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### Session 7

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Introduction:
Why do we assess students? Learning should be authentic, so should assessment be. For the twenty-first century learner, authentic assessment should reflect real-world situations, case studies should promote self-learning and role play facilitated to find their own identity. Currently, second-year students' ability to apply a technique is evaluated in an Objective Structured Clinical Exam (OSCE) format. Students have eight minutes to demonstrate the required technique on a fellow student.

Purpose:
Due to the time limitation only the ability to demonstrate a technique is assessed. Integration of knowledge and technique application to a specific individual are lacking.

Methods:
A case study design was used. Second-year students were given a video essay assignment to replace the specific section in an OSCE examination. Qualitative data was obtained from the reflection after the assignment. The marks (quantitative results) were compared to previous years.

Results:
In the reflection done by students words like 'challenging, problem solving, thinking on my feet and applicable' were used. When comparing the results with previous years a better average as well as a pass rate are noticed.

Conclusion:
Marks were compared to previous years and the outcome was better. In the student reflection words like 'applicable', 'no pressure', 'challenging' and 'practical applicable' were used. Stress levels of students were less. This was replaced by a sense of victory and allowing each student their individual approach and creativity.
An evaluation of the inter-rater reliability of the third year medical students’ clinical skills objective structured clinical examination at the University of the Free State

De Beer V, Nel J, Pieterse N, Snyman A, Labuschagne MJ

**Introduction and aim:**

An Objective Structured Clinical Examination (OSCE) is a performance-based examination used to assess students in medicine and is the closest form of assessing clinical skills with or without using real patients.

The aim of this study was to determine the inter-rater reliability of the final mark allocations during assessment of the third-year medical students’ final OSCE at the University of the Free State.

**Methods:**

This study was a cross-sectional analytical study which included the 24 raters who assessed 145 students. There was a Urology history taking station, a Respiratory examination station and a Gynaecology skill assessment station. Two raters per station, each independently assessed the same student for the same skill by completing their individual assessment rubrics (inter-rater reliability).

The Shrout-Fleiss intra-class correlation was used on the students’ final results to determine whether the rubrics were effective.

**Results:**

For this study, it was decided that a mean score difference with a margin of less than 5% between the final marks that raters allocated was considered as acceptable. 58.3% of rater pairs fell outside the set margin.

The raters disagreed on 52.3% of the Global Rating marks allocated.

A Shrout-Fleiss intra-class correlation of above 0.75 was decided as acceptable and all the stations’ rubrics fell above that.

The Urology History taking station had the lowest mean score, the highest inter-rater reliability and the raters agreed the most on the global rating.

**Conclusion and Recommendations:**

The researchers conclude that the inter-rater reliability should be higher and that the rubrics are effective. The inter-rater reliability can be improved by having two raters assess the same student and using the average mark between the raters or an in depth rubric discussion between the raters prior to the assessment.
Preparing health science professionals for multilingual contexts

Jacobs C, Mhlabeni L, Dyubeni F, Masiba N, Archer E

Introduction:

The Faculty of Medicine and Health Sciences at Stellenbosch University offers discipline-specific language learning through teaching isiXhosa Clinical Communication (XCC) to undergraduate students. These XCC offerings are embedded within various programmes and modules, and aim to improve quality healthcare while promoting isiXhosa communication. In these offerings the students are equipped with isiXhosa intelligible clinical communicative competences and their cultural awareness is augmented. The aim of the study was to understand how the purpose of the XCC offerings were understood; to determine whether the XCC offerings were achieving their purpose; and to make recommendations as to how the XCC offerings might be improved.

Methods:

The study drew on multi-method approaches such as interviews, surveys, focus groups, observations and document scans. All interviews and focus group sessions were recorded, transcribed, coded and analysed through a process of thematic analysis. All questionnaires were summarised and similarly coded and analysed. Classes and assessment events were observed and course documents were scanned and analysed to supplement the transcribed data. The participants included current and past students; XCC facilitators; clinical module lecturers; simulated patients and the external moderator.

Results:

The data revealed seven cross-cutting themes: Purpose, Time, Content, Assessment, Collaboration, Integration, Communication & implementation. These themes will be discussed in detail in the oral presentation.

Conclusion:

Participants valued the collaboration between XCC facilitators and clinical module lecturers, and the resulting integration of isiXhosa and clinical content. However, there were differences of opinion regarding whether the XCC offerings should be embedded in programme modules, or be loose-standing modules in their own right.
Innovative approach to overcoming neurophobia: Exiting medical students’ attitude and perception
Ayannuga OA, Geduld H

Introduction:
Neuroanatomy is a component of Human anatomy and a bedrock of medical training. However, most students find neuroanatomy very difficult to understand due to the enormous material and the spatial complexity involved. Neurophobia attests to the difficulty encountered by medical students in the learning of neuroanatomy and an increase in the number of anatomical mis-diagnosis related complaints in the UK between 1995 and 2000 further reiterate the challenge.

This study is aimed at evaluating students’ perception of possible interventions to enhance their engagement in the teaching and learning of neuroanatomy in a Nigerian University.

Methods:
Ethical clearance was obtained. A questionnaire was developed and validated with questions related to the current practices and future strategies for neuroanatomy teaching. The questionnaire was administered to exiting medical students (n=100). Data was collated and analyzed using descriptive statistics.

Results:
Most students agreed that neuroanatomy is important for medical training, believed that the 3rd year is a good time to teach neuroanatomy, believed that didactic lecture is important for its learning and that time allocated for its teaching is inadequate.

In addition, majority of students are not happy attending neuroanatomy classes while less than half but more than a third felt that neuroanatomy is difficult to understand due to lecturers’ inability to explaining unclear issues and the late commencement of neuroanatomy module. About half of the students perceived that the content is too heavy.

Early clinical exposure, use of clinical scenarios, increased and simultaneous practical sessions, use of power point/models, tutorial sessions and integrated curriculum are suggested ways of improving engagement with neuroanatomy.

Conclusion:
Better engagement of medical students with neuroanatomy will improve practice, a change to the time and style of teaching, curriculum integration, early clinical exposure and use of visual aids should be considered.
Team-based learning to facilitate the shift towards “health care as a team sport”

Heymans Y, Reitsma G

Introduction:

From 2010 the Faculty of Health Sciences at the North-West University included a compulsory module “Understanding the world of health” into all 2nd year health curricula. This implies teaching ± 1100 students from 13 different health disciplines in a 100-minute period, over 11 weeks, in two auditorium style lecture theatres.

Achieving the module’s aim to develop a critical mind-set regarding the world of health by exposing students to diverse disciplinary views and to foster interprofessional peer-learning within this context, pose unique challenges. Kayingo and McCoy Hass (2018) argue that the complexity of the rapidly evolving health care landscape and the shift towards “health care as a team sport”, requires educators to critically reflect on student preparation as health professionals.

Students’ feedback (2017-2018) guided our critical reflection and pedagogical redesign. In this ongoing SoTL research, we aim to satisfy our curiosity to the question: To what extend will the pedagogical redesign enhance student engagement and optimise interprofessional peer learning to better prepare our students as future health professionals?

Methods:

Anchored in a constructivist-interpretivist paradigm with a mixed method approach as strategy of inquiry, the research population comprises of voluntary 2nd year health students. Data collection instruments include a questionnaire, LMS tools, focus group interviews and a reflection sheet. Atlas.ti 8 will be used, and Tesch’s (1990) approach to data analysis will guide the data analysis process.

Results & conclusion:

To reduce the vulnerability of the students as a captive audience, data-analysis will only commence when the lecturers (as researchers) have no further role to play regarding the teaching and the assessment of the students. However, delegates interested in innovative teaching practices, module redesign, student engagement and peer-learning will find this session valuable as it provides both a scientific and practical perspective on a pedagogical redesign.
12:15-12:30  An evaluation of tutor and peer logbook feedback given to undergraduate medical students during clinical skills laboratory training sessions using deliberate practice

Abraham RM

Background:
To promote improved clinical performance, feedback in clinical skills should contain elements that facilitate deliberate practice. Using the theory of deliberate practice, a key component of Ericsson’s theory of expertise development, this study aims to evaluate the quality of written feedback delivered in clinical skills following introduction of a feedback improvement strategy.

Method:
A feedback scoring system was used to retrospectively assess the quality of tutor and peer logbook feedback provided to second and third year medical students to identify deliberate practice components i.e. task, performance gap and action plan. The sample consisted of 1025 feedback responses.

Results:
All three components were observed following directly observed skills in 78% of 2nd year and 82% of 3rd year class. However, the frequency was higher in peer (83%, 89%) than tutor assessments (51%, 67%) in both classes respectively. Average tutor and peer task, gap and action feedback scores ranged from 1.84 - 2.07 and 1.93 - 2.21 respectively. As the level of student achievement decreases, increase in tutor gap and action scores was noted and vice versa in peer scores. The overall quality of feedback provided by the tutor and peer was moderate and less specific (average score < or =2).

Conclusion:
Deliberate practice framework provides an objective assessment of tutor and peer feedback quality. Further, the ratings from the tool can be used as guidelines to provide feedback providers with feedback on the quality of feedback they provided. This includes specifically describing a task, performance gap and providing a learning plan to improve their feedback providing skill. Peers critiquing each other’s work engages them more actively in giving and receiving feedback and encourages them to take more responsibility for monitoring and evaluating their own learning. Peer feedback shifts the challenges of feedback production away from tutors, particularly in resource constrained healthcare settings.
Undergraduate physiotherapy student and ICU clinical educator perceptions of learning and teaching activities during the Intensive Care Unit clinical education block at a South African University.

Karachi F, Mubuuke G

Context:
Evidence for the perceptions of undergraduate students and clinical educators on the learning and teaching activities during intensive care physiotherapy clinical education blocks, is minimal, especially in the South African context. The objective of this study was to explore and describe the perceptions of undergraduate physiotherapy students and clinical educators during the ICU clinical education block.

Methods:
A mixed method sequential explanatory design using an electronic survey, focus group discussions [FGDs] and face to face interviews including items such as the experiences of students, challenges and competencies achieved during the block and recommendations was implemented following ethics clearance. The population included 46 final year physiotherapy students who completed an ICU clinical education block and 3 ICU clinical educators. Descriptive and thematic content analysis was done.

Results:
Survey response rate was 87% (n=40/46). Fifteen students and 3 clinical educators participated in the FGDs and individual interviews respectively. Majority of students were pleased with their experiences on the block, 52% (n=21/40) reported challenges in implementation of the International Classification of Functioning in ICU, 90% (n=36/40) were not aware of other ICU outcome measures and 50% (n=20/40) were not able to contribute to research and advance practice in ICU physiotherapy. While 73% (n=29/40) felt competent in the required skills, 67.5% (n=27/40) reported the duration of the block to be too short to master all competencies. Having a resident physiotherapist in the ICU to assist during block was a strong recommendation (90%, n=36/40). Qualitative data confirmed the reported experiences, competencies, challenges and recommendations.

Conclusion:
While the physiotherapy ICU clinical education block is valuable for gaining experience and competency/skills, some aspects of learning and teaching (simulation based training, pre-block preparation and evaluation, use of outcome measures to assess patient improvements, research and evidence based practice, rotation through different ICUs during training and psychological support) could be further improved.
An exploration of undergraduate occupational therapy students’ experiences of using case study as a teaching strategy to learn about spirituality

Mthembu TG, Rhoda A

Context:
Case study is one of the innovative teaching and learning strategies used in undergraduate curricula to facilitate reflection about spirituality. Spirituality refers to a dynamic and intrinsic aspect of humanity through which persons seeks ultimate meaning, purpose, and transcendence, and to experience relationship with self, family, community, nature and the significant or sacred. It is an element of the holistic and client-centred approaches that are used in occupational therapy (OT). No study exists which focuses on the experiences of students about the use of such case studies.

Objectives:
The study aimed to explore the undergraduate OT students’ experiences of using case study as a teaching strategy to learn about spirituality.

Methods:
An exploratory-descriptive qualitative research approach was followed, using three focus group discussions with second-year students who were recruited through purposive sampling. Six steps of thematic analysis were employed to analyse the transcribed data. Ethical approval was obtained from the institutional Human Social Sciences Research Committee.

Results:
Two major themes were identified. Theme One: “level of sensitivity to understanding of spirituality” with four categories namely understanding of spirituality, benefits of spirituality, spirituality in occupations as well as ethics. Theme Two: “effectiveness of case study as a teaching method” with three categories namely: applicability of a case study, benefits of using case study and practical use and skills learned.

Conclusion:
Case study is one of the teaching and learning methods that appeared to foster learning about spirituality through connectedness with self, real world, other people and peers. Additionally, the case study as teaching strategy enhanced students’ occupational therapy and thinking skills. Moreover, the case study provided an opportunity for students to gain the ability to break things down and interpret all the little pieces one by one as part of scaffolding their knowledge in learning.
Students’ perceptions of interprofessional education and collaborative practice: Analysis of freehand drawings

Botma Y, Labuschagne M

Introduction:
Interprofessional education (IPE) has been proposed as a solution to the human resource crisis in healthcare. Subsequently, health professions regulatory bodies enforce IPE as an accreditation criterium. Many higher education institutions, including the UFS, have incorporated IPE into their curriculum. The purpose of this study was to determine the students’ perspective of interprofessional education and collaborative practice through the analysis of freehand drawings.

Methods:
Fourth-year students of seven professions participated in IPE contact sessions. One of the activities required that each of the 28 small interprofessional groups create an image of their understanding of IPE and collaborative practice. Four of the 28 drawings were randomly selected. Three researchers analysed the drawings according to the steps described by Mey and Dietrich.

Results:
From the drawings, seven themes were identified that match the characteristics and principles of collaborative practice. A salient point was that organisational culture has as much of an impact on collaborative practice as traditional culture. Multiprofessional practice is immanent in clinical practice and training occurs in silos.

Conclusion:
Although higher education institutions currently incorporate IPE in order to promote collaborative practice, its implementation by healthcare services is lagging behind. A theory-practice gap is therefore created that should be addressed by applicable healthcare service policies and guidelines.
Factors that guide the planning of an interprofessional education and collaborative practice curriculum – a scoping review

*Pitout H, Adams F, Du Toit S*

**Introduction:**
Planning an Interprofessional Education and Collaborative Practice curriculum for a University could contribute to preparing collaborative-ready healthcare workers for the potential challenges of 2030. An abundance of literature that guide planning an IPECP curriculum is available. A scoping review was done to examine, map and summarize factors that influence the planning of an undergraduate, context specific curriculum through identification, location, analysis and summary of relevant empirical literature.

**Methods:**
The Joanna Briggs Institute’s method guided the scoping review process. Eight databases were searched from 2008-2018 and 25409 articles were identified of which 657 full text articles were assessed for eligibility to be included. After refining the search and excluding systematic and scoping reviews, 45 articles were identified to be summarised, compared and synthesised using deductive analysis and inductive reasoning.

**Results:**
Different research methodologies were used with including qualitative (n = 21), quantitative (n = 19) and mixed methods (n = 5) studies. A variety of number (from 2 – 10), and combinations of professions and study levels from first to final year students, were found with nursing, medicine and occupational therapy the professions most often included. Most studies were conducted in Australia, USA and Canada. Findings on factors that influence the planning of the curriculum were grouped using the four dimensional curriculum framework including (1) future healthcare needs (e.g. the Healthcare system influences); (2) defining and understanding capabilities (e.g. importance of core competencies); (3) teaching, learning and assessment (e.g. theoretical frameworks, use of technology); and (4) supporting institutional delivery (e.g. logistical factors such as time tabling, faculty buy-in, funding).

**Conclusion:**
The findings of the scoping review could be used by other researchers, the community of practice and policy-makers. The importance of empirical evidence related to planning the curriculum may assist avoiding unnecessary and unforeseen challenges in implementation.
The experiences of third year radiography students with the international classification of functioning documentation form in clinical practice

Kekana M

Introduction:
Clinical history taken from the patient assist the radiographer to identify appropriate projections, recommend other modalities and can help the patient in making an informed choice. The researcher observed that radiographers do patient assessment and take clinical history, but, a) there is no structured or standardised format of taking history; b) some do not make the effort to ensure that the additional clinical history provided would be useful for different categories of healthcare professionals. The aim of the study was to determine if the ICF documentation form can help address the need for a standardised way of taking clinical history in the radiography department.

Method:
This was a qualitative exploratory descriptive study. The education of the students on ICF and the use of the documentation forms in patient assessments and history taking was preceded engaging the students in literature pertaining to patient assessment and taking of clinical history. To guide the students on phrasing the questions, the World Health Organisation – Disability Assessment Schedule (WHO-DAS) 2 was used. Each student had to engage three patients and capture the information on the ICF Core-set-Generic. Ethical approval was granted by the faculty research ethics committee.

Results and conclusion:
The students reported that with regards to their expectations, they were concerned that the process will take too long. On the contrary, the patients appreciated the attention and time taken to gather the full history, which included their working life, participation in different activities and how the environment impacted on these activates. Taking a comprehensive history with the ICF documentation form, resulted in them becoming more empathetic and respectful to patients and their life situations. The ICF documentation form can address the need for standardised history taking in the radiography department.
Interprofessional Collaborative Practice: from the classroom to clinical and community settings.

Waggie F

Introduction:
Whilst interprofessional education (IPE) is supported in theory, it is rarely implemented in clinical and community-based settings at higher education institutions. Most health professional programmes have elements of IPE in their undergraduate curricula but implementing interprofessional collaborative practice (ICP) in clinical and community-based settings is challenging. These challenges include, curriculum, leadership, resources, stereotypes and attitudes, buy-in of students and staff, IPE and ICP concept, supervision and assessment. Evidence from students suggests that the most memorable IPE experience occurred in clinical and community placement settings. Furthermore, findings from a systematic review of health professionals’ experiences of teamwork education revealed that there is a need to move IPE away from the classroom into clinical or community settings. This paper aims to describe a curriculum development process of an interprofessional collaborative practice programme, offered at clinical and community settings for interprofessional groups of senior health science students.

Methods:
The paper describes the curriculum development process, a framework, core principles/strategies that was applied in the design of an interprofessional collaborative practice programme for clinical and community settings.

Results:
An exemplar interprofessional clinical and community based teaching and learning programme for senior health science students and design principles will be shared.

Conclusion:
Interprofessional collaborative practice programmes offered in clinical and community settings is an essential aspect of the learning continuum of interprofessional education. The ICP programme engages students, academic, clinicians and service providers towards comprehensive and effective health care service delivery at all levels of the health system including at a community level.
Using SPs in Interprofessional Education Collaborative Practice (IPECP) ensures authentic learning

Schweickerdt L, Pitout H

Introduction:
Exposing students to Interprofessional Education and Collaborative Practice is one way of preparing future healthcare professionals for challenges in terms of quality patient centred healthcare. Simulated/Standardised Patients (SPs) contribute to assisting students to practise interprofessional skills in a realistic yet safe environment. At the university, SPs were used during a large-scale IPECP week for 650 final year healthcare students. This study took an in-depth look at the specific role/s the SPs adopted during the IPECP week. The aim was to define areas of training for SPs on both the part of “patient” as well as the role of facilitator of learning that the SPs adopted within IPECP sessions of role-play.

Methods:
Following written feedback from students, facilitators and SPs relating to the IPECP role-play sessions, themes were extracted. The researchers also studied the video recordings of the role-play sessions to establish the effectiveness of the SPs’ portrayals of patients as well as the specific roles the SPs adopted pertaining to the facilitation of learning. A scoring sheet was used to evaluate the sessions. Two researchers scored each of the 30 sessions.

Results:
The video recordings and feedback sheets provided valuable information to the researchers on the quality of the role-pay sessions as well as the roles the SPs adopted during IPECP sessions of role-play. The SPs provided relevant feedback to students and in various instances, acted as facilitators of the learning event.

Conclusion:
SPs play an important role in portraying the role of a patient or family member that contributes to patient centred care and enables facilitation of the learning event.
**Towards authentic people centred care and epistemic justice: Consciously rupturing our historical practices of the present**  
*Rauch-Van der Merwe T*

**Introduction:**

People centred care entails efficient and effective health care that is contextually relevant for health care recipients. In order for the person to be at the centre, and for the health care provider to avoid epistemic injustice, the person must be acknowledged as a legitimate bearer of truth, of knowledge and of accurately interpreting her/her context. However, most health care curricula (in South Africa) have their historical origins within the height of colonialism and/or apartheid. In Foucauldian terms, any profession/discipline, at the moment of it attaining the status of science, carries the markers of the historical discriminators of that time, including who is rendered as legitimate knowers in terms of e.g. race, gender and class. These are carried over into formal knowledge such as curricula.

The two-fold aim of this PhD study was to provide a disclosing critique of how the socio-politico historical construction of the occupational therapy profession generated certain patterns of inclusion and exclusion, and how such patterns are sustained within a certain curriculum.

**Methods:**

This study is anchored in critical theory and Foucauldian discourse analysis. Data collection for archaeology comprised of historical archive about the origin of occupational therapy profession. For the analysis on the repetition of inclusionary/exclusionary patterns (genealogy), 30 sets of relevant contextual data were drawn upon. A discourse analytical method for each of the analyses was constructed from Foucauldian theory.

**Findings:**

The archaeology findings revealed the markers for inter alia white exceptionalism, essentialisation of female gender through patriarchy, as well as the wide-spread Christian missionary and welfarist underpinnings of ‘community based development’. The genealogy findings show evidence of repetition of some patterns through rationalisations of moralism and professionalism that reify epistemological ignorance.

**Conclusion:**

For health care practitioners to practice authentic person-centred care and to avoid epistemic injustice, indictors for meta-cognitive historical reflections must be assimilated in curriculum structure and pedagogy.
12:30-12:45  Estimation of radiation dose from brain computed tomography scans in a tertiary hospital in South Africa.

Nyathi M, Shivambu GI

Introduction:
The introduction of the multi-detector computed tomography (MDCT) scanners increased the demand of CT examinations particularly the head scans. The MDCT scanners relies on x-rays (ionizing radiation) while acquiring detailed high resolution images within seconds. The MDCT scanners have eliminated the need of anesthesia when imaging the very unwell children. Despite patient benefits, concerns have arisen on substantially high dose delivered to patients during head scans since ionizing radiation is known to increases the risk of cancer. This study aimed at evaluating the dose delivered during head CT examinations in a tertiary hospital in South Africa.

Methods:
A retrospective review of 100 randomly selected adult patients (males and females) who underwent head CT from 1 January 2018 to 30 June 2019 in a tertiary hospital in South Africa. Digital patient files of the Phillips MDCT scanner were used to extract the dose length product (DLP) and the volume computed tomography dose index (CTDIvol) for each patient scan. The mean values of the DLP and the CTDIvol dose parameters were calculated using SPSS version 24.

Results:
A mean DLP value of 766.62 mGy.cm was established. This value accord well with the DLP value obtained in the Kingdom of Bahrain (760 mGy.cm) and also compared well with the United Kingdom value (895 mGy.cm). However, it was much lower than values established in Egypt (1000.5 mGy) and Italy (1086.0 mGy). The CTDIvol (32.16 mGy) established compared well with 28.8 mGy established in Egypt. However, it was found to be lower than values established in Ireland and Italy (64 mGy).

Conclusion:
The radiation doses administered to patients during head scans in the selected tertiary hospital was lower than some international values. However, there is no dose that can be considered as safe hence optimization of protocols is encouraged.
Teaching empathy to medical students in a resource constrained environment

Harmuth K, Archer E, Meyer I

Introduction:
Empathy plays a key role in effective communication between doctors and their patients as it positively impacts patient outcomes. We acknowledge that empathy is about more than an attitude, there are some skills that can be taught to students to behave in an empathic manner. Following a scoping review of educational interventions to enhance empathy, a variety of interventions, such as, a didactic session, standardized patient (SP) case scenarios, listening exercise, a practical perspective-taking exercise, a meditation and self-compassion exercise as well as a reflection session was incorporated in the 3rd year Undergraduate medical curriculum, as part of the clinical skills module.

The aim of the study was to evaluate the newly implemented teaching sessions.

Methods:
This study followed a qualitative research approach, with an interpretivist paradigm. Data were collected from three focus group discussions with students. The data were deductively analysed and four themes related to the specific educational interventions then emerged.

Results:
Students found the sessions challenging, but exciting, valued the feedback, the focused attention of small group work and expressed the efficacy of the various interventions. While the students valued the sessions with the simulated patients, new challenges arose, such as, adequate training of SP’s, as well as the provision of feedback. Some students verbalised that they were so inspired that they immediately applied their new skills during clinical practice.

Conclusion:
The students confirmed that the various interventions complimented one another well and were relevant and valuable opportunities to enhance empathy. They highlighted the need for reinforcement in future. Therefore, lecturers need to ensure that a variety of teaching and learning strategies are longitudinally incorporated into an undergraduate medical curriculum. While it seems as if these interventions were successful, follow-up research is needed to establish if students apply the skills taught in clinical settings.
Holistic assessment: Creating a tool to assess paediatric interns in a high disease burdened context

*Naidoo KL, Van Wyk JM*

**Context:**

Work-based assessment practices during internship focus on procedural clinical skills and neglect non-clinical skills. A high disease burden exacerbates this discordance in assessment and stunts the development of holistic health-care practitioners. Best practices in postgraduate assessment support assessing multiple competencies in both clinical and non-clinical skills.

**Objectives:**

To develop a framework for the comprehensive assessment of multiple competencies required of South African (SA) Paediatric interns in high childhood disease burdened contexts.

**Methods:**

Using a mixed methodological approach, the study sampled 10 senior intern supervisors and 409 interns across 4 hospital complexes in KwaZulu-Natal. Data collection methods included focus groups discussions, surveys and a Delphi technique. A 4-round, modified Delphi-process was followed to determine a set of core competencies required of Paediatric interns in high disease burdened contexts. The assessment tool developed using these competencies, was validated through factor analysis, and internal consistency was measured with Cronbach’s alpha.

**Results:**

A competency tool was developed based on multiple competencies that include both clinical and non-clinical skills. This tool was found to be very reliable with an overall Cronbach’s alpha of 0.927. Factor analysis for the instrument revealed 61 items that measured 4 major factors. These factors corresponded with procedural skills; clinical skills to ensure holistic care; intrinsic emotional skills and self-management skills. These skills correlated with existing competency frameworks and reflect a balance between cognitive and emotional intelligences.

**Conclusion:**

A locally relevant competency based tool was developed in SA to assess paediatric interns. This tool was found to be a reliable and valid for use in high disease burdened contexts. The validated tool’s function as a multidimensional instrument to assess both clinical and non-clinical skills emphasises the assessment of multiple competencies. This comprehensive tool encourages sound assessment practices and has the potential to support the development of holistic healthcare professionals.
Nursing educators’ perception regarding curriculum reform in Namibia

Benjamin AG, Louw AJ

Introduction:
Curricula in health professions education need to be continuously updated and reformed to enhance institutions in producing graduates that are relevant and that meet the needs of the society. In Namibia, nursing education institutions use a traditional content driven teacher-centred curricula for the training of nurses. The curriculum is strongly based on the curriculum of the pre-colonial era. Consequently, the current curriculum may not be able to meet the needs of students, educators, other stakeholders including the community. In the process of curriculum reform, the perception of educators about curriculum reform are essential in the understanding, implementing and sustaining of it. The objective of this study was to explore nursing educators’ perceptions regarding nursing curriculum reform in Namibia.

Methods:
A descriptive qualitative research design guided the study. Data were collected through three focus group discussions. Eighteen nurse educators who were conveniently sampled from three training centres participated in this study. Data was transcribed and inductively analysed to generate themes.

Results:
Four themes emerged in this study:
Understanding curriculum reform: No clear understanding amongst nursing educators of what curriculum reform entails.

Forces behind curriculum reform: The perception that curriculum reform is driven by changes in health care practices

Process of curriculum: Curriculum reform process should be done methodologically using expert guidance and involving all stakeholders.

Hindrances to curriculum reform: Lack of leadership among educators and political will.

Conclusion:
Curriculum reform should take place in Namibia to align nursing education with the current health care needs of the country. However, the lack of common understanding of what curriculum reform is and other forces that can work against reform, should be addressed.
Clinical teaching of undergraduate nursing students: Are the nurses at Arua Regional Referral Hospital in Uganda ready?

**Drasiku A, Nyoni C, Gross JL, Jones C**

**Introduction:**
Degree programs for Nursing inculcate critical thinking and clinical reasoning, which are essential skills for all healthcare professionals. The quality of clinical teaching determines the nurses’ ability to offer good care, however, this teaching is often challenging. A 4-year nursing degree program was established at Muni University in Uganda, in 2016. The first cohort from this program started clinical placements in August 2018. Nurses on the wards are involved in the supervision, however, most of them have qualifications lower (diploma or certificate) than the students. This study therefore explored the perceptions of nurses regarding their readiness for clinical teaching of undergraduate nursing students at Arua Regional Referral Hospital (ARRH).

**Method:**
A qualitative descriptive research design was conducted among 33 conveniently sampled nurses from ARRH who had been supervising student nurses and Interns. Five focus group discussions and three informant interviews were used to generate the data. Data were transcribed verbatim and analyzed using an inductive approach through thematic analysis.

**Results:**
The majority of the nurses (n=30) had diploma or certificate level qualification. Three themes emerged namely; “insecurities in teaching undergraduate students” such as fear of the students being more knowledgeable and undermining the nurses; “preparedness in teaching undergraduate students” because the hospital have been conducting clinical teaching though they were not trained to be clinical teachers; and “clinical teaching environment” characterized by inadequate facilities, understaffing, too many students and heavy workload.

**Conclusion:**
Practicing nurses have adequate experience, therefore involving them in clinical teaching of nursing students helps to narrow theory–practice gap. Nurses at ARRH expressed insecurities, limited preparedness and a challenging clinical environment in executing their role as clinical teachers. Contextually relevant preceptorship programs and provision of the necessary resources for clinical care by the government are needed to enhance their preparedness as clinical teachers for undergraduate nursing students.
Resilience, burnout and coping in undergraduate medical students  
*Van der Merwe LJ, Botha A, Joubert G*

**Introduction:**
Medical students are at risk for burnout due to various stressors, and need resilience to thrive despite adversity. Effective coping strategies should contribute to their well-being. The aim of this study was to investigate resilience, burnout and coping strategies among undergraduate medical students at the UFS.

**Methods:**
A cross-sectional study was done using an anonymous self-administered, validated and standardised questionnaire. Quantitative data were collected including demographic and associated information, resilience (Connor-Davidson Resilience Scale), burnout (Copenhagen Burnout Inventory) and coping strategies (Brief COPE). Ethical approval was obtained.

**Results:**
Five-hundred students (n=270 pre-clinical, response rate 79.2%; n=230 clinical, response rate 62.0%) completed the questionnaire. Burnout mean scores for pre-clinical and clinical students, respectively, were 17.9 and 17.4 (personal), 22.3 and 21.9 (work-related) and 24.8 (patient-related; clinical students only). High scores on the subscale reflect low levels of burnout in related areas. Significantly lower burnout levels were seen in males and students with high self-reported resilience and low stress. The majority of students self-reported high resilience (84.6% pre-clinical; 91.8% clinical) and had high mean resilience scores (72.5 pre-clinical; 75.4 clinical). Clinical students were more resilient, while black pre-clinical, first generation and female students’ had lower scores. Most students had average to high reliance on adaptive coping strategies (active coping, instrumental support, positive reframing, religious coping). Pre-clinical students had average to high reliance on emotional support, planning and humour, and clinical students on acceptance. Students had low reliance on substance abuse or behavioural disengagement, and average to high reliance on self-distraction.

**Conclusion:**
This study showed that students had low burnout levels, high resilience scores and most self-reported high resilience. They relied on adaptive coping strategies. To prevent burnout and foster resilience, supportive learning environments should focus on reducing stress, creating awareness of healthy options and empowering students to develop adaptive coping skills.
The extended curriculum degree programme in medicine at Sefako Makgatho Health Sciences University: A successful transformative model of the medical landscape in South Africa

Nyathi M, Mntla PS, McNeil RT, Green-Thompson I, Mosebo B, Marvey B

Introduction:

Medicine traditionally attracts applicants with high academic performance in science related subjects (Physical Science; Life sciences; and Mathematics). Students from privileged backgrounds who attend best resourced schools (quintiles 4&5) are advantaged over those who attend poorly resourced schools (quintiles 1&2) during the selection process. Students attending poorest schools matriculate with minimum entry requirements. Increased funding of poorest schools and introduction foundation programs in universities seeks to address this inconsistency. Sefako Makgatho Health Sciences University (SMU) offers a Foundation medicine degree program (MB ChB-ECP). Talented students from quintiles 1&2 schools who achieve minimum entry requirements in either Mathematics and Physical Science or Life Sciences are prepared over one year in Anatomy and Physiology, Biophysics and Numeracy, Biology, Biochemistry, English and Study Skills. The study assessed throughput of SMU medical students gaining entry through MB ChB-ECP.

Methods:

A retrospective review of academic records of medical students at SMU who gained entry to the MB ChB-ECP. These data were analysed to assess overall performance and throughput of this cohort of students.

Results:

381 students gained access to medicine at SMU through MB ChB-ECP from 2010 to 2018. Three cohorts have since graduated. Of the 54 enrolled MBChB-ECP 2010 cohort; 24 graduated in record time in 2016; 13 graduated in 2017; 13 in 2018 and 2 de-registered while 2 transferred to other programs at SMU. Of the 50 MBChB-ECP 2011 cohort, 38 completed in record time (2017); 3 graduated in 2018 and 9 remain within the system. Among the 45 MBChB-ECP 2012 cohort, 35 completed in record time (2018); 1 transferred to other programs while 9 remain in the system. The top three achievers in the final year of study, in all cohorts attained an average of 70% from foundation year to final year of study.

Conclusion:

A Foundation program successfully prepares students from under resourced schools for a career in medicine. Good mix of Foundation courses that enable students to express their full potential coupled with tutors with passion; empathy and insight into their needs profoundly affect their success.
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<tr>
<th>Time</th>
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<td>12:15-12:30</td>
<td>Supporting nursing students in decentralised learning platforms in Lesotho: Towards a sustainable strategy</td>
<td>Masava B, Nyoni CN</td>
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**Background:**
Decentralised learning platforms, such as health centres, offer nursing students an opportunity to attain competencies aligned with society needs. A competency-based curriculum underpinned by primary healthcare was adopted for nurse education in Lesotho. According to this curriculum, the clinical education of nursing students involves prolonged placements at health centres scattered throughout Lesotho. Contextual complexities, such as topography and limited resources, limit the quality of support nursing students receive during such placements. This study sought to design a strategy to support the clinical reasoning of nursing students at decentralised platforms in Lesotho.

**Methods:**
The Social-Cognitive Theory underpinned this multiple methods study, executed in two sequential phases. The initial phase integrated strategies for supporting clinical reasoning of nursing students through a literature review. In the subsequent phase, an interactive workshop involving 10 participants affiliated with one School of Nursing in Lesotho, was used to design a strategy to support the clinical reasoning of nursing students in decentralised platforms incorporating the findings of the initial phase.

**Results:**
A collaborative, conversational and interactive approach informed the strategy. Critical clinical incidents drawn by students from their experience within the health centres were to be discussed on a social media platform at specific times. Educators were expected to moderate such discussions through guiding the clinical reasoning process of the presented case.

**Conclusion:**
Limited resources limit the amount of support student nurses receive in decentralised platforms. This study proposes a strategy that could be used by nursing education institutions to support the clinical reasoning of their student nurses in decentralised platforms. This strategy integrates literature, the context and experiences of clinical educators.
**Development of competence in nursing students**

*Munangatire T, McInerney P*

**Introduction:**
This study investigated student nurses’ conceptions of development of competence in a nursing programme. The development of competence among student nurses is important to nurse educators, nursing regulatory bodies, employers and patients, however student nurses’ level of competence at the point of graduation remains below expected standards.

**Methods:**
A qualitative phenomenographic approach was applied to the study to identify the students' conception of development of competence. Forty-nine (49) participants (lecturers, clinical instructors, nurses and student nurses) were purposively sampled to take part in the study. Data were collected through in-depth interviews and focus group discussions. The analysis of data followed the process of familiarisation, condensation, comparison, grouping, articulating labelling and contrasting of excerpts in order to generate the outcome space.

**Results:**
Five qualitatively different conceptions emerged showing the learning processes the students adopted in the development of competence. The conceptions hierarchy from less complex to the most complex were; familiarisation and memorisation, strategic learning driven by assessment or facilitator requirements, learning for application and understanding, learning for clinical practice and learning for positive patient outcome. These categories correspond to the students’ level of understanding of competence which ranged from understanding competence as; task completion, passing assessments/satisfying facilitators, applying theory to practice, performance of nursing according to clinical standards/guidelines and performance that yields positive health outcomes.

**Conclusion:**
The study revealed that the deeper students understood competence, the deeper the learning approaches they adopted. If students adopt deep learning approaches early in their learning programme, they are more likely to develop competence before or at the point of graduation.
Introduction:
This paper describes a research investigation into what undergraduate curriculum changes would better serve those optometrists choosing to work in South Africa’s public sector. Nationally, an inequitable provision of eyecare in private and public sectors is exacerbated by a disproportionate number of optometrists practicing in the former category. It is argued that colonial remnants of optometric education ingratiated into current training produces graduates primed for private practice. Despite limited rural/public health exposure in undergraduate training and no compulsory community service, some optometrists choose to work in Government health institutes. To this end, not much is known about the appropriateness of the current optometry curriculum from those currently serving in the public sector. Less is known about the conceptual paradigms used by undergraduate curriculum designers.

Methods:
A critical theory approach will be used to explore how the current optometry curriculum perpetuates power relations in its design, implementation, assessment and evaluation. A qualitative, case study methodology, involving seldom heard stakeholders (public sector patients and optometrists, final year students), will be used to explore the various applications of the curriculum as experienced by them. Along with document analysis, educators involved in curriculum design will be interviewed, to triangulate feedback from participants.

Results:
These stakeholders will offer unique perspectives on curriculum design components: patients providing a clinical service perspective, public sector optometrist offering retrospective reflections on their training. Final year students will offer a learner’s perspective on their engagement with the curriculum while from University educators context and understanding to undergraduate training will be obtained.

Conclusion:
A critical theory approach to health science education can explore the roles played by schools, educators and curriculum contributors in constructing power relations in an inequitable society (Hodges, 2014). Multiple stakeholder engagements can provide a holistic view into curriculum change needed to improve undergraduate education enabling a better public optometric service.
13:00-13:15 Experiences of Foreign Medical Graduates (FMGs), International Medical Graduates (IMGs) and Overseas Trained Graduates (OTGs) on entering developing or middle income countries like South Africa: A Scoping Review

Motala MI, Van Wyk JM

Introduction:
Foreign Medical Graduates (FMGs) have continued to render effective health care services to underserved communities in many high and middle income countries. In rural and disadvantaged areas of South Africa, FMGs have alleviated the critical shortage of doctors. FMGs experience challenges to adjust to new working environments as they have studied and obtained their medical qualifications in a country that differs from the one where they eventually choose to practice. This scoping review aimed to synthesise literature about the experiences of FMGs upon entering a host country and the factors that facilitate their adjustment to the new context.

Methods:
The systematic review was performed to analyse articles from an initial scoping of published literature on the experiences and adjustment of FMGs between 2000 and 2016. Searches were conducted through MEDLINE and PUBMED on keywords that included “foreign medical graduates”, “experiences “adjustment”; “adaptation” and “assimilation”. The database searches yielded 268 articles and a further 3 were identified through other sources. The number of articles were reduced to 20 after the removal of duplicates and the application of the exclusion criteria. A qualitative thematic analysis was performed.

Results:
The searches revealed an overall lack of studies on the experiences and adjustment of FMGs from the African continent. FMGs faced professional barriers; lacked country-specific knowledge and experienced stress when practicing in a new location. They attributed their successful adjustment to innate personal characteristics including a persistent attitude and the use of various coping strategies. Other facilitating factors included early orientation; professional and personal support.

Conclusion:
The review highlighted the need for research from developing and middle-income countries and for an increased awareness of the challenges and enablers to help FMGs adjust to new clinical settings.
Facilitators and barriers to implementing an interprofessional education point of care simulation activity for health care workers in a tertiary hospital

Jansen M, Waggie F

Background:
Healthcare providers are required to manage patients as part of a team, however often traditional teaching is done within specific professions. The World Health Organization (WHO) defines Interprofessional education (IPE) as ‘when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes”. The use of IPE to facilitate effective teamwork in healthcare is not novel and has been around for many decades. Point-of-Care simulation has evolved as a form of simulation, distinct from simulation that is conducted in a simulation centre. Exploring the facilitators and barriers to implementing an interprofessional education point of care simulation activity for health care workers in a tertiary hospital could provide important insights for successfully implementing an interprofessional education point of care simulation activity.

Aim:
The aim of the study is to explore the facilitators and barriers to implementing an interprofessional education point of care simulation activity for health care workers in a tertiary hospital in Cape Town.

Methods:
The study used a qualitative approach design, and comprised of three focus group discussions with healthcare professions and one semi structured interview with a clinical educator. The healthcare professionals participated in an interprofessional point of care simulation and afterwards were invited to participate in a focus group discussion. A total of seventeen (17) healthcare professionals which included medical doctors, nursing staff, and a clinical technician participated during the focus group discussions. The data from the focus group discussions and semi structured interview was analysed using thematic analysis.

Results:
Health care professions identified shortages of staff, poor communication, lack of available time, and unfamiliarity to the simulation equipment as potential barriers to implementing an interprofessional education point of care simulation activity for health care workers in a tertiary hospital. Having good relationships with the hospital management, having scheduled training time, and good communication between the various stakeholders were identified as potential facilitators to implementing an interprofessional education point of care simulation activity. The healthcare professionals also felt that participating in the interprofessional point of care simulation activity had the potential to improve their knowledge and confidence, improve
teamwork amongst the various professions, and empowered the nursing staff. The clinical educator identified unfamiliarity, and availability of simulation equipment; resistance from staff, and the unpredictability of the working day as potential barriers to implementing an interprofessional education point of care simulation activity. Having a good relationship with the hospital management and staff, as well as clarifying the potential benefits of an interprofessional education point of care simulation activity was identified as potential facilitators.

**Conclusion and take-home message:**

Healthcare professionals’ feedback regarding the facilitators and barriers to implementing an interprofessional education point of care simulation activity for health care workers in a tertiary hospital can provide valuable insight for implementing such an educational activity. Good communication between the various professions as well as the necessary knowledge and skills and the availability of equipment is crucial to ensure successful implementation.
11:10-11:15  Talking the talk: Are Therapeutic Sciences students confident and competent in using medical terminology?

*Van der Linde J, Keller L*

**Introduction:**
Medical terminology provides a shared language in the South African health sector that allow healthcare workers to communicate effectively, promoting interprofessional education and collaborative care, particularly for the growing number of non-first language English-speaking students. The objective of this study was to explore students’, perception of their knowledge and skill and their ability to learn medical terminology. Further objectives focused on their need for extra support for learning medical terminology and to identify which resources students would prefer.

**Methods:**
A mixed method, exploratory research design was used. Data was collected from 4th year Nursing, Occupational therapy and Physiotherapy students using a questionnaire and focus group discussion. Lecturers completed an open-ended questionnaire for triangulation of data. All participants provided informed consent for this Ethics approved study.

**Results:**
A response rate of 20% was achieved for the online questionnaire (n=77). More than 60% of students find it easy to learn, read, communicate in and write, medical terminology. Fourth year students reported that using medical terminology is more challenging in the clinical setting, due to differences in pronunciations, abbreviations, ward preferences and discipline-specific conventions. 79% of participants indicated a need for support and guidance in the correct use of medical terminology, through the availability of interactive online resources and/or terminology charts within specific wards. Lecturers emphasized the importance of teaching terminology as an integrated component in classes and at the bedside (25%).

**Conclusion:**
Although students feel confident in their ability to learn and use medical terminology, they feel less confident doing so in clinical settings. Students require additional support from lecturers and supervisors in clinical settings to collaborate confidently with other healthcare professionals. Phase 2 of the study will focus on developing an interactive and collaborative glossary using the Learning Management System.
Introduction and aim:
Medical students are under immense academic stress. Campus unrest can contribute to added stress and influence academic performance, social behaviour, emotional stability and financial expenses. The aim of this study was to investigate the effects of the #FeesMustFall2016 on the 2016 semester 6 medical students during clinical training, at the University of the Free State.

Methodology:
In part 1 of the project anonymous questionnaires were completed by the students that experienced physical test disruption and adjusted training during #FeesMustFall2016. Opinions regarding academic performance, financial expenses, behaviour changes and stress levels were gathered. The students also completed a formal Post-traumatic stress screening assessment. In part 2 of the project the academic performance of these students was compared with students not affected by #FeesMustFall2016, namely semester 6 students in 2015 and 2017.

Results:
87% of the target population of 138 students completed the questionnaires. Three quarters reported a negative effect on academic performance and most did not believe that the delivering of lectures on Blackboard was a good way of training. Alcohol consumption increased in 30% of the respondents. Criteria for Post-traumatic disorders were met in 12.7% of respondents. Compared to previous and later cohorts of students there were no clear differences regarding marks but there was a tendency towards poorer performance and more failures the next year.

Conclusion:
Semester 6 medical students at the UFS reported that the #FMF2016 protests had a negative effect on academic, social, financial and stress aspects. Post-traumatic stress disorder was present in 12.7% of students compared to 7.8% in similar populations.
Introduction:
Radiographers are healthcare professionals who produce images of internal organs so as to provide a diagnosis or treatment for different clinical conditions. By virtue of their role in healthcare service delivery, radiographers can be said to be at the centre of patient management. The aim of international classification of functioning, disability and health (ICF) is among others, to establish a common language for describing health and health-related states in order to improve communication between the different users. ICF also provides a description of situations with regard to human functioning and its restrictions and serves as a framework to organise this information. It is therefore important that radiographers develops good patient assessment and evaluation skills. The aim of this presentation is to outline the stages taken in the education of radiography students on the ICF and how this can be used in patient assessment and clinical history taking.

Methods:
An exploratory descriptive qualitative research design was used. The students were first asked to discuss what they observed in the clinical department with regards to patient assessment and taking of clinical history. Secondly they were asked to read research literature on the same subject. They were then divided in six groups and each was allocated a clinical condition. Each student was further given three ICF Core_Set_Generic to capture the information from three patients. The World Health Organisation – Disability Assessment Schedule (WHO-DAS) 2’s questioning style was used. Ethical approval was granted by the Ethics committee in the Faculty of Health Sciences. Content analysis was used.

Results and conclusion:
The use of the ICF provide a standardised way of questioning that forces one to go through issues of body structures or mobility, participation as well as how these are impacted by the environment the patient is in.
A framework for the integration of simulation in the South African undergraduate physiotherapy programme: a narrative systematic review

Van der Merwe A, Barnes, RY, Labuschagne MJ

Introduction:
Published frameworks regarding the use of and or integration of simulation in healthcare education all vary in terms of the adapted area, integrated simulation modalities, important elements identified for inclusion as well as preceding frameworks utilised. The majority of frameworks were designed for developed countries, with few frameworks or recommendations published for developing countries. Developing countries, of which South Africa is one, might experience challenges, when adopting strategies designed for a developed economy as contextual research is essential. No South African research pertaining to simulation use within physiotherapy education could be found, highlighting the need for the development of a proposed conceptual framework for simulation integration within the South African undergraduate physiotherapy programme.

Methods:
A non-experimental descriptive research study by means of deductive content analysis was performed. The researcher reviewed all English, full-text national and international publications between 2005 and 2017 presenting a framework for the integration of simulation within healthcare curricula. All databases available to the University of the Free State, including grey literature, were searched and yielded 487 texts. A total of seven frameworks satisfied the inclusion criteria and were included in the final review. The included frameworks were analysed by the researcher and cross-checked by a research assistant to ensure data accuracy.

Results:
The identified 24 elements were grouped under four framework themes namely planning, implementation, evaluation and revision. The design of the simulated-based activity and available resource consideration were mentioned in all included frameworks, however only 14% of the frameworks mentioned the execution of a needs analysis when planning the integration of simulation in a programme. Stipulating and aligning programme, module and individual session learning outcomes were included in 86% of the frameworks. The importance of including debriefing in the proposed framework was evident and categorised as a critical part of all the included frameworks. The need for a method of programme evaluation was mentioned in 71% of the frameworks, with only 29% of included frameworks making specific mention of the review phase following programme evaluation.
Conclusion:
The study identified themes and elements which should be considered when designing a framework for the integration of simulation in a healthcare programme. The study formed the baseline for a Delphi survey where the identified elements were reviewed by experts in healthcare education, simulation and physiotherapy educational fields to construct a proposed conceptual framework for the integration of simulation in the South African undergraduate physiotherapy programme.
Experiences of first-year nursing students during home visits at the University of Fort Hare, Eastern Cape, South Africa

Gosangaye N, Mostert K

Introduction:

Tertiary education centres are encouraged to collaborate with local communities. One teaching-and-learning strategy to reach out into communities is home visits. The Community Nursing Science module, University of Fort Hare, includes home visits. The aim of this study was to explore and describe facilitators and challenges of first-year students during home visits, and to establish strategies for improvement.

Methods:

An explorative, descriptive, qualitative research approach was followed. Four focus groups were conducted with purposively selected 2017 and 2018 first-year nursing students. Data were thematically analysed.

Results:

The twenty-four students who participated reported that home visits were a valuable learning experience. Four themes emerged: 1) relevant issues learnt about, 2) the nature of the learning opportunity, 3) the organisation of the home visit, and 4) conditions for success.

Students learnt about the importance of communication, contextual and cultural factors.

The nature of the visit was enhanced when students worked in groups. Hindrances included a focus on assessment of clients, exclusive English questionnaires and students being younger than family members.

Students recommended that a follow-up visit to better build trust is organised. They also wanted an older person to accompany them. Some students found the visits traumatic, and therefore adding a debriefing session, may be needed.

Basic knowledge about common diseases enhanced the success of the home visit. However, success was hindered when families had false expectations, e.g. some wanted groceries. The lack of equipment, like glucometers, limited the possibility of relevant screening.

Conclusion:

Home visits was a valuable learning opportunity. Students reported both facilitators and challenges to learning. With basic equipment students would be able to screen clients and not only assess. Recommendations emerged for better organisation of the visit, and to put conditions in place for success. A next step would be to investigate the perspective of the clients.
Reliability of high stakes assessments: A preliminary foray into the use of G-theory

Bocchino L, Delport R

Introduction:
Ensuring good assessment practice is crucial to producing competent graduates. Valid, reliable assessments are vital for high stakes decisions. There is a lack of reliability evidence for high stakes assessments in the clinical rotations of our undergraduate medical programme.

Generalizability (G) theory is a powerful tool to assesses reliability, and inform strategies to optimize assessments.

The aim of this study was to evaluate the reliability of high stakes clinical assessments in 3 major clinical disciplines in the final year of our undergraduate medical programme using G-studies.

Methods:
A retrospective review was done of the ‘end of rotation’ assessments for three clinical disciplines identified as Discipline (D) A, B and C - during 2017 for final year medical students.

For DA and DB three clinical cases were included in the G-study. For DC, a 10-station OSCE was used for the G-study. Design (D) studies were also performed to determine the number of assessment encounters necessary to achieve acceptable reliability.

Results:
Marked variability in reliability was observed within all three disciplines across rotations (G-coefficients: 0.279 – 0.735 overall). The respective median (range) reliability for DA, DB and DC were 0.49 (0.45-0.74), 0.47 (0.3-0.65), 0.47 (0.28-0.65).

None of the disciplines achieved a reliability of ≥0.8, required for high stakes assessments. The number of clinical cases required to achieve adequate reliability ranged from 5-20 per assessment event.

Conclusions:
The reliability of high stakes final year assessments appears to be lacking, and the number of assessment encounters required to achieve acceptable reliability is not feasible in our current system. This would support the consideration of alternative assessment methodologies such as workplace-based and programmatic assessment.

The complexity of G-theory and designing appropriate studies requires a significant amount of expertise and consultation however, which is sorely lacking in our local context.
11:40-11:45   Using a massive open online course to teach the principles of deceased donation: It’s place in the world

*Thomson D, Waggie F*

**Introduction:**
Developing countries have insufficient resources to educate health professionals in the skills to identify and support potential organ donors and their families. Massive Open Online Courses (MOOCs) offer a method of educating on a large scale about best practices in deceased organ donation. This study described the uptake, progression, demographics and perceptions of students who completed a MOOC on organ donation offered by an African university via a global platform.

**Methods:**
A retrospective descriptive analysis was undertaken of participant survey, course completion and learner feedback data collected from all participants of the monthly 4-week course; “Organ Donation: From Death to Life” offered from July 2017 to December 2018.

**Results:**
Of 10,601 unique views on the signup page 2,027 enrolled and 1,277 participants started the course. The largest number of participants were from South Africa 31.8%, followed by the United States 18.1% and India 6%. Most students were younger than 34 years (73%) and women (64%). Half of participants (50%) were not formally studying and 23% of participants were unemployed at the time of enrolment. A total of 381 participants (29.8%) completed the course. Of the 81 ratings received, an average rating of 4.8 out of 5 was received. Of 15 learner reviews and 13 learner stories all but one was positive.

**Conclusion:**
Organ donor education projects using massive open online learning platforms offer an effective means to reach a potentially large and diverse audience. Reviews of a culturally sensitive topic focused on the science behind organ donation, the ethics and the practicalities of the donation process are overwhelmingly positive. Content generated in Africa is consumed more by an African audience.
27 June 2019, Thursday
Session 4
Foyer - Innovative teaching and learning strategies
Poster Presentation

11:45-11:50  Edible integumentary models in anatomy education. Gross or groovy?
Brits JS, Reitsma G

Introduction:
Anatomy is a challenging subject to teach and learn, because of detail and the 3 D cognitive skills that are required. In academic programmes, anatomy is facing diminishing teaching time and challenges with regard to cost effective and realistic training models. Modelling techniques can be valuable for creating 3 D representations of anatomical structures in contrast to only drawing which is 2 D in nature. To counter memorization of labelled structures, encourage deep learning and active engagement with the histology of the integumentary system, a creative modelling activity for students is proposed.

Methods:
The guidelines for implementing artistic learning approaches in anatomy education by Keenan and co-workers (2017) were used to assist in developing the following:

Students will be expected to design and make an edible integumentary (skin) cake, using food ingredients, within a certain period of time and video recording the process. The cake must represent the different layers of the skin and structures in the skin. It has to be anatomically correct in terms of structure (thickness of the specific layers), texture (smooth, rough, translucent) and sequence of layers with embedded appendices such as hair. The learning experiences of the students will be investigated through analysing video recordings, self-reflection, peer evaluation and content assessment. External evaluation by an anatomy expert will complete the learning experience.

Conclusion:
It is predicted that the students will learn more effectively due to the combination of pedagogical resources that involves multiple sensory experiences.
Role of exposure to research methods in medical undergraduate training

Nekaka R, Maart R, Maling S

Introduction:
Research capacity development in undergraduate training calls for innovative ways of teaching research. An adequate level of knowledge, positive attitude and reasoning skills play an important role in carrying out research. The aim of this study was to determine the knowledge and attitudes of undergraduate medical students towards research after 5-week research training module during a community orientation program.

Methods:
An interventional study was carried out amongst the second-year undergraduate medical students between June to August 2018. A pre-test structured questionnaire was administered on knowledge and attitude. The intervention consisted of: one-week didactic lectures in research methods and hands on community practice in research methods. After one month of community placement a post test was conducted.

Results:
The study was completed by 72 (96%) of the students. It was noted that 59.7% had satisfactory knowledge scores during the pre-test, which increased to 77.8% in the post test. The difference was found to be statistically significant (p<0.0011). Most of the students considered research to be useful, relevant. Although students considered research stressful and complex, they displayed a positive change in attitude after the research module.

Conclusion:
Teaching research methods to students improved their knowledge and attitude towards research. A positive attitude towards research creates a good environment for teaching research to the undergraduates. Community orientation program is a good opportunity for inculcating concepts of research methods among students.
Introduction:
Neonatal imaging is a challenging radiographic examination usually performed in an intensive care unit with a mobile x-ray unit. During a study completed in three radiology departments, newborn images presented with preventable positioning errors and suboptimal radiation protection. The study strived to address these observations through training of qualified radiographers. The results from this study showed that this training did not significantly improve the neonatal image quality. This triggered the development of a teaching strategy, which was piloted on undergraduate fourth year radiography students.

Methods:
Fourth year radiography students participated in this study to pilot the teaching strategy. The rationale behind choosing fourth year students was that the curriculum for this year group includes paediatric radiography. The piloted teaching strategy included a formal presentation with the aid of a slideshow. This traditional form of teaching was supplemented with i) a peer assisted simulation activity, ii) an online objective structured clinical assessment and iii) a practical assessment in the clinical work place.

Results:
Fifty-two students completed this teaching strategy and consented for participation in this study. These students found the simulation activity was essential to their learning. The online clinical assessment led to critical thinking. However, the students indicated that the online clinical assessment could have led to deeper learning if completed in a group for discussion purposes instead of individually. The workplace practical assessment assessed the practical performance of the student and showed if the teaching strategy did lead to improved neonatal image quality.

Conclusion:
This teaching strategy did prove to be effective in addressing neonatal image quality at an undergraduate level. The next phase in this study will be to apply this teaching strategy as a continuous professional development activity for qualified radiographers and to assess the success thereof.
Pharmacy Phlash: Students’ experience on an educational game

Oosthuizen F, Walters F, Perumal-Pillay V, Singh V, Bangalee V

Introduction:

The use of active-learning strategies is a valid tool to deliver educational content and improve the development of interpersonal, communication, and critical thinking skills essential for healthcare professionals. A board game, “Pharmacy Phlash”, was developed by academics teaching in the undergraduate BPharm programme at UKZN, to achieve these goals. A pilot study was conducted to determine the design strengths and weaknesses of the game, as well as to determine if the game will assist in meeting certain educational and competency outcomes.

Methods:

An invitation was sent to the 86 students in the 3rd year BPharm class, requesting volunteers to participate in the pilot study. Twelve students responded and all were subsequently included. The 12 volunteers were 6 male and 6 female African students, and all were of good academic standing. The rules of the game was explained to students, whereafter students competed in 4 teams of 3 each. Student experience after participating in the game was evaluated using a questionnaire consisting of 4 open-ended questions including: a description of how playing the game helped or limited learning of class content; two things students liked and disliked about using game; and finally, suggestions for other ways to improve the game to enhance learning class content. Results were reviewed and thematically reported.

Results:

Themes emerging from the feedback provided indicated that playing the game improved students’ teamwork and communication skills, it was fun to play and aided understanding of the module content. Majority of students (80%) felt that the game needed no further improvements. Some suggestions were however made to the amend rules of the game and playing the game with students ranging from level 1 to 4 in a team.

Conclusion:

Educational games are an innovative and interactive way of teaching, simultaneously strengthening graduate competencies.
Perceptions of newly-qualified oral healthcare professionals about their exposure to service learning in their final year of training at the Sefako Makgatho Health Sciences University, South Africa

Phalwane MG

Introduction:
Service Learning (SL) as a reflective pedagogy is a form of experiential learning, where students from Higher Education Institutions (HEIs) undertake organized service activities to meet community needs. Students experience working with diverse communities and thus gain personal and social skills, as well as enhanced clinical learning opportunities. Even though SL is implemented in the teaching and learning of oral health students, there is dearth of literature regarding the evaluation of its impact on the graduates in their respective practice environments. Hence the need to determine how newly-qualified oral health professionals perceive their exposure to SL. Having such knowledge will contribute to its alignment with that of global standards in oral health education. The study therefore aimed to explore the perceptions of newly-qualified oral health professionals regarding the impact of SL on their current practice.

Methods:
Case study research design was used. The study occurred at Sefako Makgatho Health Sciences University, School of Oral Health Sciences. The population comprised 36 oral health professionals. Purposive sampling was used to select participants: those who met the criteria, were willing to participate and provided informed consent. For data generation, only 22 participants were interviewed at data saturation point using semi-structured face-to-face interviews. Craver’s guidelines for thematic content analysis were used to analyze data. Methods of trustworthiness were used and ethical principles adhered to.

Results:
Data analysis revealed five themes namely: personal and professional growth, social responsibility, exposure to diverse communities, and reflexive practice.

Conclusion:
The graduates gave the impression that SL need implementation as an important pedagogy in teaching and learning of oral health professionals. Graduates recommended curriculum modifications including improvement in SL facilitation and its early introduction in the oral health education. The study will bridge the relationship between student learning and community access to oral health.
Assessment or assassination? Pharmacy students’ opinions regarding the causes of their assessment anxiety and poor academic performance.

**Mostert CS, Van Wyk C**

**Introduction and Aim:**
Assessment is a means of judging evidence students provide regarding their achievement of the required competencies of a qualification. Assessment has multiple profound effects on learning and anxiety levels. Results were reported on questions, in a self-administered questionnaire, inquiring into modules in which pharmacy students experience the most assessment anxiety and the worst performance, as well as the reasons for their anxiety and poor academic performance in these modules.

**Methodology:**
A quantitative study was conducted using a self-administered questionnaire. The target population included 170 final year North West University pharmacy students of whom 110 completed questionnaires which were utilised for statistical analysis.

**Results:**
Pharmacy students reported that they experience the most assessment anxiety in Pharmacology (54%) and Pharmaceutics (30%) modules. Pharmacology (72%) and Pharmaceutics (19%) were also reported to be the modules in which pharmacy students performed the worst. The top three reasons for assessment anxiety experienced, were cited as follows: Workload (67%), communication constraints (36%) and content difficulty (33%). Reasons reported by a majority of pharmacy students for poor academic performance in modules, were workload (45%) and communication constraints (26%).

**Conclusion:**
The same factors which cause assessment anxiety for final year pharmacy students also cause poor performance. This information may be useful in enhancing assessment practices and learning in the NWU School of Pharmacy.
Hubs and Spokes: ECHOing change in Chemical Pathology Registrar Training in the National Health Laboratory Service

Punchoo R, Wolvaardt L, Malope-Kgokong B

Introduction:

Project ECHO® (Extension for Community Healthcare Outcomes) makes specialised medical knowledge accessible and exponentially increases capacity to provide best-practice care and reduce health disparities. ECHO utilises hub-and-spoke knowledge-sharing networks, led by experts (hubs) who use multi-point videoconferencing to conduct virtual clinics with providers (spokes). The National Health Laboratory Service (NHLS) partnered with ECHO to strengthen staff capacity in providing best diagnostic pathology service. In 2018, ECHO was piloted to improve pathology registrar training. The key drivers for this initiative were sub-optimal national pass rates attributed to lack of standardised teaching and limited access of registrars to national experts. This paper describes the process of setting up the NHLS chemical pathology registrar training programme using the ECHO model.

Methods:

NHLS academic divisions in consultation with expert pathologists developed a national project plan to implement the ECHO model. National workshops, presentations and brainstorming sessions were used to identify themes important to programme curriculuration and delivery. The themes identified from the project plan guided practical steps to build the infrastructure for ECHO implementation.

Results:

Project themes identified funding, development of information-technology (IT) facilities, review of NHLS core values within the ECHO model and curriculuration development. A multiphasic delivery was used to align with project themes. Attendance of an ECHO workshop and registration with the ECHO institute facilitated acquaintance with the ECHO programme-design, which was tailored to local laboratory didactics. International funding was consolidated for IT video-conferencing infrastructure. The NHLS tasked an ECHO facilitation and support team to address IT training, programme roll-out and administration. ECHO pathologist champions were recruited, and together with the NHLS expert committee, curricululated the programme, which incorporated national teaching guidelines, formative assessment, continuous professional development accreditation and registrar survey feedback.

Conclusion:

The introduction of the ECHO model in chemical pathology registrar didactics at national level is feasible and is currently being evaluated.
**Do we assess what we set out to teach?**

*Adam S, Van Rooyen M, Lubbe I*

**Introduction:**

Medical education empowers students to transform theoretical knowledge into practice, by aligning content knowledge and appropriate teaching methods. Assessment drives learning, thus alignment between outcomes, assessment and teaching should be well defined and meticulously planned. Knowledge, skills, and attitudes must be thoroughly assessed to determine students’ competency to practice prior to graduation. Assessment methods have been adapted, but not evaluated, to accommodate new educational challenges. This study evaluated whether the assessment criteria for final year Obstetrics students align with the expected learning outcomes.

**Methods:**

We conducted a correlational multi-methods study that included document review of outcomes and assessments in 2018, questionnaires and nominal group discussions with Obstetric experts on agreement of appropriate learning outcomes and analysing the assessments for 2018. Learning outcomes for the final Obstetric module were constructed using Bloom’s taxonomy. Clinical competencies were defined according to Miller’s pyramid. Bigg’s Model of Constructive Alignment was used to evaluate the alignment of assessment and outcomes. Data was captured and analysed with Microsoft Excel and tick-sheets, as per levels and knowledge dimensions of Bloom’s taxonomy.

**Results:**

There are two independent 3.5-week modules in Obstetrics for final year students, with a 75% overlap in learning outcomes and assessments. 95% of the learning outcomes were poorly defined, and 11-22% of learning outcomes were inappropriately assessed. Summative assessments were comprehensive, but continuous assessments were rudimentary without a clear educational benefit. There is a deficiency in the assessment of clinical skills and competencies as assessments have been adapted to accommodate patient confidentiality and increasing student numbers. The lack of rubrics, blueprinting and moderation decreases the validity of assessments. As a result, assessment did not focus appropriately on the higher levels of thinking and doing.

**Conclusion:**

There was poor alignment between assessment and outcomes. Alignment between learning outcomes and assessment is essential to ensure a good quality-teaching programme. The Obstetrics modules should be combined and learning outcomes and assessments (summative
and continuous) reviewed as a single entity. The employment of good educational practice will improve the authenticity of assessments.
Exploring the community engagement at the University of Fort Hare

Giyose P, Dreyer A

Introduction:
At the University of Fort Hare, first year nursing students conduct community needs assessment and in 4th year they are required to undertake a community project in the form of health talk. This forms the basis of the community engagement programme. This study aimed to explore the experiences of student nurses and academic staff and identify the resources required to successfully conduct a community engagement project.

Methods:
An explorative, descriptive, qualitative approach was followed in the study. Unstructured focus group interviews were used to gather data on 18 purposively selected fourth year nursing students and structured individual interviews were conducted to seven nursing lecturers. Data was thematically analysed.

Results:
Both students and academic staff expressed the importance of the community engagement project from first year to fourth year but felt improvements to monitor the progress of the project. The results showed that the students appreciated the out of the classroom experience of interacting with the community members. Most of the students felt that they were not fully prepared for the encounter. The academic staff suggested that there should be a proper infrastructure within the department which will collaborate with the university community engagement office for the effectiveness of the programme. Academic staff also felt that other lecturers should be involved in community engagement.

Conclusion:
The findings suggest that there are gaps in the current structure of the programme in which community engagement is practiced in nursing department. This important component of nursing education needs the whole department and respective stakeholders to be involved for the programme to be sustainable. Suggestions for strengthening the programme should include a guide that could be used when interviewing patients, better preparation for the encounter with the community and better coordination of the projects within the department and the University community engagement office.
27 June 2019, Thursday
Session 4
Foyer - Educational challenges for the evolving burden of disease
Poster Presentation

12:30-12:35  Group work in a nursing curriculum: A teaching strategy to address the evolving burden of disease in Lesotho
Mukurunge E, Badlangana LN

Introduction:
The mountainous regions of the Kingdom of Lesotho make accessibility of healthcare facilities difficult. With a population of 2.2 million, Lesotho struggles to retain qualified nurses. Consequently, few nurses choose to work in inaccessible areas. This skewed distribution adds challenges to the already over-burdened healthcare delivery system. To circumvent the outlined challenges, Lesotho introduced a new competency-based nursing curriculum. Constructivism is key to competency-based curricula. Students work in groups to construct new knowledge. The grouping of students has challenges due to the absence of a formal framework guiding group allocation. The aim of the study was to explore the experiences of students at a nursing school in Lesotho with group work.

Methods:
Thirty-three second-year nursing students participated in the study. A qualitative descriptive research design was used. Data were collected through two focus group discussions using a semi-structured interview guide and analyzed using the Creswell’s method of thematic analysis.

Results:
Four themes emerged. Firstly, the diverse personalities of students in the groups played a role and resulted in dysfunction among some of the groups. Secondly, group functioning and conflict resolution. Proper management of groups leads to better functionality. Thirdly, the necessity of leadership and motivation in groups. Students expect facilitators to provide motivation and reward to better performing groups to enhance group functionality. Lastly, the hidden curriculum embedded in group work where students learn to work with people of different personalities in a short time. This prepared them for the authentic clinical environment where they will have little autonomy in choosing the members of their work teams.

Conclusion:
Group work enhances knowledge construction and autonomy of nursing students. The ability to function in productive and diverse groups will impact the healthcare delivery system. Successful training of autonomous nurses will address the disease burden.
Engaging with the health of the community: Perspectives of student nurses in Lesotho.

Matete M, Julie H

Introduction:
Community based education allow for students and institutions to engage in service learning. In July 2017, the Paray School of Nursing implemented a community based module for first year nursing students. The nursing students were expected to collaborate with villagers in the community in identifying community health needs, designing community specific strategies, implement such strategies and evaluate outcomes of such community strategies within a semester. This study sought to describe and explore the perceptions of students engaged in the community based module.

Methods:
A qualitative descriptive study was conducted with 19-second year student nurses who had completed the community assessment module. Data was collected through a Focus Group Discussion guided by a semi-structured interview guide. All the students were included in the discussions. Using Creswell’s steps for qualitative data analysis, the transcribed data was analyzed inductively to identify themes. Ethical clearance was obtained from the relevant authorities and informed consent from the students.

Results:
Four themes emerged namely: cultural indifference, preparation and support, problem solving skills and community responsiveness. Discrepancies were identified in terms of the mode of delivery of content and expectations.

Conclusion:
Community based learning helped the students to appreciate the dynamics of the community. Students valued this module because their understanding and appreciation of their patients’ environment allowed them to develop appropriate skills within a cultural context. The initial emotions of shock and trauma made way for a greater sense of empowerment. Their limited knowledge and low self-esteem when working with community members changed during the placement because they received substantial simulation activities and support from their supervisors and community members.
Perspectives of academic staff on the roles of the newly appointed teacher in health sciences

Van Wyk C, Van Zyl GJ

Introduction and aim:
The health sciences teachers wear many “hats” in the key roles we portray in the educational process. Staff development initiatives can assist the newly appointed teacher to gradually obtain the necessary competencies required for these various roles. The aim of this study was to identify which of the roles to focus on first during training and what additional support structures should be put in place to best support the newly appointed teacher.

Methods:
An adaptation of the 12 roles of the medical teacher model framed by Harden and Crosby (2000) was used in this study. The research methodology was quantitative in nature, using a questionnaire to obtain data from 256 academic staff members from the Faculty of Health Sciences. Staff were asked to indicate (on a four-point scale) their perception of the level of importance of each role with specific reference to the newly appointed health sciences teacher. A 50.4% response rate was obtained.

Results:
Academic staff considered the roles of a role model for students (99.2%), an information provider in the classroom (98.4%), facilitator of learning (97.6%) and assessor (97.6%) most important for the newly appointed teacher. The roles of curriculum planner and evaluator were deemed not important at all by 28.9% and 22.7% of academics. The academics strongly agreed that competencies in the various roles should be gradually obtained through continued support within departments and from the DHSE.

Conclusion:
Several staff development initiatives, staggered over time should effectively demonstrate all the roles of the medical teacher. However, directed on-the-job training within departments as it pertains to the specific roles the newly appointed teacher will be involved in, is advised for further identification with the roles and continued skills development.
Journal response types and times: the outcomes of manuscripts finalised for submission by the UFS School of Medicine medical editor
Mulder T, Joubert G, Steinberg WJ, Botes J

Introduction:
Thorough peer review of research manuscripts is a cornerstone of research publishing. Authors can be discouraged when submission and review processes seem fraught with obstacles. Inexperienced authors in particular may have unrealistic expectations regarding journal response types and times. Such authors can fall prey to predatory journals promising rapid turnaround times. This study aimed to describe journal response types and times for manuscripts finalised for submission by the UFS School of Medicine medical editor from 2014-2017.

Methods:
This descriptive cohort study with an analytical component included all manuscripts finalised for submission to accredited journals (according to the Department of Higher Education) by the medical editor, 2014-2017. Excel spreadsheets capturing all stages of the manuscript process were used to confidentially note information related to the submission to and subsequent communication with/from journals.

Results:
Ninety-five manuscripts were submitted to 72 peer-reviewed accredited journals. The total number of submissions was 163 as only 46 (48.4%) manuscripts were accepted by the first journals submitted to. Rejected submissions (n=82, 50.3%) had a median journal response time of 15.5 days (0-381 days), with 26 of 80 (32.5%) being sent for review. Nine (5.5%) manuscripts were accepted with no revisions needed (median journal response time of 88 days; 0-182 days). The majority of submission (55 of 91, 60.4%) that were sent for review had two reviewers. Accepted submissions (n=71, 50.3%) had a median of one round of revision (0-4 rounds). The median time from submission to final acceptance was 119 days (0-674 days).

Conclusion:
Within our setting, half of first submissions were unsuccessful, but rejection usually occurred rapidly. Submissions were accepted at a median time of 4 months, after one round of revision. Awareness of expected outcomes and response times of accredited journals may alert authors to be wary of predatory journals and their publication practices.
A framework to implement and sustain a curricular innovation in a higher education midwifery programme

Nyoni CN, Botma Y

Background:

A competency-based curriculum was adopted for a one-year post-basic midwifery programme in a small African country with a high maternal and neonatal mortality ratio. Two years after a nation-wide implementation, disparities in the enactment of the curriculum where observed within and across the nursing education institutions. Such disparities were attributed to the lack of a framework in implementing the new curriculum and these disparities threatened the sustainability of the entire competency-based midwifery programme. A framework for implementing and sustaining a curricular innovation in higher education midwifery programme was developed. The study reports on the development and validation of a framework for implementing and sustaining a curricular innovation in a higher education midwifery programme.

Methods:

A multiple methods research design was used to develop the framework guided by the theory-of-change logic model. This design was executed in three sequential but interrelated phases, inclusive of an integrative review, a gap analysis of the implementation of the programme and a framework development process. Primary implementers from all NEIs in the setting, validated the developed framework through discussion and consensus.

Results:

A framework for implementing and sustaining a curricular innovation in a midwifery programme was developed. The framework reflects an integration of evidence gleaned from research and the expertise from the primary implementers of the curriculum.

Conclusion:

Designing a strategy for higher education institutions for implementing and sustaining curricular innovations should be grounded on an interplay of empirical evidence and contextual realities. Higher education institutions should identify challenges related to curriculum implementation, and recommend tailor-made approaches that are based on evidence. Primary implementers of the curriculum are fundamental in enhancing the validity and feasibility of such a strategy within their setting.
10:45-11:00  Knowing your student: The use of in-depth personal interviews in mentoring medical students from diverse backgrounds

Conradie HH

Introduction:
For the past three years the author has been mentoring medical student doing rural family medicine rotations from Stellenbosch University (SU), Walter Sisulu University (WSU) in the Eastern Cape and the University of Kwazulu Natal (UKZN) as part of the SUCEED project to enhance distributed learning (DL) at sub-district level. The author is an experienced rural family physician, rural medical educator and a qualified life coach. This presentation is a reflection on the author’s and other tutors engagement with medical students through personal interviews.

Methods:
During the individual interviews the author and the student drew a genogram to graphically illustrate the student’s family context. Students were asked to describe their learning journey up to this point, what motivated them to do medicine, their interests outside of medicine and finally their dreams for the future.

Results:
Engaging individual students through personal semi-structured interviews facilitated the appreciation of the uniqueness of each student. The author was challenged to turn his assumptions into questions, his judgements into curiosity. Following the interview the author experiences a greater sensitivity to each student’s particular challenge. Where local tutors joined in this process, they appreciated this tool and continued to use it with each new group of students.

Conclusion:
Individual interviews with students created an appreciation for the uniqueness and potential of each student. This contributed towards a deeper teaching/learning experience with the students.
Empower students for the operating room

Van der Merwe B

**Introduction:**

The purpose is to share a training process and intervention to prepare radiographers and students as professional contributors to the health care team. A lack in the confidence levels of students plus the competence of radiographers as role models were identified. The aim is to build confidence by means of different teaching strategies and activities to change the radiographer’s perception that the theatre environment is typically hostile. The activities focused on skill to operate the x-ray equipment, to communicate effectively with the role players in the theatre and to understand the importance of the theoretical underpinning of the different procedures.

**Methods:**

The learning strategy entail a workshop, online training module, simulation and portfolio of evidence. The workshop for radiographers (n=19) required completion of a portfolio of evidence in clinical theatre practice to earn Continuing Professional Development credits. The success of the workshop resulted in the development of an online module. The online module is divided into learning units that is currently phased in the bachelor’s degree for the students to complete over four years of study. The student radiographers (n=300) are further exposed to a scheduled simulated theater environment in small groups. During the simulation the students receive not only feedback from the facilitators but also peers.

**Results:**

The implementation of the training over the past 4 years resulted in the development of rubrics and activities that will be shared with the audience. Videos were recorded to address gaps identified in the skills of students during simulations. The attitude of the students towards theatre is overwhelmingly positive and the change in preparation is commended by the clinical practices.

**Conclusion:**

The successful completion of the theatre portfolio of evidence involve proof of clinical hours, the successful completion of continuous assessment, the skill to operate equipment, reflection on effective communication and clinical competence. The mastering of the activities influences the skill of the students and with higher confidence levels most student subsequently experience the theatre environment more positively.
Perceptions of changes made to a clinical skills curriculum in a medical programme in South Africa: a mixed method study.

Pattinson S, McInerney P

Introduction:
In 2015 the Wits University Medical Curriculum was reviewed. The reports identified that there was too large a gap between the Medical School based teaching in fourth year and the hospital-based teaching in fifth year when the students begin their clinical clerkships. A number of changes, based on current evidence, were made to the curriculum in order to better prepare the students for the expectations of the clinical setting. These changes included; improved tutor to student ratios to allow for small group teaching, increased monitoring and formative assessment and clear objectives aligned with their academic blocks.

Methods:
An exploratory mixed methods approach was used to determine the perceptions of the students of the new curriculum, in respect to how well it prepared them for their clinical years, comparing the students taught under the new (2018 fifth year students - population 299) and old curricula (2018 sixth year students - population 291) respectively. Phase one was a narrative qualitative study; the narrative data were analysed using a qualitative approach and the categories that emerged informed the development of a questionnaire with 16 Likert scale questions and one open ended question for phase two which was a cross-sectional, comparative, quantitative study.

Results:
The fifth and sixth year students had response rates of 50% and 34% respectively. The results showed a statistically significant improvement of the perceptions of the fifth year students of their preparedness for the clinical setting when compared to the students who were taught under the old curriculum (p value = 0). The p values for 14 of the 16 questions were less than 0.05 indicating a 95% confidence interval that the difference between the two cohorts was statistically significant.

Conclusion:
The new curriculum has resulted in a significant improvement of the students’ perceived preparation for their clinical clerkships.
The Grand Cannabis Debate: Stimulating graduate attribute development via asynchronous discussions

Cordier W

Introduction:
Higher education institutions wish to instil graduates with attributes needed to function in the workplace, such as critical thinking, research-mindedness and communication. However, traditional didactic andragogy is often critiqued as inadequate to promote such attributes. The study implemented an innovative asynchronous, team-based, peer-reviewed debating assignment in a third-year undergraduate pharmacology module to stimulate attribute development, of which preliminary feedback will be presented.

Methods:
Anonymous feedback was obtained from students during 2017 (N = 120) and 2018 (N = 98) via an online mixed-methods survey. Questions probed the relevance of the assignment to critical thinking, research-mindedness and feedback. Qualitative data was analysed using Atlas.ti v8.0.

Results:
Quantitative and qualitative data highlight that most students enjoyed the assignment (~67%), finding it challenging (~87%) and beneficial to research skills (~80%), critical thinking (~84%) and feedback (~81%). Contributing factors to enjoyment included the relevance and controversial nature of the topic, as well as the assignment’s perceived novelty. Critical thinking was evident as students needed to synthesise opinions and arguments from contradictory literature or viewpoints of the opposing team. Team work was beneficial or detrimental depending on peer-interaction, however, discussion and learning was achieved through it. Students enjoyed peer-feedback, though unprofessional instances were referenced. Some students opined that the assignment was their first real research exposure, which excited them. Negative factors included mixed opinions about recording their debate, difficulty in obtaining supportive literature, and some felt more guidance was needed. Recommendations were to continue with the assignment, alter its weighting, allow more time and to decrease the size of teams.

Conclusion:
The Grand Cannabis Debate promoted the development of graduate attributes through cooperative learning using an enjoyable real-world relevant topic, which will benefit them in their careers. Although the general structure functions well, further refinement is needed to streamline achievement of high quality learning.
**11:45-12:00  A framework for strengthening clinical teaching on an expanding training platform**

*Blitz J, De Villiers M, Van Schalkwyk S*

**Introduction:**

Increasingly, medical schools are expanding their clinical training platforms beyond traditional academic teaching hospitals in response to imperatives such as increasing numbers of students, offering clinical training that covers the full spectrum of healthcare, and responding to notions of social accountability. With this expansion, is an obligation to maintain the quality of teaching in these new clinical contexts. Faculty development offers a means to strengthen and support this emerging role for clinicians.

**Methods:**

As we approached this research from an interpretivist stance, qualitative methods were used. The targeted needs of emerging clinical teachers were identified by using four different data sets to develop an understanding of current clinical teaching and strategies that were being used to strengthen it. Senior medical students, clinical teachers and staff responsible for faculty development were interviewed and clinical teaching episodes were recorded.

**Results:**

This work proposes a framework that is based on four constituent elements. The first is that faculty development be situated within the network of clinical practice. The second addresses clinical teaching as supervision; seen as the offering of affordances [Billett; 2002]. The third emphasises clinical learning as student engagement, with an essential interplay between the offering of affordances, and the development and exercising of student’s agency for engagement. The last is using students’ evaluations of clinical teaching effectiveness to inform and tailor-make the faculty development offerings suggested in the first element.

**Conclusion:**

This work shifts the focus from more established forms of faculty development to encouraging an ongoing relationship between faculty developers and clinicians, aimed at iterative strengthening of clinical teaching effectiveness through responding to the student learning experience.
Automatic film processing is rapidly phasing out in many radiology departments, both globally and in South Africa, due to the introduction of digital imaging systems. This is further evidenced in many radiographic imaging text books, which are seen to reduce the depth of content regarding automatic film processing in comparison to earlier editions. Although digital imaging appears to be dominating urban radiology settings, many rural areas in South Africa and other parts of the world still depend on automatic film processors to provide radiology services to the community. Based on this, automatic film processing remains a critical aspect in the radiography undergraduate curriculum. This is to enable the students to be fully prepared for both rural and urban working environments and the conventional and digital imaging departments. In the current educational context, there are few training sites that still use automatic film processors. This situation is further coupled with limited new editions of literature resources on automatic film processing creates a gap in the students understanding of this image processing concept.

The presentation is aimed at sharing the innovative teaching and learning practices in the radiographic imaging science module. It is not based on a research project. A video of the automatic film processor has been developed, to provide the students with a contemporary visual understanding of a system. The audio-visual department of the University has been helpful in creating an animation with voice over recording and subtitles to further aid the students understanding. The presentation will further provide the feedback from the second year radiography students which will include how they experienced the integration of technology and how this impacted their learning in the radiographic imaging science module.
12:15-12:30  Writing as a tool to navigate border crossings in Evolution Education

*Sutherland C, LÆAbb E, Du Toit P, Cordier W*

**Introduction:**

In this presentation we share our findings from a spontaneous undergraduate writing task about the theory of evolution. The task forms part of an action research project consisting of a number of cycles. We explore the usefulness of an open-ended handwritten approach to gauging student understanding of and perceptions about evolution. We hypothesize that writing can be used as a tool to facilitate students’ construct of own meaning of evolution.

**Methods:**

Textual data from a diagnostic learning task in an undergraduate physical anthropology was gathered over two consecutive years (2018 and 2019). The data were first analysed inductively (first by codes and then by themes), and then deductively using the framework of border crossing. The results from the first iteration of the learning task (cycle A) informed the design of the following iteration (cycle B), following an action research design.

**Results:**

Writing about evolution seems to function as an effective diagnostic assessment tool and is suggested as an alternative to acceptance surveys in evolution education. Writing allowed students to reflect on their learning and personal perceptions about evolution and to conceptualise how they create meaning while learning evolutionary theory. Submitting writing anonymously allowed students to disclose their personal worldviews while keeping an open mind about concepts that might be contradictory to what they believe.

**Conclusion:**

We hypothesize that writing can function as a tool to ease the border crossing between the scientific world and a student’s personal lifeworld. A well-structured writing task guides students to first elicit content knowledge and then construct opinions. Learning how to use writing as a tool to cross borders between worlds is an invaluable skill to know, especially when science graduates enter the real (authentic) world of work. The skill of writing is an important part of communication and is a necessary attribute of the 21st Century student.
Introduction:

The purpose of CPD is to assist health professionals to maintain professional standards and practice and to acquire new and updated levels of knowledge, skills and ethical attitudes that will enhancing professional practice and promoting professional integrity.

CPD will become compulsory in South Africa as the South African Nursing Council (SANC) will only issue Annual Practicing Certificates (APC) on receipt of a declaration of the CPD completed in future.

Methods:

The study followed a mixed-methods approach, using a survey to collect qualitative and quantitative data (a mix of closed and open-ended questions). The objective of the study was to determine nurses’ awareness and perception of CPD for nurses.

The survey was emailed to 897 participants. Participants included professional nurses working in the public and private sector in South Africa. Non-random sampling was used. Quantitative data was descriptively analysed in Microsoft Excel, qualitative data was analysed thematically.

Results:

129 responses (14.3%) were received. 91.47% of respondents were full-time employed. 39.53% were employed by the SA government and 42.64% by the private sector.

87.6% responded that they are aware of CPD and 77.52% indicated that CPD should be compulsory for nurses to register with the SANC. 51.16% were aware that CPD will be compulsory for nurses to register with SANC. Half of the respondents thought that CPD would improve job satisfaction and decreases burnout. Respondents felt that time was the most important barrier (42.67%) to implement CPD for Nurses.

Conclusion:

The findings indicated that the professional nurses are aware that they have a responsibility to continue their education and seek learning opportunities. The following barriers were identified: time, financial constraints, family responsibility, lack of advanced notification and staff shortages. Professional nurses believe that the responsibility for CPD should be shared between them and their employers.
Experience in planning and executing a continuous professional development programme among radiography students

Sebelego I-K

Introduction:
Healthcare professionals are required to attend continuous professional development (CPD) programmes as part of their scope of profession. Since 2017, the fourth year radiography students (n= 98) plan and execute a level 1 CPD event as part of the curriculum in one of the modules in the radiography programme. The engagement in the process equip the students with the skills to organise a CPD event once they have completed their studies.

Methods:
The research design that is used for the project is descriptive. After the CPD event the students submit a portfolio regarding the planning for the respective committees followed by a debriefing session in the form of a focus group. A qualitative approach was used for the focus group. Questions were used to facilitate the focus group. Hundred per cent of the students attended the debriefing session. The major themes of the qualitative data were emotional experience, skills developed, cooperation of group members and recommendations. Thematic analysis was used to create themes.

Results:
The outcome was that two successful CPD events were presented by the students whereby participants earned 12 general and three ethics CEUs. The results of the student feedback indicated a positive attitude towards the execution of the CPD event. Soft skills namely communication, team work and problem solving were developed as part of their growth as professionals which also links with the graduate attributes of the Central University of Technology. Weaknesses identified by the students are communicated to the upcoming fourth year students to improve the CPD event.

Conclusion:
It is evident from the results that the final year students can execute a CPD event as part of teaching and learning. Moreover, executing a CPD event may equip students to assist radiographers in the workplace to enhance their professional practice once qualified.
Interns knowledge of the age of consent

Peters F, Peters A

Introduction:
The age component of legal capacity is determined by legislation. The current child act that is used is the 2005 act and reviewed in 2012. With the POPI act of 2016 there had been changes in the ages regarding consent. Children of 12 years and older who have the maturity to understand the implications of a proposed treatment may consent on their own behalf. If a surgical procedure is being proposed, the child’s consent must be accompanied by a parent or guardian’s written assent. There are certain situations (for example, HIV testing or termination of pregnancy, circumcision) all have different ages to consent.

This is actually the aim and objective of the project is to assess what Interns’ knowledge is regarding children rights and consent and of paramount importance to Interns and Medical doctors and health care workers who need to be aware of these age differences in the act.

Methods:
A quantitative study was done using a standard assessment instrument comprising of the following: age of consent needed for surgery; age for consent for termination of pregnancy (TOP); age for medical diagnostics; age for consent for HIV counselling and testing (HCT); confidentiality regarding patient information on medical certificates and consent for medical treatment.

Quantitative data was analysed in Microsoft Excel.

Results:
54 Interns (72.9%) completed the questionnaire. All indicated that consent is needed for surgery (100%). 40 (74%) indicated that the age for self-consent for surgery and consent for medical diagnostics are 16 years while only 14 (26%) indicated the correct age of 18 years and older. No-one (0%) indicated that TOP consent can be given at any age by the client/patient. All (100%) participants indicated 16 as the age for consent for HCT a well as consent for medical treatment.

Conclusion:
Interns are not informed about the age for consent as stipulated in the Children’s’ Act. Medical students as well as other clinicians need to be trained on consent for medical procedures or interventions.
Introduction:
There is a clear need for language and communication training (LCT) for nursing (pre-)professionals. LCT should tend both to actual communicative competence, since language barriers put patients at risk, and to self-perceptions of competence. Typically, learners over- or underestimate their competence, affecting not only perceptions of professional identity and competence, but also the quality of nurse-patient interaction. Underestimators tend to lack confidence and thus avoid communication; overestimators are unaware of their need to improve their competence. In both cases, nurse-patient interaction is negatively affected. We aim to explore the relationship between nurses’ actual and self-perceived communicative competence (SPCC) during LCT.

Methods:
The participants (N=48) were nurses recruited primarily from Europe to work in the United Kingdom. They participated in a 12-week online English LCT programme for nurses. Changes in SPCC were measured using a pre- and post-training questionnaire. Actual competence was measured using a low-threshold test of communicative competence (CEFR – A1) before training, and an achievement test (CEFR – C1) after training. Pearson’s correlation and scatter plots were employed to explore the relationship between their actual and SPCC before and after training.

Results:
Actual and SPCC on the Task Focus dimension correlated both before and after training. Actual and SPCC in Rapport Building did not correlate before training; about a third (34%) of participants potentially misestimate competence in Rapport Building. Out of these, about a third (36%) were underestimating while nearly two-thirds (64%) were overestimating. However, participants’ actual and SPCC becomes aligned through LCT.

Conclusion:
Exploring actual and SPCC can help trainers tailor LCT to raise nurses’ awareness about actual competence. Consequently, underestimators can gain communicative confidence, while pointing overestimating nurses to aspects of their communicative competence that need training.
Towards peer support guidelines: Nurse educators’ experiences in implementing a new curriculum

*Shawa M, Botma Y*

**Background:**
Educators must be supported in implementing a new curriculum. Nursing education institutions in Lesotho, developed and adopted a competency-based curriculum for various nursing programmes. During the implementation of this new curriculum, the nurse educators experienced limited faculty development opportunities and naturally sought support from their peers. Such unstructured peer support compromise the quality of curriculum enactment. This study sought to describe the experiences of nurse educators regarding peer support during the implementation of a new curriculum.

**Methods:**
An exploratory-descriptive qualitative research design was applied on 12 conveniently sampled nurse educators from all nursing education institutions in Lesotho. Data regarding the nurse educators’ experiences related to peer support during the implementation of a new curriculum was generated through semi-structured interviews, and analysed using inductive reasoning and thematic analysis. Ethical clearance was obtained from relevant bodies.

**Results:**
Five themes emerged from the data namely; “Motivation for educators to participate in peer support”; “Attributes of educators that influenced the extent of interaction and uptake of support”; “Unstructured peer support strategies”; “Consequences of peer support among educators”; and “Model performance inspired the engagement with the new curriculum”.

**Conclusion:**
Some of the educators benefitted from the unstructured peer support during the implementation of the new curriculum. However, there is need for the development of guidelines to enhance the execution of peer support approaches that consider the educators, their context and institutional administrators.
Introduction:
The need for clinically skilled and competent nurses in the primary health care nursing (PHCN) services in South Africa cannot be overemphasised. It is well known that Primary Health Care (PHC) services are the community’s first contact with health care services. There remain concerns about the inadequate clinical skills exhibited by nurses qualified in clinical nursing science, assessment, diagnosis, treatment and care (CNSTC) in PHC clinics in South Africa. The teaching and learning of PHC nurses are therefore important to ensure quality services to the community. The teaching and learning approaches that were identified in the first phase of this research could improve the clinical skills of nurses with this qualification.

Methods:
This research aimed to identify strategies for enhancing the teaching and learning of clinical skills in the CNSTC programme. A qualitative design was followed with exploratory, interpretive, descriptive and contextual strategies and took place in consecutive phases. In phase one the principles of an Appreciative Inquiry (AI) were applied in interviews to determine the approaches of clinical teaching and learning that are currently applied in higher education institutions in South Africa. A purposive sample of nursing educational institutions (NEI’s) (n=6) and nursing educators were used. The number of NEI’s that took part in this research were determined by responses from higher educational institutions that offered this programme, as well as data saturation. Interviews were conducted with educators (n=9) involved in the teaching of clinical skills in the CNSTC programme and CNSTC newly qualified nurses (n=26) which were selected via snowball sampling. Six themes and eight sub-themes were identified.

Results:
The resulted strategies that were identified were, clinical accompaniment and supervision in practice and simulation with, authentic (real) patients for assessment by students under supervision of educators or facilitators in an environment where students can build self-confidence. The third strategy identified was the holistic, comprehensive management of patients, not only treating a disease. The fourth strategy emphasised the importance of specialised simulation and other equipment for practice and demonstration before students enter clinical practice. The fifth strategy was the importance of making contextual policies and guidelines available and known to students and the final strategy was the use of digital learning material to support student’s learning.
Conclusion:
The use of the AI principles in the research ensured a positive interview approach that formed the basis of this research. This research established that NEIs presenting undergraduate nursing courses should ensure that students have the basic clinical skills when they complete undergraduate courses. This phase of the research showed that exposure to real clinical situations and patients are essential. The need for students to be accompanied by educators in practice cannot be overemphasised as this is an essential strategy and support for students. This also provides a means for educators to keep up to date with practice conventions and trends.
Research-orientated programme development: Cutting the gaps of mediocre postgraduate students

Kruger R

Introduction:
In an undergraduate Physiology programme including an Honours degree, the crosstalk between the Bachelor’s and the Honours degrees lacks integration and research-directed learning. Major limitations are evident in the critical skills of students enrolling in postgraduate (Master’s or PhD) courses. The aim was to identify the gaps and implement a practical model for addressing the currently diluted programme contributing to mediocre postgraduate students.

Methods:
Current and past graduate students (Honours, Master’s and PhD) were approached to scrutinise the current undergraduate Physiology programme and reflect on both their obtained and lack of skills during and after completion of their degrees. A Google-based survey was circulated to all contactable students, in which they had the choice to participate and complete the survey. From 54 email addresses, only 31 individuals were reachable and we had 19 successful responses.

Results:
From the 19 responses, 63.2% were past students not enrolled in further studies. Of the remainder, 31.6% were enrolled in the PhD course and 5.2% in the Master of Health Sciences (MHSc) course. From the total sample of responses, 15.8% indicated that they did not secure a job after completing their studies, and those who did, indicated they are employed in health-related (26.3%), science (15.8%) or education (21.1%) fields. The reflective feedback indicated grant writing, pharmacotherapy and research analytics as the top three major shortcomings in the programme contributing to their lack of skill thereof. Other areas included epidemiology, community engagement, study design and biostatistics as skills they lacked.

Conclusion:
By utilising the reflective feedback from past and current postgraduate students, we identified the gaps of the current Physiology programme. In addition, we are developing a new design research-orientated programme to overcome the current shortcomings of the Physiology programme and subsequently deliver empowered postgraduates, ready for the work place.
The development of competence learning processes model

Munangatire T, McInerney P

Introduction:
This paper describes a proposed model on the development of competence in nursing students. Currently the development of competence in nursing students is explained using learning theories that focus on the stages students pass through to become competent. However, these models do not reveal changes in the students level of knowledge, changes in their approach to learning and how their understanding of competence changes. Therefore, this paper sought to describe the development of competence among nursing students with a focus on how the level of knowledge, understanding of competence and learning approaches are interlinked in the process.

Methods:
Based on existing data from a qualitative study of students’ conceptions of learning, a phenomenographic data analysis process was applied generating an outcome space. Further analysis of the data and literature review led to the development of a model; the development of competence learning process model. The model was subjected to expert criticism and modified accordingly.

Results:
A hierarchical five-stage development of competence learning process model was developed. Starting from the simple to the complex, each stage of the model revealed the frame of reference (students’ knowledge level), the learning process (students’ approaches to learning) and the learning outcome (students’ understanding of competence and goal of learning). In the lower stages, students possess little knowledge and skills relevant to nursing, have a shallow understanding of competence hence apply superficial learning strategies to reach their goal. In the later stages of the model students, have vast subject matter knowledge and skills, have a complex understanding of competence, so they adopt deep and meaningful learning approaches. It is at the high levels of the stages of development of competence learning process model that students start to develop their competence holistically.

Conclusion:
Application of the development of competence learning process model to facilitate students learning in a nursing programme may help students to understand the true meaning of competence in early years of the programme, hence adopt meaningful learning strategies for the better part of their years of study. This may help them to improve their levels of competence before they complete the program of study.
Background:
The 2016 health science student protests at the University of Cape Town uncovered many grievances students had with the Faculty. One of the main areas of contention was around assessment. Students spoke of victimisation during oral exams, and criticised the lack of standardisation, objectivity and transparency in assessments. The Department of Obstetrics & Gynaecology has done a lot of work around making exams more objective, and being more transparent with students about assessment processes. One crucial factor missing was the opinions of the students themselves on actual exams that they had written, and this endeavour attempted to close this gap.

Objectives:
The objective was to determine students’ opinions about their end-of-block exams.

Methods:
As a method of quality assurance, every single student writing an end-of-block assessment in Obstetrics & Gynaecology in 2018 was asked to evaluate their exam and examiners. This occurred immediately after the exam, before results were processed. They had to rate both the nature of the information they received about the exam beforehand as well as their perception of the fairness of the exam on a 5 point Likert scale. They were asked to motivate their rating of fairness in a free-text answer; whether they had felt victimised during their oral stations, and if so, to describe what happened. They were also asked for suggestions about the exam. There were 448 responses. This was not a formal research project - it was done as part of the course evaluation; however I felt the results were compelling and could be useful to others. Because this was not a formal project, verbatim quotes will not be used, but common themes will be distilled and Likert scale ratings will be presented.

Results:
The vast majority of students felt that the extent of exam information given was adequate or very comprehensive, and that the exams themselves were pitched at the appropriate level and therefore fair. Very few students felt that they had been victimized by an examiner, and the descriptions given of what had occurred in these situations did not resonate with the true definition of victimization per se. The commonest suggestion (though infrequent) was for more time per station. In one exam a few students felt that some of the questions were vague and therefore unfair, but they did not specify which questions. In one exam students were shown a pathology specimen for interpretation and several mentioned that this was problematic as they had not been taught on pathology specimens; however, some mentioned this but felt it was a
challenge, but not unfair. There were few failures in the exams, but it was not possible to link ‘unfair exam’ evaluations to specific students as the evaluations were anonymous, therefore it was not possible to determine whether a perception of unfairness actually played out in a student’s score. Where students felt the exams were unfair, their reasons for saying so are interrogated from an educationist stance to determine whether their reasoning is valid or not.

**Take home:**

We were concerned that students might use this evaluation to raise many complaints and possibly assert indiscriminately that the assessment system as a whole was unfair. We were pleasantly surprised in that students generally found the assessments to be fair, and they raised valid points for consideration. This adds weight to the fact that students should be taken seriously when they do raise issues around assessment, as they did not as a whole raise illegitimate issues. Further, more work needs to be done on developing an understanding of what constitutes victimisation in an exam.
The Delivery of Lifestyle Modification Health Education by Community Health Workers in the Nelson Mandela Bay Health District

Mkontwana P, Du Toit E, Olivera S, Baard ML, Kramer M

Introduction:

Community Health Workers (CHW’s) are health aides chosen and trained to deliver healthcare services within their own communities. They are starting to be the main service providers in under-resourced areas and form a link between the formal healthcare facility services and the community. In South Africa, CHW’s are the backbone of the planned National Health Insurance with plans to recruit and train a large number of them to deliver a wide variety of healthcare services. This research project aimed to identify the barriers and facilitators experienced by community health workers in the delivery of lifestyle modification, health education to community members in order to make recommendations to optimise their training and thus the efficiency of this service delivery. A dietitian, medical doctor, a biokineticist and two professional nurses were involved in planning and conducting this research.

Methods:

A mixed methods design was followed utilising an explorative, descriptive and contextual approach. Purposive sampling was used to recruit community health workers working for the Department of Health or Non-Governmental Organisations. A self-administered structured questionnaire as well as focus group discussions were used to collect data.

Results:

Twenty-two CHW’s were recruited from the Department of Health and non-governmental organisation. The majority were females older than 30 years of age. They all delivered services to clients living with Diabetes Mellitus, Hypertension, HIV and TB. None of them had received nutrition or exercise courses after employment. Barriers identified included; limited health education resources, language barriers, access and safety, lack of skills, lack of recognition, limited collaboration with other departments and clients’ low socio-economic situation. Facilitators included teamwork, community participation and client satisfaction.

Conclusion:

There is a need to improve training, provide resources and support to CHW’s. CHW’s suggested an increase in their scope of practice, career pathing as well as attention to their remuneration.
Successes and challenges in a medical school using an adapted UK-based curriculum

Badlangana L, Matlhagela K

Introduction:
In 2009, the University of Botswana Faculty of Medicine (UBFOM) was established as the only medical school in Botswana. UBFOM adopted an MBBS based curriculum from the UK: PBL-based approach, system-based, theme-based, spiralling, integrated, outcome-based and, early patient exposure. UBFOM included a community-based component to the curriculum. Another point of attraction towards this curriculum was the non-use of cadavers. The challenges of implementing a UK-based curriculum in UBFOM were multiple. For example, differences in the: healthcare context, burden of disease, culture, resources. Five cohorts (MBBS, n=218) have graduated; the majority work in Botswana. Prior to the 1st graduation, the number of citizen doctors was about 10%, and none were employed in the primary-district-health-care facilities.

Methods:
A qualitative study was carried investigating the quality of implementation of the UBFOM curriculum beginning in 2017 to 2018. This comprehensive review had conducted 57 interviews; five focus group discussions; 73 questionnaires; 68 teaching events and 117 studied documents. The process included several interviews with key stakeholders comprising students, governmental and non-governmental organisations.

Results:
UBFOM graduates are successfully employed as primary doctors in Botswana’s healthcare system. Furthermore, the study generated six themes that require attending. 1. UBFOM curriculum has become more didactic. 2. Assessment modalities have remained the same thus increasing non-alignment between instruction and evaluation. 3. UBFOM needs to identify the essential minimum competency skills required to produce competent graduates. 4. Skills such as clinical reasoning, critical thinking, research, health equity, cultural authenticity, interprofessional learning, ethics and professionalism need to be highlighted and evaluated. 5. Clinical exposure needs to be more aligned with the curriculum to maximise learning. 6. Student support structures need to be formalised.

Conclusions:
UBFOM graduates are working effectively as primary doctors in all districts of Botswana. However, the curriculum needs to upscale its emphasis on professionalism and cultural sensitivity.
Quality of life and academic performance of first-year health sciences students

Mostert A, Van der Merwe LJ, Jama MP, Joubert G

Introduction:
Quality of life perceptions of students may influence their academic performance and vice versa. There is not much data available on the quality of life of undergraduate health sciences students in South Africa. The aim of the study was to determine the quality of life scores (physical health, psychological health, social relationships and environment) and their correlation with the academic performance of University of the Free State (UFS) first-year health sciences students.

Methods:
The sample population included 244 first-year students from the Faculty of Health Sciences (medical, nursing and allied health professions), UFS, of whom 179 students voluntarily participated in the study. This quantitative cross-sectional study used the self-administered World Health Organization Quality of Life Abbreviated version (WHOQOL-BREF) questionnaire, expanded to include demographic information. Academic performance was measured by the average mark obtained for all the first-year modules as reflected on the participants’ academic records.

Results:
The overall response rate was 73% (n=179). The mean-values of the quality of life domain scores (lowest to highest) were psychological health (67.0), social relationships (67.5), physical health (69.8) and environment (71.5). Participants academic performance was good (mean 70.5%). The results indicated a very weak positive correlation between academic performance and each of the quality of life domains: physical health (r=0.158, p-value=0.035*); psychological health (r=0.088, p-value=0.240); social relationships (r=0.064, p-value=0.394) and environment (r=0.056, p-value=0.454).

Conclusion:
In general, the scores reflect a good quality of life and academic performance. The physical health domain facets (e.g. sleep and rest, energy and fatigue, and work capacity) had the strongest correlation with academic performance. This study provide information regarding the quality of life of first-year health sciences students which could address challenges related to the facets that may affect academic performance and quality of life.
Exploring the intricacies of supervision interactions: Perceptions of clinical educators and students

Schmutz AMS, Archer E, Meyer I

Supervision interactions form an integral part of clinical education for physiotherapy students. In this study the intricacies surrounding the construction of these interactions, are explored and described to understand how to optimise students’ learning. The relationship between the participants in the interaction, the clinical educator and the student, influences the construction and outcome of these interactions. Furthermore, this relationship forms the basis of future interactions between students and patients.

The aim of this study was to explore how Clinical Educators and physiotherapy students use supervision interactions toward student learning during clinical education. The perceptions and experiences of Clinical Educators and physiotherapy students were explored and described.

This study followed a qualitative research approach with an interpretivist paradigm. The data were obtained, by the researcher, through semi-structured individual interviews with six students and four Clinical Educators. The study population included the forty-eight final year students of 2017 and nine Clinical Educators appointed for third year supervision. Four Clinical Educators and six students were identified using purposive sampling. This selection process ensured inclusion of some dimensions of diversity.

Through a process of thematic analysis, the perceptions of the clinical educators and students are presented in the findings of this study. Three themes that contributed to the construction of supervision interactions were developed as contextual, personal and relational elements. The consideration of these elements in supervision interactions influenced student learning and future relationships with patients.

The effective management by the clinical educator to incorporate the different elements effectively to embrace an approach to meet the specific learning needs of the student, became evident and is discussed in the recommendations. The emotionally attuned, effective leadership and management by Clinical Educators are fundamental in the construction of supervision interactions. Contextual-, relational and personal elements should be considered in the construction of supervision interactions. Faculty should provide appropriate support to Clinical Educators, students and placements.
27 June 2019, Thursday

Session 4

Metro 3 - Educational challenges for the evolving burden of disease

PechaKucha

11:30-11:45  Metabolic syndrome among pregnant women attending antenatal care at Pelonomi Hospital

Baloyi SM, Mokwena K

Background:

Metabolic syndrome (MetSy) is a group of interrelated set of factors that increases the risk of acquiring cardiovascular diseases (CVD) and type-2 diabetes mellitus (T2DM). MetSy is often linked to increasing adverse obstetric outcomes and causing adult premature mortality. This study explores the prevalence of MetSy in pregnant women with the BMI and waist circumference(WC) anthropometric measurement excluded in screening the condition.

Objectives:

To determine the prevalence of MetSy and associated factors among the pregnant women attending antenatal care (ANC) clinic at Pelonomi Regional Academic Hospital(PRAH).

Methods:

This was prospective cross-sectional study where we collected the socio-demographic and clinical data of 282 pregnant women attending the ANC clinic at PRAH.

Results:

In total 282 participants were analysed. The prevalence of the MetSy in this group of pregnant women was 28.01% (n=79). Mean BP, triglycerides, and blood glucose and HBA1C were increased in 26.6% (n=75), 89.72% (n=253), 10.64% (n=30), 2.3% (n=6) of the sample, respectively; 77.7% (n=219) presented with low HDL-c. Elevated triglyceride (89%) were the commonest components denoting very high body fat content. Forty-one percent (n=32) were newly diagnosed with MetSy. There was very weak association on socio-demographic characteristics with MetSy in this study.

Conclusion:

There was a high prevalence of MetSy in this cohort, with many of them living with this life threatening condition unaware. Pregnancy provides an opportunity for health screening and early treatment of detected health condition before it is in an advance stage. This suggest a need for MetSy to be one of the conditions to be screened during pregnancy.
What it takes - Creation process of a massive open online course

Thompson D, Jaffer T, Deacon A, Edwardes K, Nkgudi B, Walji S

Introduction:
Massive open online courses (MOOCs) offer a means to use the internet to deliver educational material to a large and diverse audience. Using a digital medium has limitations and challenges in how to present the course material in an engaging manner. Considerations with regard to the licensing of the course impact on the content that can be included.

Methods:
The creation process of the MOOC “Organ Donation: From Death to Life” is described reviewing issues around cost, manpower, time and the creation process, from curriculum design to content generation.

Results:
From initial planning to launch was a 6-month process involving a number of role players. A core team of project leader, lead academic, learning designer, videographer and graphic designer developed and put together the course. A 4-week curriculum was devised with learning objectives built around the core steps of the deceased organ donation process. The primary course content was instructional videos with a 3 different video formats used. All content created was licensed under Creative Commons 4.0 Attribution license requiring extensive generation of local content. Filming was primarily in the studio (10 days) and hospital (3 days). Some footage was created in the Heart of Cape Town Museum and from the roadside where the first heart donor was injured. Two methods of assessment were used. Multiple choice quizzes and peer reviewed projects. The total budget for the project was R 180 000.

Conclusion:
The process of MOOC creation is both challenging and rewarding. The resources required are many but MOOC creation can potentially be achieved on a limited budget with limited capital expenditure provided core roles are filled.
27 June 2019, Thursday
Session 4
Metro 3 - People centred care
PechaKucha

12:00-12:15  Personal, environmental and occupational barriers to learning in occupational therapy students
De Bruyn JT, Ferreira B, Dixon S, Ndlovu N, Rangane D, Baumgarten J

Introduction:
Student success and active engagement in teaching and learning is the aim of all educators. Successful student engagement in education can be achieved when there is an optimal balance between the students’ abilities (personal factors), the environment that the student learns in (environmental factors) and the student’s personal life (occupational factors). In a selection course like occupational therapy students are selected based on their academic performance at school. It is assumed that most students will succeed in the course based on their cognitive abilities. Some students perform poorly regardless. This led us to investigate the factors which students perceive create barriers to learning.

Methods:
An online questionnaire was used to gather data from second, third and fourth year occupational therapy students regarding their perceived barriers to learning.

Results:
Forty five students completed the questionnaire. Personal barriers identified by the students included poor fluency in English, chronic illness, dislike of group work and time needed to study for tests. Environmental barriers included a perception that their values were not always acknowledged, content presented in a way that is not always easy to understand, not owning adequate technology to enable learning and being overloaded with assignments and tasks. Occupational barriers identified included having other responsibilities at home. The educational activity ranked as most facilitatory to learning was fieldwork education and the least was e-learning.

Conclusion:
The findings suggest that occupational therapy students perceive a number of barriers to learning. Many of the barriers could be addressed by transforming the current curriculum, adapting teaching and learning strategies and teaching students time management skills.
Exploring student perceptions on the use of gaming in an undergraduate occupational therapy module in South Africa

Du Plooy E

Introduction:
Implementing teaching and learning strategies which are effective in actively engaging undergraduate healthcare science students during content delivery in the classroom can be challenging. Immersive learning games such as Breakout EDU is an innovative teaching strategy that is based on the concept of escape rooms. Educators can create their own content-aligned games which can be facilitated in the classroom. Students work collaboratively in groups to solve a set of content related problems in a limited time. The correct answers will provide more clues or solutions to opening a variety of combination locks used to facilitate the educational game.

Methods:
A qualitative, explorative study design was used to explore the perceptions of students on the use of an immerse learning game in hand therapy lectures. Purposive sampling was used to select third- and fourth- year undergraduate Occupational Therapy students as participants following completion of a Breakout EDU game. Participants completed an online reflection questionnaire anonymously following their participation in a classroom game. The reflection questionnaire consisted of open and closed- ended questions. Open- ended questions were analysed using deductive content thematic analysis. All relevant data and segments of data from the participant responses were categorized by grouping similar items together and coding them. Data from close- ended questions were analysed to determine frequency distributions.

Results:
Findings to be presented will include the perceptions of students regarding the integration of Breakout EDU games in the current curriculum to increase student engagement and active learning in the classroom. Student responses will be discussed in relation to four themes, namely critical thinking, collaboration, creativity and communication, based on 21st century learning design.

Conclusion:
Innovative teaching strategies such as immersive game-based learning that is aligned to module outcomes should be incorporated into undergraduate occupational therapy curricula to improve student engagement and educational outcomes.
Rising to the challenge: embarking on a 'Star' journey to operationalize curriculum transformation

*Lubbe JC, Turner A, Wolvaardt L, Napoles L*

**Introduction:**

The highly disruptive 2015 student-led #FeesMustFall campaign in South Africa forced all stakeholders to reconsider and transform their current curriculum. This included a refocus on content and delivery approach and led to numerous consultations and conversations; resulting in a renewed approach to the curriculum and a redesign of initiatives to create a hybridized student-centred teaching approach.

All stakeholders, from Department of Higher Education, to Faculty boards, mandate the drive for curriculum transformation. However, even though the drive was there, the operationalization of the curriculum transformation framework at the specific Higher Education Institution transpired with unique challenges and opportunities. The aim of the project presented is to chart the process followed by one of the four Schools in the Faculty of Health Sciences to deconstruct this curriculum transformation framework.

**Methods:**

A three-phased programme was initiated to ensure that a collaborative and consultative process was followed. One of the phases included a workshop. All staff in the School (administrative and academic) were invited. This allowed for conversation and deconstruction of the concept of curriculum transformation. A qualitative approach with a modified nominal technique was used. A voting process identified priority focus areas and consensus was reached.

**Results:**

The end-product of this initiative resulted in a visual tool of 19 specific statements representative of personal practice that supports and advances the drive for curriculum transformation. This tool will be used to visually display and share practices to instil individual and School accountability for everyone’s role in curriculum transformation.

**Conclusion:**

Curriculum transformation is everyone’s responsibility and a collated effort is needed to facilitate change. Complex policy ideals must be translated into practical, appropriate actions to ensure implementation. The use of a modified nominal group technique was an efficient way to generate a user-friendly visual tool.
28 June 2019, Friday

Session 7

Metro 1 - Innovative teaching and learning strategies

Oral Presentation

08:45-09:00  Blended Learning for Health Professions Education – is it effective?

Venter E, Slaven F, Wolvaardt L

Introduction:

FPD has recently started offering short learning programmes for health professionals through a blended learning mode of delivery. Blended Learning is a model of providing education through a combination of e-learning and traditional face-to-face methods. The aim of this evaluation is to determine the blended learning model’s acceptability and effectiveness in achieving the intended outcomes. The specific objectives are to determine students’ satisfaction with a blended mode of delivery, to determine the effectiveness of blended learning as mode of delivery in reaching the intended learning outcomes, and to make recommendations to improve the blended learning model.

Methods:

The population is healthcare professionals that enroll in the blended learning short learning programmes from July 2018 to May 2019. The evaluation is being conducted using a parallel mixed-methods approach with a concurrent triangulation design. Three blended learning programmes (Management of Mental Health, Management of Diabetes and Obstetric Ultrasound) will be evaluated by means of pre- and post-questionnaires, standardised assessment and satisfaction surveys. Follow-up surveys will be conducted three months after completion of the programme. Data from all the participants enrolled will be used in the first and second phase of the evaluation. The sample size for these phases is 100. Convenience sampling will be used for the follow-up surveys. The envisaged sample size is 20. Quantitative will be data analysed using descriptive and inferential statistical methods. Responses to the open-ended questions of the online survey will be transcribed verbatim. The data will be coded and analysed in Atlas.Ti, following a deductive approach. The results will be compared with the results of the evaluation of programmes offered only as e-learning.

Results:

The results of the evaluation will be ready in June 2019.

Conclusion:

The results of the evaluation will contribute to the current understanding of how suitable blended learning is for health professions continuing professional development programmes.
Optimising communication training for healthcare purposes in a multilingual society by facilitating metacognition in a Blended Learning Context

Fourie C

Introduction:
For healthcare professionals, second language communication training is crucial, as effective communication between patient and health-carer can improve patient-health outcomes. However, the diversity of learning needs among the members of any professional group of second language users is often under-estimated. Metacognition is known to improve learning outcomes independent of learner intelligence, but metacognition only manifests when learners have the opportunity to exercise both declarative and procedural knowledge, which in a language-learning context translate as reflection on language learning (declarative knowledge) and skill to implement this knowledge via interaction (procedural knowledge). The purpose is to demonstrate how to optimise communication training in a second language for healthcare purposes via a blended learning platform by facilitating and supporting learner metacognition.

Methods:
Research was conducted amongst medical students at the University of Stellenbosch and pre-professional nurses studying at Artesis-Plantijn Hogeschool in Antwerp, Belgium. The blended approach included an autonomous online module, a face-to-face classroom and online social networking site. A multi-method research approach was used. Quantitative data were collected via questionnaires containing Likert (type) scale items, as well as by tracking students’ online learning behaviour. Qualitative data were collected by means of transcribed focus group discussions, Facebook posts and open-ended questions and analysed according to the principles of grounded theory.

Results:
The results show that the blended learning approach, especially collaborative learning via the online community of practice, can foster declarative and procedural knowledge. The results furthermore indicate that there may be a discrepancy between a learner’s declarative and procedural knowledge, which can point towards unvoiced learning needs.

Conclusion:
Finally, a model demonstrates how to facilitate learner-metacognition by means of guidelines that outline the principles and processes necessary to deliver a defensible curriculum and syllabus that can meet the diverse and fluctuating language learning needs of the healthcare learner with a pro-active approach.
Curriculum Mapping: A tool to align competencies in a dental curriculum

Maart R

Introduction:
In response to the AfriMEDS competency framework adoption by the HPCSA, all dental schools in South Africa were required to incorporate and implement these core competencies described in AfriMEDS within the undergraduate curricula. The aim of this study is to describe curriculum mapping as a tool to demonstrate the alignment of an undergraduate dental curriculum with a competency framework like AfriMEDS in preparation for accreditation and curriculum review.

Methods:
All the module descriptors (n=59) from the first to fifth year of study were included and outcomes mapped against the AfriMEDS competency framework. The presence of AfriMEDS core competencies: health care practitioner, communicator, collaborator, health advocate, leader and manager, scholar, professional were located (if present) within the module learning outcomes. AfriMEDS core competencies were quantified and illustrated in the form of a curriculum map.

Results:
Health Care Practitioner, Health Advocate and Communicator were present across all 5 years of the undergraduate dental curriculum. Health Care Practitioner in 46 modules, Health Advocate in 8 modules and Communicator in 13 modules. Competencies related to Collaborator were present in the first, third and fifth year, in 7 modules. Leader and Manager competencies were present in the fifth year, in one module. Professional competencies were present in the second and fifth year, in 3 modules. Competencies related to Scholar were present in the first, third, fourth and fifth year, in 8 modules.

Conclusion:
From the results, it was highlighted that all the AfriMEDS competencies were present in the UWC-dental programme. Curriculum mapping in this study identified gaps or areas of development for the AfriMEDS competencies within UWC dental curriculum. In addition, curriculum mapping as a tool could be recommended as a valuable tool for curriculum development.
The workplace as Teaching and Learning Environment - Perceptions and experiences of undergraduate medical students at a contemporary medical training university in Uganda

Kagawa MN, Kiguli S, Steinberg WJ, Jama MP

Introduction:

One of the most effective ways to translate medical theory into clinical practice is through workplace teaching and learning because practice is learnt by practising. Undergraduate medical students from Makerere University have workplace rotations at Mulago National Referral Hospital for purposes of learning clinical medicine. The aim of the study was to assess the suitability of the hospital, as a teaching and learning environment to produce competent health professionals ready to meet the demands of contemporary medical practice, by determining the perception and experiences of undergraduate medical students.

Methods:

Participants included fourth and fifth year undergraduate medical students. It was a cross-sectional study with a mixed methods approach. Students’ perceptions and experiences were assessed using the Dundee Ready Educational Environment Measure (DREEM) as well as focus group discussions. Data from the DREEM was analysed as frequencies and means of scores of perceptions of the learning environment. Focus group discussions data were analysed using thematic analysis.

Results:

The majority of the students perceived the learning environment as having more positives than negatives, with unrestricted access to large numbers of patients and a wide case-mix as positives. The negatives included overcrowding by the students and inadequate workplace affordances.

Conclusion:

The workplace at Mulago National Referral Hospital was perceived as suitable to teaching and learning by undergraduate medical students of Makerere University as it created authentic learning opportunities. This was due to the large patient numbers, unrestricted access and a wide case-mix. The areas of concern identified included overcrowding by the students and inadequate workplace affordances. Further research was done using the Delphi technique that identified suggestions to address these concerns and the results are part of a manuscript in progress.
Introduction:
Skills mastery is pivotal to the attainment of exit level outcomes for the medical curriculum. Effective and affordable student training is however a challenge with increasing student numbers within a resource-constrained learning environment. The aim of this investigation is to assess, during test phase, what benefits may be realized with the development of a novel integrated secure electronic platform for medical skills assessment.

Methods:
System requirements that would allow synchronous and asynchronous self-, peer- and examiner assessment, with feedback, within a secure environment were considered. The system comprises a video (VMS) - and a learning (LMS) management system, an invigilator and exam registration module, the university access control security system and Google Drive. Wi-Fi was installed to run the biometric identification system and also to provide access to the LMS for in-time evaluation using scoring rubrics. Server and storage equipment were included to allow temporary backup of video recordings. The video- and IT functionalities and the potential realization of benefits of the system in terms of educational impact were assessed in test phase during and following the Basic Emergency Care OSCE. The students were notified via the LMS that their performance would be video-taped for evaluation of the system only. None of the students (n=353) voiced an objection. The functionality of assessment within the LMS was not evaluated since assessments were performed in-time as usual, using paper-based checklists.

Results:
Integration of the system components (with exclusion of the LMS) appears seamless and the system functionalities were affected at times by network instabilities. Only 156 OSCEs could be taped due to unrelated logistical issues. Video capabilities needing attention are camera mounting in the ceiling, which is not optimal for all procedures. Wall mounting of cameras, and multiple cameras viewing from differing angles may provide unobstructed views. Automated focus- and brightness adjustments as well as adjustable light sources may improve depth perceptions. Simultaneously viewing of all OSCEs and the option of an enlarged detailed view of a selected procedure provides valuable insight and promotes quality of assessment.

Conclusion:
The main academic- and student- benefits that can now be realized with the system are increased reliability (with standardisation of assessment and ease of external moderation – which may be off-site and asynchronous), increased validity (by assessing a wider range of skills), a self-directed student learning approach (with voluntary self-assessment), and timely and
personalized feedback. Evaluative assessment (common errors are identifiable and traceable) and diagnostic assessment (student-specific errors are more readily detected) are enabled, prompting timely remediation. This unique state-of-the-art system created data that allows evidence-informed improvement of practice as well as improved scholarliness of teaching and research among lecturers. Asynchronous assessment may ensure cost-effectiveness and efficiency of management, because assessment is ubiquitous. Most importantly, this modality of assessment may find application in other related and unrelated disciplines.
28 June 2019, Friday

Session 7

Metro 1 - Innovative teaching and learning strategies

Oral Presentation

10:15-10:30  Making class ‘techno-cool’

Singh S

Introduction:
Technology is the use of scientific knowledge for practical purposes or applications. How does one use this to enhance the learning of students? This presentation shows how technology is incorporated into the classroom of an undergraduate Nursing program to captivate the students. This presentation is interactive and aims to showcase the various teaching methods that are being used by the author.

Methods:
The value of an e-book and related electronic program to teach anatomy and physiology will be discussed, making the content of the subject more interactive for the student. This resource also serves as an additional resource that the student can use to their advantage.

The use of simulation in the Nursing program helps to prepare the student for the clinical setting and also helps to produce a confident student. The student is given opportunities to become competent so that upon entering the clinical setting the student can provide the best care to the patient.

The effective use of technology for formative assessments and how a student uses the technology to participate in the class will be discussed.

Results:
Students perform academically well and show insight into the content they have been taught. Students exhibit confidence when interacting with patients and show clinical competence. The clinical services are providing positive feedback regarding the students placed at their facilities.

Conclusion:
These methods are increasing student participation and students are enthusiastic to attend class. Students are more confident about themselves, their skills and what they are learning.
Changing educators, changing learners, changing healthcare

Jacobs G, Rushe S, Salter D, Rabie S

Introduction:

Teachers’ approaches to teaching impact student approaches to learning; this, in turn, influences student achievement of learning outcomes. Most university faculty have subject expertise but little prior training in teaching approaches which foster student engagement and deep learning. This paper explores the impact of an innovative certificate program on medical educators’ approaches to teaching.

Methods:

This active, task-based faculty development program was launched in August 2017 combining face to face workshops with post-session tasks. Data was collected over three semesters from the 120 participants in 81 workshops. Thirty-eight certificates have been awarded in the following areas: Scholarly Teaching, Research in Teaching and Learning and Educational Leadership. Participants completed the Approaches to Teaching Inventory (ATI) as a pre and post measure of their approach to teaching. ATI scores are calculated according to the scoring procedure developed by Prosser and Trigwell (1999) and were categorized into Conceptual Change Student Focused (CCSF), Information Transfer/Teaching Focused (ITTF) or Balanced (B).

Results:

In the pre-participation ATI inventory, 38% of participants were categorized as Balanced, 38% Information Transfer/Teaching Focused and 24% as Conceptual Change Student Focused. In the post test inventory scores, 44% (B), 6% (ITTF) and 50% (CCSF). The strong shift from Information Transmission/Teaching Focused to a Student Focused approach suggests that the faculty are facilitating deep understanding instead of merely transferring information. This shift is also apparent in the qualitative analysis of the completed tasks and reflective papers. The following themes emerged from the reflective papers: Growth Mindset, Professional Identity Formation, Transformation of Approaches to Teaching, Application of Strategies and Thinking about the Learners.

Conclusion:

This faculty development program is successful in shifting the teaching approach of faculty which should contribute to their students, future physicians, being better equipped to apply what they have learned.
Developing a responsive e-learning system for the challenges facing health sciences education

George A

Introduction:

Design-based research (DBR) combines empirical educational research with the theory-driven design of learning environments to understand better why educational innovations work in practice. This paper presents a research project aimed at developing an evidence-informed, comprehensive, and effective program for e-learning in the Faculty of Health Sciences at the University of the Witwatersrand, which recently presented a five-year teaching and learning strategy focusing on a digital campus coupled with new e-learning systems and innovative ways of learning. The rationale for this research project, which started in 2017, is that e-learning has the potential to address the combined problems of increasing student numbers and resource constraints facing health science education in South Africa, providing it is used effectively, in ways that enhance learning.

Methods:

Two of the studies in this research project are based on a DBR framework. The DBR framework involves continuous cycles of analysis, design/development, implementation, and formative evaluation; basing design decisions on pedagogical theory and using research to evaluate both the underlying theory and the educational intervention; using mixed methods for formative evaluation; evaluating the educational intervention in a real-life learning context, and using a team approach with designers, researchers, and practitioners working closely together.

Results:

The findings from the project suggest that e-learning could alleviate some of the challenges facing health science education. For example, one study found that training videos could address some of the problems experienced when teaching paediatric clinical examination skills to large groups of medical students.

Conclusion:

Design-based research into the design and implementation of e-learning can provide valuable information about the factors that promote the successful implementation of e-learning in medical education in the South African context. The impact of improving health sciences teaching through the judicious use of e-learning has implications for improving the output and throughput of health professionals.
09:15-09:30  An analysis of the communication constructs used in simulation-based communication training for nursing (pre-)professionals

Pretorius M, Van de Poel K

Introduction:
The literature on nursing communication has repeatedly pointed to the need for interventions, such as language and (intercultural) communication training for nursing (pre-) professionals; especially if nursing (pre-)professionals are to provide patient-centred care to a culturally and linguistically diverse patient population, as is the case in South Africa. However, simulation-based communication training (SBCT) seems to have mixed results and the validity of the assessment used to make claims about the effectiveness of such training has been called into question. Our aim is to analyse the communication constructs that are used in training to identify potential pitfalls and make recommendations for SBCT for nursing.

Methods:
An integrative literature review was conducted on research articles reporting on SBCT. Databases: CINAHL, Medline, Science Direct, and Scopus. Search terms: nurse, communication, training, education, simulation. Duplicates were removed and inclusion/exclusion criteria applied to the original 719 articles, leaving 23 articles. Communication constructs, if reported, were analysed using grounded theory. An applied linguistic analysis of the constructs, using communication accommodation theory, was then conducted.

Results:
SBCT often seems to lack a comprehensive theoretical and pedagogic basis. The training emphasis appears to be on communication procedures or steps that are to be followed in specific complex communication situations. Such steps and procedures are not only useful, but also necessary in the healthcare context; however, we posit that they may be insufficient for training competent communicators.

Conclusion:
Critically and responsibly designing language and communication training for nursing, necessitates a more theoretically, empirically and pedagogically sound approach (Weideman, 2017). We therefore put forward and illustrate the use of the ABC approach (Pretorius & Van de Poel, forthcoming), as pedagogic underpinning for the design of SBCT for nursing professionals.
The extended curriculum degree programme in medicine at Sefako Makgatho Health Sciences University: A successful transformative model of the medical landscape in South Africa

Nyathi M, Mntla PS, McNeil RT, Green-Thompson L, Mosebo B, Marvey B

Introduction:

Medicine traditionally attracts applicants with high academic performance in science related subjects (Physical Science; Life sciences; and Mathematics). As a result, talented students attending poorly resourced schools (quintiles 1&2) fail to get admittance since they matriculate with minimum entry requirements. In 2006, the South African government introduced funding to cater for access academic programs making it possible for universities to offer extended curriculum programs. These aimed at affording talented students from disadvantaged schools who achieved minimum entry qualifications an opportunity to gain access to university. Sefako Makgatho Health Sciences University (SMU) offers a foundation medicine degree program (MBChB-ECP). Talented students from quintiles 1&2 schools who achieve minimum entry requirements in either Mathematics and Physical Science or Life Sciences are prepared over one year in Anatomy and Physiology, Biophysics and Numeracy, Biology, Biochemistry, English and Study Skills. The study assessed throughput of SMU medical students gaining entry through MB ChB-ECP.

Methods:

A retrospective review of academic records of medical students at SMU who gained entry to the MB ChB-ECP. These data were analysed to assess overall performance and throughput of this cohort of students.

Results:

381 students gained access to medicine at SMU through MB ChB-ECP from 2010 to 2018. Three cohorts have since graduated. Of the 54 enrolled MBChB-ECP 2010 cohort; 24 (44%) graduated in record time in 2016; 13(24.1%) graduated in 2017; 13(24.1%) graduated in 2018, 2(0.04%) and 2(0.04%) transferred to other programs at SMU. Of the 50 MBChB-ECP 2011 cohort, 38(76%) completed in record time in 2017; 3(6%) graduated in 2018 and 9(18%) remain within the system. Among the 45 MBChB-ECP 2012 cohort, 35 (77.7%) completed in record time (2018); 1(2.2%) transferred to other programs while 9 (20%) remain in the system. The best three achievers in each cohort had an average of 70% from 1st year to the 7th year.
Conclusion:
The SMU foundation program successfully prepares talented students drawn from poorly resourced schools for a career in medicine. The percentage of students graduating in record time has continued to rise steadily; 44%, 76% and 77.7% for the academic years 2016; 2017 and 2018 respectively.
Community stakeholder perceptions of a community-based service-learning physiotherapy placement

Mostert K, Mshunquane N

Introduction:
Primary health care implies that students should be prepared to work in community-based settings. The purpose of this study was to investigate the perceptions of preceptors in the community-based placements of final-year students at a South African university to improve the service-learning opportunity.

Methods:
An explorative mixed-method design was applied. This abstract reports on the qualitative part. All preceptors (n=19) involved with the five-week placement of final-year students were invited. They were from various settings, including community health centre, a community forum, a hospice, a shelter for people who are homeless, an informal settlement and luncheon clubs. Participants were asked via email to comment on a highlight from the students’ involvement, and to give recommendations for improvement. Responses were thematically analysed according.

Results:
Two physiotherapists, three nurses, three social workers, a preceptor university and two community members responded. Three themes emerged: 1) student professionalism, 2) Positive Influence on clients and 4) appreciation. Participants observed that the students grew in confidence and problem solving. Students were on-time, courteous, and willing to offer help. Benefits to the community included improved reported knowledge through health education on various topics with different target groups, raised community awareness, e.g. about physical activity at an annual community health fair, promotion of health through side-walk exercise classes, clinical care during home visits and in clinics, and peer-education of home-care workers, clinical associates and students from other professions. Respondents were looking forward to see the students and appreciated their services and collaboration with the supervisors.

Conclusion:
Preceptors in different settings of one South African university’s physiotherapy placement sites had a positive view of the students’ professionalism and the services’ impact. Student who have completed this public health physiotherapy placement should be able to offer similar services after graduation.
Introduction:
Active Blended Learning (ABL) is the integration of online and face-to-face learning spaces using a student centred approach to design learning activities. Students are active participants in a learning process that draws on 21st Century skills such as skilled communication, collaboration in learning, real world problem-solving, knowledge construction and digital fluency. The eZone was developed as a flexible, technology-rich learning environment that provides the resources and lecturer support to support ABL within the School. This study aims to reflect on two years of ABL to determine adoption and usage patterns.

Methods:
Data from the School, comprising of four professional degree programs and three support entities, is routinely collected in the form of booking records, student device registrations, student device check-out logs, and virtual learning environment data analytics tracking (via a Google Analytics Tracker). Retrospective descriptive analysis of the data was done for usage patterns and adoption rates. General user-feedback (typically via email) was used during the process to aid data interpretation.

Results:
The eZone bookings for ABL sessions for the first 2 academic months of 2018 and 2019 showed an overall 12.46% increase. Device registration rates by students increased by 8.9% overall with a stark first year increase of 27.6%. Across the School, the mastery of ABL demonstrated on the virtual learning environment has shown an increase of collaboration and knowledge-construction activities, as opposed to document and announcement based engagements.

Conclusion:
Retrospective data analysis demonstrates the ongoing adoption of ABL and increase integration of 21st Century skills into the teaching and learning activities of the school through the usage patterns of staff and students in the eZone and the virtual learning environment. Impact on student performance and throughput will be the focus of future studies.
Learning space and its attributes – Findings from a qualitative study at Nelson R Mandela School of Medicine

Venugopala R, Moshabela M

**Introduction:**
Learning space is the interface between student learning styles and the institutional learning environments. Learning space is not only the physical space but also includes virtual and conceptual space. Student learning research refers to ‘Approaches to learning’ research developed around the idea of ‘deep’ and ‘surface’ approaches to learning.

Transformative educational and training experiences are required to ensure a health care workforce that can respond to global needs. Novelty and change facilitate learning across sensory, physical, emotional and cognitive networks and this in turn is influenced by the learning space and its attributes. Learning spaces at a medical school influence the ‘being and becoming’ of a junior doctor. Understanding this process in the context of person, place and participation can help us to inform and influence students’ clinical learning.

**Methods:**
18 in-depth interviews were conducted with medical students from first to final year where questions were asked regarding their understanding of the term learning space and the negative and positive experiences that they experienced at medical school.

**Results:**
There were varying responses with some students having a holistic understanding of the term learning space and that it encompasses physical, social and mental spaces. Most of the students though answered that the learning space meant the physical space where they learn and study. A majority of the students interviewed commented that the skills sessions held on campus benefitted them the most while the PBL (problem-based learning) sessions benefitted them the least.

**Conclusion:**
Responses from medical students regarding the learning space and its attributes at a medical school will give an understanding regarding attitudes, behaviors and professionalism which can ultimately influence patient outcomes.