C, Crumrine D. Infusing an inter-professional and inter-university perspective into healthcare education. *High Educ Res Dev* 2010;29(40):421–31.
3. Fotheringham D. Triangulation for the assessment of clinical nursing skills: A review of theory, use and methodology. *Int J Nurs Stud* 2010;47(30):386–91.
4. Ehsan S, Butt MS, Umar B. Perception of undergraduate physical therapy students regarding the clinical teaching attributes of their clinical instructors. *Biomed Res* 2017;28(3):1091–4.
5. Oyeyemi AY, Oyeyemi AL, Rufai AA, Maduagwu SM, Aliyu HN. Physiotherapy student's perception of their teachers clinical teaching attribute. *Afr J Health Prof Educ* 2012;4:4–9.
6. Bridges PH, Carter VM, Phillips T, Chong H, Conwell R, Hensley B. Competencies for 2020: Revalidation of the curricular competencies of Emory University Doctor Physical Therapy Program. *Univ J Educ Res* 2013;1(3):228–39.
7. Roh H, Rhee B, Lee J, Bae S. Development of task-based learning outcomes according to clinical presentations for clinical clerkships. *Korean J Med Educ* 2012;24(10):31–7.
8. Gouda P, Fanous S, Gouda J, Boland J, Geoghegan R. Paediatric learning in a clinical attachment: Undergraduate medical students' perspectives. *Irish J Med Sci* 2016;185:413–21.
9. Al-Yousuf N. Clinical teachers' evaluation. *J Bahrain Med Soc* 2007;19:154–9.
10. Ernstzen DV, Bitzer E, Grimmer-Somers K. Physiotherapy students' and clinical teachers' perceptions of clinical learning opportunities: A case study. *Med Teach* 2009;31(3):e102–15.
11. Omisakin FD, Igbinlade AS, Simeon KO. Establishing a gold standard for nurse educators in Nigeria. *Saudi J Med Med Sci* 2013;1:15–9.
12. Bennett CL. How to be a good mentor. *Nurs Stand* 2003;17(36):1–14.
13. Melman S, Ashby S, James C. Supervision in practice education and transition to practice: Student and new graduate perceptions. *Internet J Allied Health Sci Pract* 2016;14(3):1.
14. Thomson P, Angus N, Scott J. Building a framework for getting evidence into critical care education and practice. *Intensive Crit Care Nurs* 2000;16(3):164–74.
15. Walker S, Grosjean G. Desired skills and attributes: For dietitian preceptors. *Can J Diet Pract Res* 2010;7(13):809–15.
16. Voges T, Frantz J. Clarifying the role of clinical supervisors according to physiotherapists at a higher education institution. *South Afr J Physiother* 2019;75(1):1–6.
17. Lee JJ, Clarke CL, Carson MN. Nursing students' learning dynamics and influencing factors in clinical contexts. *Nurse Educ Pract* 2018;29:103–9.
18. Perram A, Hills C, Johnston C, Macdonald-Wicks L, Surjan Y, James D, Warren-Forward H. Characteristics of an ideal practice educator: Perspectives from undergraduate students in diagnostic radiography, nuclear medicine, nutrition and dietetics, occupational therapy, physiotherapy and radiation therapy. *Radiography* 2016;22(4):295–305.
19. Chen H, O'Sullivan P, Teherani A, Fogh S, Kobashi B, Cate O., Sequencing learning experiences to engage different level learners in the workplace: An interview study with excellent clinical teachers. *Med Teach* 2015;37(12):1090–7.
20. Ernstzen D. Roles and attributes of physiotherapy clinical educators: Is there agreement between educators and students? *Afr J Health Prof Educ* 2013;5:91–4, doi: 10.7196/AJHPE.252.
21. Yamane T. *Statistics: An Introductory Analysis*. Harper & Row, 1967.
22. Mulholland S, Derald M, Roy B. The student's perspective on what makes an exceptional practice placement educator. *Br J Occup Ther* 2006;69(12):567–1.