CONFERENCE PROCEEDINGS

Technology in Education: Riding the Wave of the Future. Chiropractic Educators Research Forum (CERF), June 22, 2024

Chiropractic Educators Research Forum

ABSTRACT

The Chiropractic Educators Research Forum convened a conference on June 22, 2024. During this meeting, attendees shared what chiropractic programs are doing, specifically focusing on education research related to technology. Presenters and panelists discussed what technology chiropractic programs should be using to educate chiropractors for the future.

Key Indexing Terms: Health Occupations; Education; Professional; Technology

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INTRODUCTION

The Chiropractic Educators Research Forum (CERF) holds conferences from time to time that focus on selected topics relevant to education and the chiropractic profession. These conferences showcase education research, innovations, and best practices and provide a forum for presenting scholarly work in health professions education theory and practice. The CERF held a virtual conference on June 22, 2024, "Technology in Education: Riding the Wave of the Future," which specifically focused on research related to technology.

For this conference, we defined health technology as the application of organized knowledge and skills in the form of devices, procedures, and systems that are developed to solve a health problem and improve quality of life.[1,2] Health technology includes the tools that health care providers use to provide care for their patients, including digital or information technologies, as well as equipment or device technologies.

Technology has the potential to help teachers, learners, and chiropractic education programs become the best that they can be. As technology continues to evolve, it provides opportunities and also threats to the learning environment. The purpose of this conference was to take a closer look at how educators are using technology and the challenges and benefits it brings to health professions education. During this conference, the attendees discussed what technology chiropractic programs are using and what technologies should be taught to prepare graduates for a successful future in health care.

Opening presentations introduced essential concepts surrounding technology at the beginning of each session (Fig. 1).

Research and scholarly presentations are a core component of this conference. After abstracts were submitted and went through a rigorous peer-review process, the highest quality abstracts relevant to the intersection of chiropractic, education, and the conference theme were selected for presentation. The conference could not have been completed without the excellent work of the peer-review committee. We thank the 25 members of the June 2024 Scientific Peer-Review Committee for their excellent peer review of all submitted abstracts. Any reviewer who declared a conflict of interest or was an abstract author was recused from reviewing that abstract.

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As we have done with prior CERF conferences,[3–9] the conference proceedings includes links to the video presentations so that they may be preserved and more widely distributed. The peer-reviewed presentations from the conference are listed here alphabetically by the first author's last name.

ABSTRACTS

An analysis of technology embedded in 2 chiropractic course curricula

Brittany Baggett, Wong Vi Vien, Vey Lian Chan, Daniel Moore

Objective: The purpose of this study was to inventory the use of digital skills and technology within 2 undergraduate chiropractic courses: the International Medical University (IMU) in Malaysia and Teesside University (TU) in the United Kingdom. Method: A staff member from each chiropractic course assessed the module descriptions of every module across the course and identified content related to digital skills or technology. The data were entered into a spreadsheet for each course, and spreadsheets were compared to each other to identify similarities and differences. A second author verified the comparison. Results: Both institutions utilized e-learning platforms for learning, teaching, and assessment methods. Educational videos and applications, online research databases, force plates, and clinical management software were used in both curricula. Telehealth skills and a virtual clinical imaging database were both included at TU, and a radiography machine and statistical data program were included at IMU. Conclusion: Technology in the form of e-learning platforms was included in 2 courses in different countries, particularly as it

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Teaching and Learning with Virtual Technology
Keynote: Theresa Asmus, DNP, Clinical Associate Professor, Simulation Coordinator, University of San Diego
Moderator: Bart Green, DC, MSEd, PhD
This presentation reviews important information that educators should consider when including technology in education.
Video: https://youtu.be/UWcvZ_IMJlk

Today: Technology in Education
Tutorial: To prepare graduates for chiropractic practice, we must ask, "What technologies do chiropractors need to know today?" This video reviews the history of technology development in chiropractic, offers expert views on what technology chiropractors need today, and considers three levels of technology training: global, health professions, and chiropractic.
Video: https://youtu.be/UUJLMFYoLXY

Tomorrow: Technology in Education
Tutorial: As we educate the chiropractors and prepare them for tomorrow, we must ask, "What technologies will chiropractors need to know in the future?" This video reviews the recent rise of technology and its influence on health care and chiropractic practice. Included are expert views on what technology chiropractors will need to know in the future and a list of critical questions to consider before including new technologies in our chiropractic curricula.
Video: https://youtu.be/bwmo6qyGd2A

Figure 1 - Opening presentations on the topic of technology.

pertained to learning, teaching, and assessments. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/K6WSa3hHtfY

Student perception of 3D anatomy technology in a soft tissues procedures course: A descriptive report

Scott Coon, Robyn Wakefield-Murphy

Objectives: The purpose of this report is to describe student perception of the kinesiology functions of the Anatomage table during a soft tissue procedures course. Methods: Students participated in a self-tutorial assignment using the Anatomage table to review torso, pelvis, and lower extremity. Students completed a qualitative reflection paper at the end of the course to gauge perception of the use of Anatomage for anatomy review. The students were asked to compare their experience learning the soft tissue procedures pre-midterm with the Anatomage self-tutorial and post-midterm without the Anatomage self-tutorial. The reflection paper asked 4 "yes/no" questions with a place for comments to explain the choice. Results: Twenty-nine of 30 students completed the reflection paper. A majority (96%) reported the review was valuable and using in-class time was beneficial (76.9%). The students reported that they felt an additional self-tutorial would be beneficial for post-midterm course material (69.2%). A slight majority (53.8%) indicated a preference for in-class time to complete future activities. Conclusion: Students perceived that the Anatomage table assignment was useful for anatomy review and that future review assignments would be beneficial. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/99zw9S_SQaI

Feedback on the use of video analysis to augment teaching of complex psychomotor skills in chiropractic education: A descriptive report

Brett Guist, Simon Wang, Matthew Carinci, David Starmer

Objective: The purpose of this report is to describe the implementation of video analysis for the instruction of spinal manipulation at Canadian Memorial Chiropractic College and the feedback received from its usage. Methods: Video analysis aimed to facilitate the instruction of complex psychomotor skills (ie, spinal manipulation) was implemented in 3 technique courses for the 2018–2019 academic year. Five faculty used tablets and a free 3rd-party video analysis application to facilitate instruction of spinal manipulation procedures. We estimate that 300 of 600 students were exposed to video analysis. Faculty feedback was collected informally to gauge the interest of students in the use of video analysis. Student feedback was collected during course evaluations at the end of the academic year. Results: Faculty reported they perceived that students had a high level of interest and engagement using the video analysis. Students' comments excerpted from course feedback forms included that they enjoyed the use of "videos and video analysis" and that the technology was used to "help guide our learning." Currently, all instructors in the department ($n = 15$) are provided with this technology. The technology expanded from sole use in the technique courses to 8 courses, including rehabilitation, orthopedics, and physical diagnosis courses. Conclusion: The use of video analysis was implemented in spinal manipulation courses, which resulted in the expansion of the use of this technology in other courses. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/lZJItMSIWa0

Impact of integrating electronic dissection packages into a master's degree program: A descriptive report

Adrian Hunnisett, Anna Palmer, Sally Bannerman, Christina Cunliffe

Objective: The purpose of this study was to describe the integration of anatomy technology into a chiropractic master's program. Method: Two Anatomage tables and Anatomy TV software were integrated into academic classes and college virtual learning environments during 2023 as possible alternatives to cadaveric specimens. Both tables and software were used in classes, and tables were made available for self-directed study outside class times. Outcomes were assessed in 3 modules across different levels of the course (student $n = 40$), Yr1 Human Function (HF), Yr2 Pathology, and Yr3 Clinical Medicine. Following ethical approvals, academic performance was measured using examination grade point average (GPA) scores. Student feedback was gathered using an open-ended questionnaire. Using Mann-Whitney tests, GPA results and annual modular feedback were compared from the previous year (student $n = 56$). Results: Comparison of GPA mean data indicated a significant increase in Yr1 HF scores following the introduction of the technology (51% (SD 21) to 60% (SD 15); $p = .036$), but no significant change in either Yr2 Pathology ($p = .79$) or Yr3 Clinical Medicine ($p = .17$). Most student feedback (78%) indicated increased satisfaction with integration of the technology, commending interactive lesson content, making lectures more "absorbing" and easier to understand. Most Yr2 and Yr3 students (61%) found the technology useful but felt the content was somewhat limited for their modules and may help explain the GPA results seen. Conclusions: This study indicates improved student satisfaction and engagement when using the resources. It showed an improvement in Yr1 anatomy GPA, but this improvement was not reflected in subsequent years. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/XdJPVzhXEVU

Student experience and perception of educational value of high-fidelity simulation in chiropractic education: A qualitative study

Amanda Jones-Harris, Peter Miller

Objective: The purpose of this study was to determine student perceptions of high-fidelity simulation in learning diagnostic skills. Methods: A 25-minute focus group of 3 volunteer students was conducted on Microsoft Teams with open-ended questions about the students' experiences. The student volunteers were enrolled in a preregistration chiropractic course at AECC University College. All students had undertaken workshops using high-fidelity mannequins and part-task trainers to simulate disease scenarios and traditional practical skills classes. The focus group transcript was anonymized and then thematically analyzed following a grounded theory approach before the themes were discussed, developed, and agreed on by both authors. Results: Two themes and 1 meta-theme emerged from the analysis. In theme 1, increased realism in learning, participants expressed the benefit of being able to identify abnormal findings in the simulation workshops compared to practicing on healthy students. They also made suggestions on how realism could be further improved. In theme 2, reflection-in-action, participants reported they reflected on their knowledge acquisition and modifications to learning in real-time during the workshops. The meta-theme was bridging the gap between preclinical learning and clinical practice; participants' responses indicated they valued the workshops for imitating real clinical interactions, requiring synchronous reflection on learning and integration of simulated examination findings. Conclusion: Our findings suggest that the use of high-fidelity simulation in the teaching of clinical diagnostic skills was a valued and useful addition to traditional diagnostic skills classes in chiropractic education. The approach focused the educational experience toward realism and simultaneously encouraged reflective learning. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/13VojF_G_5c

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Using Sway archives to build digital storytelling on chiropractic education: A descriptive report

Maria Ines Martins, Krisanna Matchmes

Objective: The purpose of this study is to describe the integration of technology (Microsoft Sway) into the chiropractic education research process. Methods: We studied 2 Brazilian chiropractic programs and compared them to American chiropractic programs that inspired them. We used a qualitative approach and collected data from various sources, including documents, in-person and virtual visits, meetings, clinic tours, observations, and semi-structured interviews. The purpose of the project was to create archive records that provided a basis for constructing different perspectives, theories, data, and researcher interpretations of what was recorded in various forms by chiropractors in the chiropractic environment field. We used Microsoft Sway (Office 365) as a digital storytelling tool that allowed us to go beyond traditional storytelling techniques. As a theory-building study, we returned to the archive records to document the process and outcomes and to theorize the findings in a recursive logic to explore and explain sequences of events and enrich points before returning to an earlier issue with a newly expanded and more grounded explanation of the initial perception. Results: We built 4 Sway archives (2 gigabytes each): (1) Evolution of Chiropractic, (2) Pioneer Brazilian Chiropractic Programs, (3) American Chiropractic Programs, and (4) Technology in Chiropractic Training. Conclusion: We used Sway to gather and store information from Brazilian and American research and education settings. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/-H3iXtXOgZM

Utilization of full-body patient simulators for teaching, learning, and assessment of cardiac and respiratory auscultation sounds and emergency scenarios: An education descriptive report

James Oldham, Mark Thomas

Objective: The purpose of this study was to describe the usage of full-body patient simulators (FBPS) for teaching, learning, and examination of auscultation and emergency clinical scenarios within chiropractic education at London South Bank University. Methods: During semester 1 of the 2023–2024 academic year, 36 year-2 chiropractic students were taught cardiac and respiratory auscultation sounds using FBPS within practical classes. An emergency clinical scenario workshop was run in March 2024 using FBPS, featuring the management of seizure, stroke, and cardiac arrest. A 14-question student feedback survey was completed following the session. Results: Thirty-four students sat the final assessment for this module, which included identifying auscultation sounds. Seventeen students (50%) recognized the correct diagnosis, 4 students (12%) were partially correct with their diagnosis, and 13 students (38%) were incorrect in identifying the auscultation sound. Thirteen (36%) students completed a feedback survey following the emergency clinical scenario workshop. All students (100%) agreed or strongly agreed that the session improved their ability to recognize serious pathology. Most students (77%) agreed or strongly agreed they would like to repeat the session. Conclusion: The study demonstrated that year-2 chiropractic students were able to utilize FBPS to achieve competency in cardiac and respiratory auscultation. In addition, students' opinions were positive regarding the use of FBPS to simulate emergency clinical scenarios. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/3QMIW3UN8JA

Opportunities and challenges of Scotia Medical Observation and Training System in chiropractic education: An education descriptive report

James Oldham, Mark Thomas

Objectives: The purpose of this study was to describe the use of the Scotia Medical Observation and Training System (SMOTS) video technology for the teaching, learning, and assessment (TLA) of chiropractic students at London South Bank University. Methods: We used SMOTS for video-recording clinical simulations during semester 1 of the 2023–2024 academic year for 36 year-2 chiropractic students. The technology allowed viewing live or on-demand video recordings to highlight best practice examples, provide multiple views during teaching demonstrations, and review clinical competencies. Feedback was obtained from students and the chiropractic faculty. Results: Some students were apprehensive to be recorded; however, all students gave permission to be recorded for TLA purposes. Thirty-one out of 36 students (86%) demonstrated competency in clinical assessments using video technology. One student was withdrawn from the course, and 4 students were not signed off due to attendance. Academic examiners reviewed clinical competency and assessment footage prior to providing verbal and written feedback to students, and detailed written feedback was possible to compare to previous academic year performance. Staff reported that SMOTS setup, training, and sharing video recordings with students were time-consuming and may act as a barrier to future engagement. Conclusion: Challenges based on staff and student feedback following the use of SMOTS in the TLA of chiropractic students included student apprehension and that its use was time-consuming. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/VgcI9ZtFGBQ

Clinical communication skill confidence in chiropractic education through virtual reality: A descriptive report

Rose Olson-Long, Mary Lee Carter, Ashley Long

Objective: The purpose of this study was to examine the effect of virtual reality (VR) through the Bodyswaps application and Meta Quest 2 headsets on clinical communication skills. Methods: The VR experience focused on immersive learning tools for soft skills development, including active listening and effective communication, complemented by artificial intelligence–driven feedback. After participating in a communication module, 31 students in the clinical portion of the Parker University doctor of chiropractic program completed a survey using a 7-point Likert scale administered after the Bodyswaps experience about their gaming background, previous VR educational experiences, and the perceived effectiveness of Bodyswaps in improving confidence during patient interactions. Results: There were 74.9% of participants ($n = 23$) who reported increased confidence in communicating with patients after the experience. Additional descriptive statistics yielded a mean patient communication confidence score of 5.35 out of 7.00 (SD = 1.87). Fisher exact tests revealed a statistically significant positive correlation between VR educational exposure and enhanced confidence in patient interactions ($p < .01$). Similarly, a notable relationship was observed between video gaming experience and confidence in patient communication ($p < .05$). Conclusion: These outcomes suggest that, when combined with a Bodyswaps experience, there was a relationship between VR educational exposure and chiropractic students' perceived communication skills. The results support the integration of VR tools in health care education to improve clinical communication skills, indicating that immersive learning experiences in developing crucial soft skills among health care professionals may be achieved through this technology. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/garrFuI8plg

Chiropractic clinical clerkship orientation using AI-assisted standardized educational media: A descriptive report

Xavier Ortiz Ramirez, Hiwot Melka

Objective: This report aims to describe the development and application of an artificial intelligence (AI)–assisted educational video for chiropractic clinical clerkship orientation. Methods: The orientation content from a traditional classroom presentation was transformed into an AI-generated video narrative, supplemented by visuals and AI-narrated voice-over. The completed video covered clinic compliance topics and was uploaded to a dedicated channel. A 20-item quiz developed to assess comprehension was devised from the video's final script using GPT-4. The link was emailed to 35 students in a doctor of chiropractic program. Students were allotted a 1-week window to view and complete the quiz. Google Analytics was used to obtain information on viewing behavior, and test scores were analyzed to assess performance. Verbal feedback was collected during an in-person debrief session, and results were collated to identify recurring themes in the students' experiences. Results: Of the 35 students who received the email, 28 viewed the video. Of the 28 viewers, 24 completed the quiz with 85.7% participation among viewers and 68.6% from email reception to quiz completion. The mean assessed score for those who had watched the videos was 96.7%. Qualitative feedback included students' appreciation for the video format as a preferable alternative to traditional in-person training and the perceived realism of the AI-narrated content. Conclusion: This project used AI to generate an orientation video, which provided students with standardized content on demand without disrupting their clinical experience. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/k68fjfiUzJ0

Integrating force-sensing table technology in chiropractic clinical skills remediation: A retrospective case report

Xavier Ortiz Ramirez, Hiwot Melka, Amber McCallum

Objective: The purpose of this report is to describe the use of structured force-sensing table technology (FSTT) remediation for 1 student. Methods: A chiropractic student with manipulation skill gaps participated in a structured 1-hour remediation regimen using FSTT from September to December 2023. The pre- and post-remediation FSTT records for 4 corrective high-velocity and low-amplitude spinal manipulation techniques were analyzed: side-lying hypothenar illum push on the left (technique 1) and right (technique 2), crossed bilateral hypothenar SP-TP push (technique 3), and unilateral hypothenar TP push (technique 4). The average preload and force of thrust in newtons (N) were calculated from the force-sensing table. The student's clinical performance scores in manipulation were graded using the Dreyfus model score (0–4), which was analyzed pre- and post-remediation. Results: The student's FSTT sessions showed increased force of thrust post-remediation sessions. The force of thrust increased for all 4 techniques. Technique 1 (422 N with SD 41 to 665 N with SD 60), technique 2 (371 N with SD 40–705 N with SD 56), technique 3 (228 N with SD 27–246 N with SD 30), and technique 4 (211 N with SD 15–252 N with SD 49). The student's clinical performance increased from 1.88 to 2.52 post-remediation. Conclusion: We used FSTT to obtain quantitative force data for targeted manipulation skill development and remediation for a student. The use of FSTT for manipulation skill remediation benefited this student. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/V7mZK4DI9jw

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Perceptions of chiropractic students on digital literacy skills at a South African University: A cross-sectional study

Candice Pyper, Brittney Moore, Fatima Ismail

Objective: The purpose of this study was to assess chiropractic students' opinions of their digital literacy proficiencies. Methods: We surveyed the bachelor of health sciences (1–4 years) and the master in health sciences (1–2 years) chiropractic students at the University of Johannesburg using an anonymous, self-administered online Likert-style questionnaire between February 27 and April 10, 2023. Forty-one questions included demographics and student self-perceptions on 4 aspects of digital literacy skills: (1) information literacy (IL), finding, using, and evaluating digital information; (2) information and communications technology literacy (ICTL), understanding implications of digital information usage; (3) information and communications technology utilization (ICTU), using technology in delivering digital information; and (4) media literacy (ML), critical assessment of digital information. Data were analyzed according to the 4 constructs. Results: The response rate was 57.78% ($n = 141$). Students reported high levels of agreement with the 4 constructs: IL ($M = 4.220$, SD = .472), ICTL ($M = 3.808$, SD = .568), ICTU ($M = 3.762$, SD = .562), and ML ($M = 4.271$, SD = .507). While age and sex were not statistically significant, academic year was significant for IL only (IL: $p = .040$). All 4 constructs exhibited acceptable internal consistency (IL: .862, ICTL: .830, ICTU: .840, ML: .844). Conclusion: Chiropractic students perceived that they were proficient in the 4 aspects of digital literacy. No significant differences were identified in their perceptions based on age and sex; however, differences were observed regarding the year of study, particularly in IL. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/0z067dppyZ0

Comparison of student performance on in-person gross anatomy laboratory practical examinations in face-to-face and hybrid undergraduate anatomy courses

James Salvatore, Joceyln Faydenko, Chris Olsen, Gregory Cramer

Objective: The purpose of this project was to compare course grades between students who took a hybrid (Hyb) anatomy class to those who took a face-to-face (F2F) class. Methods: An undergraduate anatomy course was taught as a fully F2F format with 3-hour F2F lectures, a 2-hour cadaveric laboratory, and laboratory assignments. The course was converted to a Hyb format with a weekly series of online lessons in a learning management system, including embedded quizzes. The F2F laboratory remained. We compared mean overall scores for Hyb and F2F student groups (course grades), mean scores between groups for 3 laboratory exams (2-sample *t* tests), and an end-of-course survey for Hyb classes. Results: Sixty students over 6 trimesters completed the F2F course, and 40 students over 7 trimesters completed the Hyb format. Student grades were 70% (Hyb) vs 65.5% (F2F) receiving As and Bs, and 97.5% (Hyb) vs 82.7% (F2F) with A, B, or C course grades. Overall average of scores between Hyb (74.4, SD = 15.6) and F2F (69.8, SD = 17.7) were not statistically different ($p = .194$). There was no statistically significant difference between the Hyb and F2F exam 1 and exam 2 grades; however, Hyb format exam 3 mean score (74.8, SD = 15.9) was statistically higher than F2F (62.9, SD = 22.3) ($p = .003$). Twenty-six satisfaction surveys reported students either somewhat (3) or greatly (23) enjoyed the Hyb course, and 96.2% were very comfortable with the technology. Conclusion: Students' course grades between the Hyb and F2F undergraduate anatomy courses were similar. Survey responses indicated students enjoyed the Hyb format. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/kQrhrasgo0c

RAISE-ing a high-tech faculty workgroup: A descriptive report of information technologies used to support chiropractic educational research

Patrik Schneider, John Crouse, Brian Anderson, Amberly Ferguson, Kira Baca, Meredith Meyers, Breanne Wells, Michael Van Natta, Lia Nightingale, Stacie Salsbury

Objective: Our purpose is to describe information technologies used by faculty for research activities. Methods: The Research Aspirations, Interests, and Skills Exploratory (RAISE) workgroup engaged in skill-building to support educational research among 18 faculty members from 2 Palmer College of Chiropractic campuses. We performed a qualitative analysis of meeting minutes and recorded team reflections to identify (1) technologies implemented, (2) adoption reasons, and (3) user challenges. Experienced researchers provided training in methods and technology to help overcome user challenges of novice faculty researchers. Results: Our workgroup implemented 16 communication and information technologies over 18 months. Reasons for adoption included current access and proficiencies in technology, enhanced cross-campus communication, increased research rigor, and streamlined the writing process. The number of faculty members used or implemented the following technologies: Microsoft Office and Google software programs and PubMed (18), CITI research ethics training (6), Covidence software and Open Science Framework (14), SurveyMonkey (1), Zotero reference management-supported shared literature searches and manuscript writing (13), faculty-learned SPSS statistical software (14), and NVIVO or similar qualitative software (7). Five technologies (ie, Zotero, Covidence, Open Science Framework, SurveyMonkey, and NVIVO) required registration or paid subscriptions funded by the college research center. User challenges reported included a paucity of research software knowledge/skills, no universally accessible file-sharing, and difficulties with virtual meeting technology. Conclusion: RAISE implemented 16 information technologies for 18 faculty across 2 campuses. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/sF5xu29fa4w

Developing a web-based diagnosis and clinical management support tool for low back pain: A descriptive report

Robert Vining, Robert S Rudin, Patricia M Herman

Objectives: The purpose of this report is to describe the development, feedback, and feasibility of using an electronic decision-support tool for chiropractic clinicians and students evaluating and treating patients with low back pain (LBP). Methods: We employed user-centered design methods to identify software specifications and data-entry items for a web-based tool to document evidence-based findings from patient interviews and exams. The tool generates potential working diagnoses that clinicians can accept or disregard. Also generated are guideline-congruent treatment recommendations and patient education information. We developed a web page mock-up patient scenario. Three chiropractic clinical educators who treat LBP reviewed the mock-up during interviews. Contextual information about patient management workflows in chiropractic teaching clinics and mental models for LBP diagnosis and treatment were collected. Interviews were audio-recorded, and findings were summarized and incorporated into the website design. A software developer then built a prototype website. Results: Educator feedback (2 males, 1 female, 13 years' mean clinical experience) included that the tool could be useful for initial examination, reassessment, and patient education and aid student learning by facilitating recognition and synthesis of key diagnostic information and connecting diagnoses with evidence-based treatments. Their opinion was that diagnosis generation and corresponding treatments were potentially helpful for clarifying suspected diagnoses, guiding care planning, and reminding users of evidence-based therapeutic options. Their feedback clarified design elements to improve clinician/student usability of the support tool. Conclusion: Feedback suggests a prototype clinical decision-support tool for evaluating and managing LBP is feasible for aiding student learning, developing evidence-based diagnoses, care planning, and patient education. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/-FolIqHNBHg

Implementation of the Anatomage table in gross anatomy courses: A descriptive report of student perception in the preclinical phase of the chiropractic curriculum

Robyn Wakefield-Murphy

Objective: The purpose of this study was to analyze student perception of the implementation of assignments on the Anatomage table in a gross anatomy course in the preclinical phase of the chiropractic curriculum. Methods: Students in a 1st trimester gross anatomy course in a doctor of chiropractic program at Northeast College of Health Sciences were given an in-class training session on how to use the Anatomage table. They were assigned 7 pre-dissection activities on back and thorax presets designed by the instructor. A survey was given in the last week of the trimester to students rating their experiences on the training, use, and perceptions of the table consisting of statements on a scale of 1–5 from *strongly disagree* to *strongly agree*. Results: Out of 63 students, 25 responded to the survey. Median response scores regarding in class training were 4 (*Agree*). Students agreed they were able to access assignments (5), assignments were straightforward (5), access to the tables was adequate (5), and assignments enhanced understanding of cadaver labs (4). Items regarding using the table as a study resource, ease of use without a predesigned activity, and desire to use Anatomage in future courses had median scores of 3. Conclusion: These findings suggest this group of students perceived that Anatomage tables were easy to use for assignments and that Anatomage activities increased understanding in cadaver labs. Students were neutral toward using the tables as an independent study resource and in future courses. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/qec8HfjFgiM

CONCLUSION

This conference offered opening presentations in which experts shared their thoughts on what to consider when using technology in education and what technologies chiropractors need to know in the present and the future. International scholars presented their research projects and descriptive reports and participated in panel discussions to consider challenges and solutions related to technology in education. Attendees engaged by providing input on the topic of technology in education using the chat function throughout each session.

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FUNDING AND CONFLICTS OF INTEREST

Publication of the proceedings was funded by CERF. No conflicts of interest were reported for the publication of these proceedings.

About the Organization

The Chiropractic Educators Research Forum (CERF) is an online forum where chiropractic educators share their insights and learn new information about research and scholarship. The CERF mission is to build scholarship and research capacity for chiropractic educators throughout the world. Contact information may be found at CERFweb.org.

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