How personal factors and teaching context affect teachers’ conceptions of learning and teaching, in student-centered medical education: a qualitative study

Johanna CG Jacobs*, VU University Medical Centre & Vrije Universiteit, Research in Education & LEARN!, Amsterdam, Netherlands
Scheltus J Van Luijk, Maastricht University Medical Centre, Resident Education, Maastricht, Netherlands
Cees PM Van der Vleuten, Maastricht University, School of Health Professions Education, Maastricht, Netherlands
Rashmi A Kusurkar, VU University Medical Centre & Vrije Universiteit, Research in Education & LEARN!, Amsterdam, Netherlands
Gerda Croiset, VU University Medical Centre & Vrije Universiteit, VUMc School of Medical Sciences & LEARN!, Amsterdam, Netherlands
Fedde Scheele, St Lucas Andreas Hospital & Vrije Universiteit, Obstetrics & Gynecology, Amsterdam, Netherlands

Introduction: Teachers’ approaches of teaching affect students’ learning approaches and results (Gibbs & Coffey 2004). Both personal factors of teachers (including conceptions, perceived autonomy, work engagement, and motivation) and teaching context influence teaching behaviour (O’Sullivan & Irby 2011). Previously we found differences in teachers’ conceptions between two medical schools with student-centred curricula. To obtain more insights on how teaching behaviour can be improved, our research question is: which institutional, departmental and personal characteristics can be identified in relation to differences in teachers’ conceptions of learning and teaching?

Methods: Based on a purposeful sampling one researcher conducted individual interviews with teachers from the undergraduate curriculum. The study was conducted in 2011-2012, in two medical schools with a different tradition in student-centered medical education, in the Netherlands. The participants were interviewed about their perception of the teaching environment, regarding medical school and curriculum (macro level), department and educational context (meso level) and personal factors (micro level). All interviews were audiotaped, transcribed verbatim and summarized for member checking. We used a template analysis. Two researchers coded the first two interviews together to obtain consensus. The next two interviews were coded separately and discussed afterwards. Subsequently, the first researcher coded the rest of the interviews. Sampling continued until theoretical saturation was achieved. Qualitative data analysis software (Atlas-ti) provided a sorting of quotations, which were summarized and discussed with the research team.

Results: Saturation was reached after 13 interviews. We arranged our results in personal factors and contextual factors (department, educational context, medical school and curriculum). Large individual differences existed between teachers, in both medical schools. However, common themes for personal factors were ‘agency’, ‘experience with PBL (as student or teacher)’, ‘personal development’, ‘motivation and work engagement’ and ‘high content expertise combined with late PBL experience’. In contextual factors, department the themes were ‘leadership style of department chairs’ and ‘affordances and support’. Followed by contextual factors/educational context: ‘leadership style of course coordinator’, ‘support and relatedness’ and ‘students’ characteristics’. And in contextual factors/medical school and curriculum: ‘tradition, curriculum change’, ‘leadership style Dean / Program Director’, ‘support by educational department’ and ‘management and finances’.

Discussion: In the personal factors, agency by involvement in educational management and development was important. Being involved in a discourse about learning and teaching, apparently resulted in inspiration and challenges, and subsequently a change in conceptions. Secondly, experience with PBL as student or starting teacher was mentioned. By experiencing the student-centred approach, teachers naturally developed a student-centered repertoire. Thirdly, motivation and work engagement were high for all teachers, they appreciated the interaction with students. In the contextual factors (departments, educational context, medical school and curriculum) leadership appeared to be very important at all levels, but especially for department chairs. We advocate an adequate selection and more leadership training for department chairs. Furthermore, it should be realized that after a major curriculum shift, many years are needed to establish a concomitant shift in teachers’ conceptions.

Conclusion: Several personal and contextual factors affect the partly implicit teachers’ conceptions of learning and teaching. The leadership style of department chairs is important with respect to teachers’ conceptions of learning and teaching, and deserves more attention in faculty development activities.

Understanding how residents’ preferences for supervisory methods change throughout residency training: a mixed-methods study

Francisco Olmos-Vega*, Javeriana University, Anaesthesiology Department, Bogotá, Colombia
Jeroen Donkers, Maastricht University, Department of Educational Development and Research, Maastricht, Netherlands
Renee Stalmeijer, Maastricht University, Department of Educational Development and Research, Maastricht, Netherlands
Diana Dolmans, Maastricht University, Department of Educational Development and Research, Maastricht, Netherlands

Introduction: Effective clinical supervision (CS) is of paramount importance in postgraduate training as it has been linked to positive effects on patient outcomes and trainees’ educational-related outcomes (1). As a result, guidelines suggest that CS should be provided at all levels of training. However, it is not clear how to solve the tension between providing ongoing CS to assure patient safety throughout the residency training process, while still encouraging increasing resident autonomy. Cognitive apprenticeship (CA) provides a comprehensive set of teaching methods (modelling, coaching, articulation, exploration) that could help to solve this tension. The aim of this study was to describe residents’ preferences with regard to the use of the CA teaching methods by their supervisors, and to explore differences in preferences between junior, intermediate and senior residents.

Methods: A mixed methods design with concurrent collection of quantitative and qualitative data was used. 301 residents from all Javeriana University residency programmes were invited to participate. Each resident was asked to fill in a Maastricht Clinical Teaching Questionnaire (MCTQ) (2), which is based on the CA teaching methods, to rate the relevance of each teaching method to their learning process according to their current level of training (junior, intermediate or senior). Furthermore, residents were asked to indicate their most preferred teaching method and explain why (open-ended question in questionnaire). One-way ANOVA tests were run for each CA teaching method comparing the means for each level of training. Through crosstabs the ranking of each teaching method was calculated. Thematic analysis of the answers to the open-ended questions sought to explore the rationale behind the rankings for each level of trainee.

Results: 211 residents (70%) completed the questionnaire. Residents perceived all CA teaching methods as important or very important for their training process, regardless of their level of training. Analysis of the most preferred teaching method indicated that Junior and intermediate residents preferred teaching methods aimed at modelling and coaching whereas senior residents preferred teaching methods aimed at stimulating self-directed learning (articulation and exploration). Thematic analysis highlighted the great differences in rationales for preferring one teaching method for different training levels. For example, junior residents felt modelling to be important to acquire skills rapidly, whilst senior residents described modelling to be important as a way to compare their own performance with that of the supervisor.

Discussion and Conclusions: Results suggest that CS should follow a developmental trajectory using different configurations of CA teaching methods for different levels of residency training. Highlighting residents’ preferences on clinical teaching strategies expanded the understanding of supervision during workplace learning in residency.

Residents have strong preferences with regard to use of the CA teaching methods regardless of their level of training. Reasons behind these preferences differ according to level of training, suggesting that the CA model is a helpful framework to better structure CS during all levels of residency training, and could be used to solve the tension between on-going CS and increasing resident autonomy.


Overcoming the barriers to educating junior doctors working in the clinical environment

Benjamin Vowles*, NHS Lothian, Medical Education Directorate, Edinburgh, UK
Simon Edgar, NHS Lothian, Medical Education Directorate, Edinburgh, UK

Introduction: The General Medical Council (GMC) is responsible for overseeing the postgraduate education of doctors in training in the UK and is currently in the process of reviewing the standards set out in Tomorrow’s Doctors (2009) and The Trainee Doctor (2011). All NHS trusts and health boards have a duty to ensure these standards are met, whilst addressing the ever increasing healthcare needs of the population, all in a climate of financial austerity. The GMC identifies the “Learning Environment and Culture” as one of its 4 key framework themes, with healthcare providers expected to provide a safe educational environment for both doctors and patients, where learning is part of the culture, educational governance is prioritised and safe and effective care for patients is delivered (GMC review of education and training standards). In view of this upcoming guidance we sought to identify barriers to producing a clinical environment that supports learning for postgraduate trainees in our health board and explored ways to overcome these.
Methods: A literature review was performed to identify themes that informed a series of semi-structured interviews. We identified 3 clinical departments in our health board across a spectrum of performance in relation to the GMC NTS over the last 3 years and conducted interviews with 2 foundation year doctors (PGY1 & 2), 2 senior registrars (PGY 7-10), 2 consultants and 1 non-clinical manager in each department. Interviews continued until saturation of themes was achieved. Data was analysed with pattern-matching techniques and thematic analysis with triangulation and occurred alongside data collection.

Results: We identified 9 key themes that were felt by participants to be barriers to education and training in the clinical working environment: 1) Lack of time; 2) Opportunities for learning; 3) Physical Environment; 4) Workload; 5) Factors affecting the learner; 6) Factors affecting the teacher; 7) Organisational Factors; 8) Training System; 9) Supervision & Feedback. The extent to which these factors were felt to be important varied between trainees and teachers, trainees of different levels and between non-clinical and clinical staff. Proposed solutions to these challenges were grouped in the following themes: 1) Development of teachers; 2) Development of learners; 3) Improved organisation of teaching activities; 4) Teambuilding; 5) Improving climate of organisation.

Discussion and Conclusions: It is inevitable that the busy working environment in healthcare will raise significant numbers of barriers and challenges to individuals and organisations responsible for education and training. Whilst many of the themes identified will be unsurprising to practising clinicians, education and training. Whilst many of the themes individual and organisation responsible for busy working environment in healthcare will raise

Discussion and Conclusions: It is inevitable that the busy working environment in healthcare will raise significant numbers of barriers and challenges to individuals and organisations responsible for education and training. Whilst many of the themes identified will be unsurprising to practising clinicians, defining the challenges we face is an important first step in the process of creating an environment that is equally safe for learners and patients. Our data also identifies potential solutions that could facilitate improvements in the learning for postgraduate trainees of different levels and between non-clinical and clinical staff. Proposed solutions to these challenges were grouped in the following themes: 1) Development of teachers; 2) Development of learners; 3) Improved organisation of teaching activities; 4) Teambuilding; 5) Improving climate of organisation.

Results: We identified 9 key themes that were felt by participants to be barriers to education and training in the clinical working environment: 1) Lack of time; 2) Opportunities for learning; 3) Physical Environment; 4) Workload; 5) Factors affecting the learner; 6) Factors affecting the teacher; 7) Organisational Factors; 8) Training System; 9) Supervision & Feedback. The extent to which these factors were felt to be important varied between trainees and teachers, trainees of different levels and between non-clinical and clinical staff. Proposed solutions to these challenges were grouped in the following themes: 1) Development of teachers; 2) Development of learners; 3) Improved organisation of teaching activities; 4) Teambuilding; 5) Improving climate of organisation.

Discussion and Conclusions: It is inevitable that the busy working environment in healthcare will raise significant numbers of barriers and challenges to individuals and organisations responsible for education and training. Firstly, whilst many of the themes identified will be unsurprising to practising clinicians, defining the challenges we face is an important first step in the process of creating an environment that is equally safe for learners and patients. Our data also identifies potential solutions that could facilitate improvements in the learning environment and culture that will ensure safety for learners and patients. Our data also identifies potential solutions that could facilitate improvements in the learning environment and culture that will ensure safety for learners and patients.

References: GMC – Review of education and training standards (not yet published)

Assessing the perceived effectiveness of an undergraduate medical education innovation: Students’ views of the McGill Longitudinal Family Medicine Experience

Karen Willoughby, McGill University, Family Medicine, Montreal, Canada
Miriam Boillat, McGill University, Family Medicine, Montreal, Canada
Marion Dove, McGill University, Family Medicine, Montreal, Canada
Peter Nugus, McGill University, Montreal, Canada
Yvonne Steiner, McGill University, Montreal, Canada
Leonora Lalla, McGill University, Montreal, Canada

Presenters: Charo Rodríguez*, McGill University, Montreal, Canada

Introduction: Following international trends, Canadian medical schools have recently included more longitudinal, community-based clinical experiences early in the medical school curriculum. Little is known however about the perceived effects of these undergraduate innovations from the point of view of Canadian students. What is more, there is a dearth of publically-available reliable and valid questionnaires that allow the comparison among different cohorts of students over time or across multiple medical schools. We aimed to fulfill those research gaps by focusing on the McGill Longitudinal Family Medicine Experience (LFME), a course in which first-year students are paired with a community family physician throughout one academic year. More particularly, we aimed to answer the following research question: What are first-year medical students’ perceptions of the effects of the LFME course during its first year of implementation?

Methods: After conducting an extensive literature review, we created an exploratory 34-item questionnaire called the LFME Survey – McGill Student Version. For each item, students responded using a 7-point Likert scale (1=strongly disagree, 7=strongly agree). All 187 first-year medical students at McGill University were invited to complete this questionnaire online using fluidsurveys.com at the end of their first academic year. Participating students provided informed consent and participation was voluntary and anonymous. Mean scores for each item were calculated and a factor analysis was conducted to explore construct validity. Cronbach’s alpha for all items was 0.93, indicating good reliability.

Results: One hundred and twenty first-year students (i.e. 64% of those enrolled) responded to the questionnaire. Eight factors were initially identified and in combination explained 69% of the variance: 1) overall satisfaction with the course 2) satisfaction with preceptor 3) knowledge 4) affective learning 5) clinical skills 6) teaching and feedback 7) professional identity and professionalism, and 8) interest in primary care. The composite scores for all the above factors were above 4.5, indicating that participants perceived that the LFME had positive effects on these dimensions. Examples include: 88% felt the LFME was an appropriate and valuable educational experience, 80% felt their preceptor was a good role-model, 84% felt the knowledge and skills learned were relevant for a career in medicine, 54% felt more confidence in their clinical skills, 52% felt they had sufficient time with their preceptor for teaching or discussion, 67% felt the LFME positively reinforced their commitment to be a physician, and 28% were more interested in pursuing family medicine as a result of the LFME.

Discussion and Conclusions: The present study developed a new tool to assess students’ perceptions of the effectiveness of a new longitudinal, community-based early clinical experience course at McGill University. Our results indicate that along with similarly structured pre-clerkship courses, the LFME

#304 (23722)
Assessing the perceived effectiveness of an undergraduate medical education innovation: Students’ views of the McGill Longitudinal Family Medicine Experience

Karen Willoughby, McGill University, Family Medicine, Montreal, Canada
Miriam Boillat, McGill University, Family Medicine, Montreal, Canada
Marion Dove, McGill University, Family Medicine, Montreal, Canada
Peter Nugus, McGill University, Montreal, Canada
Yvonne Steiner, McGill University, Montreal, Canada
Leonora Lalla, McGill University, Montreal, Canada

Presenters: Charo Rodríguez*, McGill University, Montreal, Canada

Introduction: Following international trends, Canadian medical schools have recently included more longitudinal, community-based clinical experiences early in the medical school curriculum. Little is known however about the perceived effects of these undergraduate innovations from the point of view of Canadian students. What is more, there is a dearth of publically-available reliable and valid questionnaires that allow the comparison among different cohorts of students over time or across multiple medical schools. We aimed to fulfill those research gaps by focusing on the McGill Longitudinal Family Medicine Experience (LFME), a course in which first-year students are paired with a community family physician throughout one academic year. More particularly, we aimed to answer the following research question: What are first-year medical students’ perceptions of the effects of the LFME course during its first year of implementation?

Methods: After conducting an extensive literature review, we created an exploratory 34-item questionnaire called the LFME Survey – McGill Student Version. For each item, students responded using a 7-point Likert scale (1=strongly disagree, 7=strongly agree). All 187 first-year medical students at McGill University were invited to complete this questionnaire online using fluidsurveys.com at the end of their first academic year. Participating students provided informed consent and participation was voluntary and anonymous. Mean scores for each item were calculated and a factor analysis was conducted to explore construct validity. Cronbach’s alpha for all items was 0.93, indicating good reliability.

Results: One hundred and twenty first-year students (i.e. 64% of those enrolled) responded to the questionnaire. Eight factors were initially identified and in combination explained 69% of the variance: 1) overall satisfaction with the course 2) satisfaction with preceptor 3) knowledge 4) affective learning 5) clinical skills 6) teaching and feedback 7) professional identity and professionalism, and 8) interest in primary care. The composite scores for all the above factors were above 4.5, indicating that participants perceived that the LFME had positive effects on these dimensions. Examples include: 88% felt the LFME was an appropriate and valuable educational experience, 80% felt their preceptor was a good role-model, 84% felt the knowledge and skills learned were relevant for a career in medicine, 54% felt more confidence in their clinical skills, 52% felt they had sufficient time with their preceptor for teaching or discussion, 67% felt the LFME positively reinforced their commitment to be a physician, and 28% were more interested in pursuing family medicine as a result of the LFME.

Discussion and Conclusions: The present study developed a new tool to assess students’ perceptions of the effectiveness of a new longitudinal, community-based early clinical experience course at McGill University. Our results indicate that along with similarly structured pre-clerkship courses, the LFME

References: GMC – Review of education and training standards (not yet published)
Discussion and Conclusions:

Learners, and being overwhelmed by too many teaching included a lack of time, having disinterested associated with surgeons becoming disengaged from the need to maintain and expand one's own knowledge lifelong professional relationships with learners (4) the and playing a role in their success (3) fostering positive students develop into competent practicing physicians and responsibility to teach future physicians (2) watching motivated by five main factors: (1) a sense of practices of surgical educators at our school.

Results: As the journal, Medical Education, approaches its 50th anniversary, the medical education community has the opportunity to reflect upon its journey over the past half-century and its contributions to the field. We undertook a critical discourse analysis of the journal over this time period, examining what sorts of issues captured its attention, and what ideas were considered important at different times. In so doing, we considered the historical and social contingencies that shaped the journal to bring to light tensions between certain values, and examined assumptions that underpin educational practices that are currently taken for granted.

Methods: We used a Foucauldian approach and critical historical lens in this research project, attending to the use of language, and its effects on practices and power relations. We focused on the contexts in which texts were used, including how they represented ideas and how language connected seemingly disparate concepts. Given the size of the body of data (more than 12,000 articles) we used a systematic cluster sample in which all articles from specific years were identified as individual units for analysis. Articles from the first five years (1966/67-1971) and most recent three years (2012-2014/July) were selected as individual units of study. We also selected all articles from every fifth year of the journal (1976, 1981, 1986, 1991, 1996, 2001, 2006, 2011). Within this dataset, we focussed particular attention on the editorials and commentaries. These were coded by an RA; the PI and graduate student then analyzed them discursively, looking for statements, keywords and metaphors.

Results: Many recurrent themes emerged from the data. There was a continued focus on improving the tools, techniques and practices of the educational trade. Topics such as selection, curriculum, assessment, students, teaching strategies appeared regularly, while at the same time there are repeated expressions of concern about the ability to manage the medical education enterprise in a rigorous and scientific manner. Three key discursive areas identified were: 1. Objectivity and the nature of medical education knowledge; 2. Universality vs. Local Context; and 3. The Academy vs. the Community:

#3D5 (23730)
Surgeons’ motivation to teach: a grounded theory study of teachers at a university-based hospital

Curtis R Budden*, University of Alberta, Department of Surgery, Edmonton, Canada
Ksenia Svechnikova, University of Alberta, Department of Surgery, Edmonton, Canada
Jonathan White, University of Alberta, Department of Surgery, Edmonton, Canada

Introduction: The teaching of surgery is an essential part of medical education. Few studies have examined the factors which motivate surgeons to teach surgery. The objective of this qualitative study was to explore the reasons which surgeons identify as motivations for their involvement in education.

Methods: Semi-structured interviews were conducted with 15 surgeons at a large Canadian University. Each surgeon had been identified as an excellent teacher by the participants.

Results: Surgeons in the study reported being motivated by five main factors: (1) a sense of responsibility to teach future physicians (2) watching students develop into competent practicing physicians and playing a role in their success (3) fostering positive lifelong professional relationships with learners (4) the need to maintain and expand one’s own knowledge base (5) an intrinsic enjoyment of teaching. Factors associated with surgeons becoming disengaged from teaching included a lack of time, having disinterested learners, and being overwhelmed by too many learners.

Discussion and Conclusions: This study has established the major factors which motivate our best surgical educators. We plan to use this information to engage more surgeons in teaching, and to conduct further studies to identify and disseminate the best practices of surgical educators at our school.

#3D6 (23748)
A Critical Discourse Analysis of 50 years of the journal ‘Medical Education’

Cynthia R Whitehead*, University of Toronto, Women’s College Hospital, The Wilson Centre, Centre for Ambulatory Care Education, Family and Community Medicine, Toronto, Canada
Cristian Rangel, University of Toronto, The Wilson Centre, Sociology, Toronto, Canada
Carrie Cartmill, University of Toronto, Pediatrics, Toronto, Canada
Tina Martimianakis, University of Toronto, Sick Kids Hospital, The Wilson Centre, Medicine, Toronto, Canada
Ayelet Kuper, University of Toronto, Sunnybrook Hospital, The Wilson Centre, Family and Community Medicine, Toronto, Canada

Introduction: As the journal, Medical Education, approaches its 50th anniversary, the medical education community has the opportunity to reflect upon its journey over the past half-century and its contributions to the field. We undertook a critical discourse analysis of the journal over this time period, examining what sorts of issues captured its attention, and what ideas were considered important at different times. In so doing, we considered the historical and social contingencies that shaped the journal to bring to light tensions between certain values, and examined assumptions that underpin educational practices that are currently taken for granted.

Methods: We used a Foucauldian approach and critical historical lens in this research project, attending to the use of language, and its effects on practices and power relations. We focused on the contexts in which texts were used, including how they represented ideas and how language connected seemingly disparate concepts. Given the size of the body of data (more than 12,000 articles) we used a systematic cluster sample in which all articles from specific years were identified as individual units for analysis. Articles from the first five years (1966/67-1971) and most recent three years (2012-2014/July) were selected as individual units of study. We also selected all articles from every fifth year of the journal (1976, 1981, 1986, 1991, 1996, 2001, 2006, 2011). Within this dataset, we focussed particular attention on the editorials and commentaries. These were coded by an RA; the PI and graduate student then analyzed them discursively, looking for statements, keywords and metaphors.

Results: Many recurrent themes emerged from the data. There was a continued focus on improving the tools, techniques and practices of the educational trade. Topics such as selection, curriculum, assessment, students, teaching strategies appeared regularly, while at the same time there are repeated expressions of concern about the ability to manage the medical education enterprise in a rigorous and scientific manner. Three key discursive areas identified were: 1. Objectivity and the nature of medical education knowledge; 2. Universality vs. Local Context; and 3. The Academy vs. the Community:
Places and spaces for medical education. In each area, there was a tension between the desire to standardize and recognition of the limits of standardization.

Discussion and Conclusions: Medical schools must demonstrate their accountability to governments and society and show that they are fulfilling their societal mandate. Creating metrics and measures, be they OSCEs, competency milestones, or validated scales of compassion or interprofessionalism, is one way this is done. However the tensions we showcase in this research highlight that there is also clear recognition that not all important aspects of medical education can be standardized. The journal ‘Medical Education,’ by providing space and voice to multiple stakeholders, has played a key role in engaging the medical education community in the development of objective measures while at the same time allowing continued questioning of these standards and measures in order to maintain nuance, expand possibilities and avoid excessive rigidity.