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EDITED BY

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Message from the President of AAVS

Congratulations to AAVS Veterinary Education Research (AAVS VER-WG) Working Group, The Chair Professor Dr Hafsa Zaneb and all members of VER-WG for the In-Augural meeting of currently the 1st Regional Veterinary Education Research Meeting (1st VetEd Asia). AAVS is very proud for the excellent achievement of VER-WG through the year since it was founded in year 2022. We are very proud to record the rapid expansion of membership from 31 in 2022 and now 82 members, including 15 Core Group members. We hope more representatives from other veterinary schools will be joining AAVS VER-WG to contribute, sharing their knowledge and together to make significant advancement in veterinary research and education.



AAVS believes in collaboration, fostering interdisciplinary approaches, and supporting the integration of cutting-edge technologies for the continual progress in the field of Veterinary Research and Education. Numbers of efforts have been conducted by VER-WG including regular committee meetings, regular CPD-driven programs, establishment of Journal Club to review and discuss pertinent published journal articles on monthly basis and currently the 1st VetEd Asia event. The central goal of the event is to promote open dialogue and knowledge-sharing within the AAVS community.

AAVS is convinced that such great effort will accelerate breakthroughs in veterinary education and teaching innovation, and I am sure members anticipated there would be more innovative programs will be held in the near future. Let's acknowledge the significance of leadership of members of AAVS who are inspiring the many, promoting streamline process, and fostering innovation with undivided dedication to field. Together we can collectively push the boundaries of knowledge and improve the veterinary profession.

All the best to everyone.

With profound regards,

Professor Mohd Azmi Mohd Lila
President of AAVS
Dean of Universiti Putra Malaysia

Message from the Chair of AAVS VER Working Group

We founded AAVS Working Group on Veterinary Education Research back in first quarter of 2022. Veterinary educational research being a relatively newer discipline for most of us working with AAVS member institutions, our foremost aim was to impart awareness surrounding advancements in veterinary educational research and to establish a network of veterinary educational researchers in the region.



We started with 31 members in 2022, out of which 15 were designated as Core Group members representative of different member institutions. This year, we are proud to have 82 members associated with our working group thus contributing to the diversity within the group.

As a group, we organize four quarterly meetings a year, each of which comprises of progress review by the Core Group members and a CPD event for the general members. We carefully curated the CPD calendar keeping in view the development needs of the group members particularly in terms of building their capacity in the discipline of veterinary educational research. For this purpose, the group also established a Journal Club where the members meet online on monthly basis and review and discuss a published research article in the field of veterinary educational research.

Today, we take pride in the fact that our efforts bore fruit and VER-WG is today hosting the first regional Veterinary Education Research meeting under the name of 1st VetEd Asia. The researchers and VER-WG members from the AAVS member institutions have contributed original research findings and teaching innovations to make the program of this session rich, diverse, educational and thought provoking. For this, we are grateful to each one of them. We aim to learn from this experience and continue this tradition in the years to come.

We extend our heartfelt gratitude to the leadership of AAVS and the colleagues at AAVS secretariat without whom establishment of VER-WG and organization of 1st VetEd Asia would not have materialized. I am also proud of the members of VER-WG who will be remembers as pioneers for their sustained efforts and contributions which enabled the group to host this event today.

With profound regards,

Professor Dr Hafsa Zaneb
Chair VER-WG
Chairperson Department of Anatomy and Histology
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Acknowledgments

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We also thank all the reviewers for their time and efforts.

We are also grateful for the support provided by colleagues from School of Veterinary Medicine, Hokkaido University, for organizing the event.

Professor Dr Hafsa Zaneb
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Prior Exposure to the ‘World-of-work’ Inspires Sri Lankan Veterinary Undergraduates to Follow the BVSc. Degree Programme

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In veterinary education, exposing students to the ‘world-of-work’ prior to following a veterinary degree is practiced in the west, though it’s not common in South Asia. Therefore, the Pre-vet Exposure Programme was organized for the first time by the only Sri Lankan veterinary school to expose students to the professional world before commencement of the degree, in 2022. This study was conducted to evaluate the impact of this program in motivating students to follow the BVSc. Degree program based-on students’ perception.

A survey was conducted via a Google form with the participation of students at the end of one-month exposure program. The response rate was 80.95% (85/105). Twenty-nine percent had never been to a veterinary practice and 61% had visited a veterinarian for their pet’s treatments. Only 6% has discussed with a veterinarian before selecting the degree. Distance from home to the assigned station varied among students. Only 19% had travel-related difficulties. Further, 21.17% felt that it was risky to attend the programme to which the commonest reason was not being vaccinated against Rabies. Irrespective of those concerns, >95% stated that they were motivated to attend the programme because it provided them an insight into their future career. Overall, all the students were satisfied with the programme and the majority (94.11%) stated that they were motivated to become a veterinarian after the exposure programme, though their first choice earlier was not veterinary medicine. The opportunity given to realize the diverse role played by a veterinarian in contributing to the national economy and commitment towards healing voiceless animals was the crucial inspiration.

Therefore, prior exposure to the ‘world of work’ was an effective strategy to motivate veterinary undergraduates. Further, measures must be taken to fine-tune the programme and to make it mandatory for students who wish to follow a veterinary degree at the University of Peradeniya.



Clinical Exposure from Day-1: Time to transform existing DVM curriculum from Flexner Model to an integrated one

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With an aim to assess the need of an evidence-based education with more practical skills for our veterinary graduates to work in a challenging environment, a study was designed through a google survey form with 23 questions. This study was also intended to have a perception about the existing DVM curriculum which is designed based on Flexner Model¹ of medical education in which clinical activities start from 3rd year. The survey covers various aspects of knowledge, skills and values, keeping in view the existing facilities. Currently enrolled DVM students of UVAS were focused in our study.

Out of 800 students from 1st year to 5th year, 325 (251 male and 74 female) students participated willingly in the current survey. Data was analyzed through SPSS for descriptive statistics and Chi Square analysis. Seventy two percent of respondents belong to cities vs villages background which was found significant in males as compared to females. Half of the students expressed their satisfaction with the quality of the existing education. More than 90% of students belong to middle class families earning <500 US\$. Five percent of respondents were aware of the value of entrepreneurship related to the veterinary field, how to deal with their clients, how to handle emergency cases and how to work with exotic animals. More than 50% students consider UVAS curriculum, a balanced mix of theory and practical and they are also being trained for animal welfare and ethics. Only <10% of the students are involved in clinical aspect owing to their activities voluntarily from the beginning of their studies, while the curriculum does not support it and >50% participants emphasized for the need of more practical work.

In conclusion, there is a need of evidence-based educational learning² in the curriculum for continuous improvement in the quality of veterinary graduates. It is suggested to transform the curriculum to integrate basic sciences and clinical skills from the very beginning of the DVM courses.

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Effects of a digitally enhanced class environment on students' learning experience in problem-based learning

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In traditional problem-based learning (PBL), students process a clinical case using whiteboards or paper to organise their learning progress. During the COVID-19 pandemic, we used virtual tools such as cloud-based documents instead, however, after discontinuing online teaching it is unclear whether digital tools integrated into face-to-face PBL tutorials can enhance students' learning experience. We hypothesised that a digitally enhanced class environment can improve the learning experience of our 'digital native' students by accentuating typical Gen Z strengths related to online affinity.

The class of our third-year Bachelor of Veterinary Medicine students (n=23) were split into four groups and randomly assigned to either a traditional or a digitally enhanced PBL learning environment. The two traditional groups used a 'paper and pen'-based approach, processing the case by handwriting on a physical whiteboard, while the two digitally enhanced groups used a 'screen and software'-based approach, processing the case in shared online apps displayed on a large screen. The groups swapped learning environments after six weeks and continued using the alternative environment for another six weeks. An online survey of 15 questions with a 5-point Likert scale was filled in by all students at the end of the 6th and the 12th week. The questions asked for self-reflection focused on learning motivation, success, efficiency and satisfaction.

Comparing the answer scores by Mann-Whitney test revealed little difference between the two environments, except for significantly reduced convenience (P=0.02) and perceived usefulness (P=0.08) of drawing figures in the digitally enhanced group.

Our findings indicate that finding a convenient way of drawing is important for both learning satisfaction and perceiving drawing as a useful exercise. In contrast to our initial hypothesis, other aspects of PBL remained unaffected by the type of environment, suggesting that the use of digital tools did not enhance our students' learning experience overall.



The enhancement of veterinary classroom participation by active learning models

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Learning is a process to acquire knowledge, skills, and attitudes¹. The classroom experience is crucial to create attention, retention, reproduction, and motivation. Effective learning including engagement, reflection, feedback, and practice in the classroom will result in enhanced knowledge and skills, developed problem-solving ability, and intensified emotional well-being². Therefore, active learning, two-way communication between students, has been introduced to emphasize learners actively participating in the classroom. In this regard, this study aims to investigate active learning models for the veterinary classroom.

The learning process was divided into two parts. In the first part, eight graduate students learned basic knowledge of stem cells by using the think pair share method and collected the score compared to individual testing. In the second part, simultaneous round table and brainstorming were integrated for advanced stem cell learning. At the end of class, the evaluations of the effective level of class appreciation from think pair share, simultaneous round table, and brainstorming were performed by questionnaire.

The result showed 50% of the students in the classroom were never trained by three learning models. The results from think pair share increased testing scores, improved percentage of accuracy, and decreased time per question compared to individual results by using the Mann-Whitney U test. The response level of class appreciation from think pair share was 62.5% excellent, and 37.5% good, respectively. Moreover, the level of class appreciation result of simultaneous round table presented 75% excellent, and 25% good. Interestingly, brainstorming indicated the highest percentage of level class appreciation presenting 87.5% excellent, and 12.5% good with positive feedback from learners.

In summary, active learning including think pair share, simultaneous round table, and brainstorming indicated to be potential learning processes to provide opportunities for teamwork, student engagement, and motivation to prepare veterinary students for their future profession.

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Gendered professional identity conceptions held by final year veterinary students of Pakistan

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Among other factors, cultural influences considerably affect development of professional identity¹. In Pakistan, veterinary profession is male-dominated and is socially stigmatized². Considering that in Eastern cultures like that of Pakistan societal values may take precedence over individual ones, we assumed that being minority members of the stigmatized veterinary profession might affect the professional identity of girl veterinary students.

To understand this, we selected five final-year DVM students (2 girls, 3 boys; representing gender, academic achievement and residential status) for in-depth interviews about their conceptions of professional identity and experiences. We transcribed the interviews and performed qualitative analysis informed by principles of social phenomenology and narrative analysis. The girl students identified gender as a significant negative influence on their professional identity. They identified the feedback from society, faculty and peers as defining and reported perceptions of limited career options available to them, such as those of research, laboratory work or faculty positions. They reported stereotyping of women by their peers and the society as weak, less knowledgeable and incapable of handling animals or communicating with the clients. They faced marginalization by male peers, and attributed the gender-based discrimination to be feeding into women veterinarian's poor career progression and attrition. They carried heightened perception of stigma, which might be rooted in their minority status in a male-dominated profession. The latter assigns them a counter-stereotypical professional status, which is reported to exacerbate perceptions of stigma and further intensify the identity threat³.

Though the sample size in this case is too small to propose a cause and effect relationship between competent identity work and response to stereotyping, the findings still carry implications for identity enactment by the girl students and thus for their emotional and mental well-being. They further necessitate development and implementation of institutional diversity strategy to address systemic stereotyping of women veterinary students and professionals.

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Student views on interprofessional education during clinical skills teaching for veterinary and veterinary nurse students

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Inter-professional education (IPE) allows students from two or more related professional programs to learn with, about and from each other. We identified clinical skills that are taught within both the Advanced Diploma of Veterinary Nursing (ADV N) and the Bachelor of Veterinary Medicine (BVM) courses at our institution and piloted an IPE session to understand if it impacts students' inter-professional views and confidence performing clinical skills.

We ran a two-hour IPE lab for 17 ADV N and 23 BVM students. Students were taught a new skill together and then students taught the other cohort skills they had previously learnt. Student's views were gathered using the validated SPVIEWS survey pre- and post-lab¹, with additional questions regarding their confidence in performing the skills on a 5-point Likert scale.

13 ADV N and 11 BVM completed both pre- and post-lab surveys. Results showed positive changes in mean scores post-lab for benefits of learning with the other profession (ADV N (mean±SD) 3.71±0.31 to 4.03±0.27 and BVM 4.48±0.1 to 4.75±0.16), leadership and speaking up (ADV N 3.0±0.33 to 3.6±0.21 and BVM 3.7±0.45 to 4.18±0.37), benefits of teamwork (ADV N 3.75±0.23 to 3.62±0.29 and BVM 4.65±0.16 to 4.8±0.08), and confidence in clinical skills (ADV N 3.08±0.72 to 3.97±0.22, and BVM 3.96±0.79 to 4.51±0.44). Following the lab, 67% and 91% of ADV N and BVM respectively felt the learning objectives had been achieved.

IPE offers benefits to professionals, clients and patients as it fosters strengthened teamwork and communication, and better understanding of each profession's roles. Challenges to IPE include logistical constraints, staff and student buy-in². Our session overcame these to create a successful learning experience for both student cohorts with students gaining confidence as well as improved inter-professional communication and clinical skills.

IPE sessions can successfully incorporate clinical skills for veterinary and veterinary nursing students allowing for broader learning outcomes compared to traditional clinical skills teaching.

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Veterinary Student's Perspectives on the Effectiveness of Case-Based Learning

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Case-based learning (CBL) has been considered a teaching method to enhance students' ability by allowing students to have a learning experience with a virtual animal patient before the clinical year. CBL was implemented in 4th and 5th-year students, at Kasetsart University from 2014 to the present.

This study investigated students' perception of the effectiveness of CBL in four themes: professional knowledge, communication, personal benefit, and facilitator. This study explores students' perceptions via mixed quantitative and qualitative methods. The student perceptions were assessed through the quantitative methodology of 23 items of 5 points Likert-scale questionnaire in 300 samples from the 4th, 5th, and 6th years of veterinary students. Survey delivering a questionnaire via a Google form.

After the survey, three groups of each 4th, 5th, and 6th-year student were randomized for focus group discussions to understand and explain how CBL affects students' competencies. Each group has a total of 6-8 students and equal members of male and female. Discussion took 60 to 90 minutes in each group. Data from the focus group were analyzed by thematic analysis with 3 experts.

The results of the quantitative part showed a positive perception of CBL in all four themes of the questionnaires. Enhanced professional knowledge and personal benefit were founded in students who have a grade point average (GPA) less than 2.99 more than those with a higher GPA. The qualitative part showed CBL expanded the student's understanding, especially in farm animals and veterinary public health areas. Moreover, this teaching method can improve clinical reasoning, communication, and teamwork. However, the skills of facilitators are essential to create a suitable environment for promoting collaborative learning. In conclusion, CBL is an effective teaching tool for enhancing veterinary students' competency. Improvement of facilitators and case construction is the suggestion for increasing the effectiveness of CBL.



Impact of Medium of Instruction, Schooling, Gender, and Academic grades on Sensory Modalities of Veterinary Undergraduate students in Pakistan

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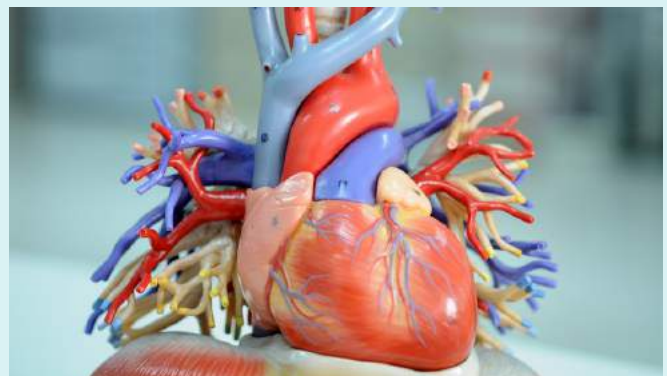
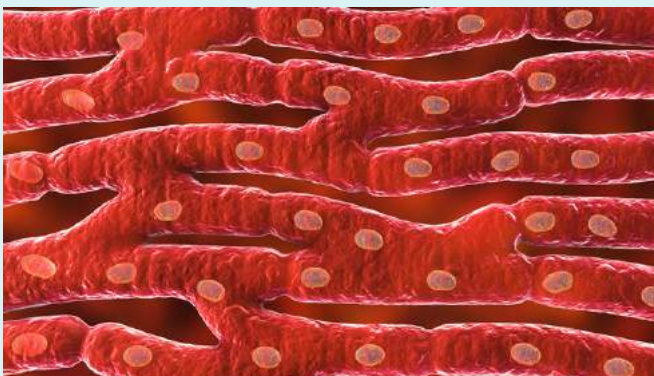
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Veterinary education in Pakistan is facing challenges due to the diverse socio-economic and scholastic backgrounds of undergraduates in the context of their primary, secondary, and higher secondary education. This study aimed to assess the relationship between academic backgrounds, grades, and gender on the sensory modalities (learning preferences) of veterinary students in Pakistan using a visual, auditory, reading/writing, and kinesthetic (VARK) questionnaire.

First-year veterinary students (n=162) in the subject of 'Veterinary Physiology' were evaluated for their visual, aural, read/write, and kinesthetic learning preferences based on their medium of instruction, type of schooling, gender, and academic grades. Data were presented in percentages and median with first and third quartiles. The results showed that the occurrence of Unimodal, Bimodal, Trimodal, and Quamodal learning styles was 40.7%, 27.2%, 21.6%, and 10.5% respectively while the mean VARK scores were statistically significant ($p < 0.05$) with higher Aural (6.0(4.0-7.0)) and Kinesthetic (5.0(3.0-7.0)) scores compared to Visual (4.0(2.0-5.0)) and Read/Write (4.0(2.75-5.0)).

A significant difference between students from different mediums of instruction was observed for Read/Write median scores ($p < 0.05$). Aural scores between male (6.0(4.0-7.0)) and females (5.0(3.0-6.0)) was also significantly different ($p = 0.03$). Interestingly, the learning modalities did not vary based on schooling and academic grades.

Although these findings provide valuable insights into the challenges faced by veterinary undergraduate students in Pakistan, the reliability of the VARK questionnaire, the intellect of individual students, and their ability to comprehend the questionnaire need further clarity. Nevertheless, this study can be useful to address the core issues that pose challenges to veterinary education in Pakistan.



Development of a Low-Fidelity Sheep Caesarean Model for Veterinary Education

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A common surgical procedure performed by new graduate veterinarians in production animal practice is a caesarean section. Performing a caesarean successfully requires the simultaneous integration of multiple competencies that are taught throughout the veterinary program. In Hong Kong, we face the additional challenge of a limited ruminant agricultural industry and more specifically, not having direct access to sheep because climatic conditions are unsuitable for this species. This necessitates sheep clinical skills being taught using models, overseas placements, or live goats when appropriate.

We aimed to develop a low-fidelity model to teach sheep caesarean section, integrated into our Production Animal Clinical Studies course. Our model was built using readily available and inexpensive materials, enabling us to make enough models for hands-on individual student experience. The body of the sheep was simulated with a plastic storage box, on the lid of the box a rectangular opening was made to allow the placement of 4 layers of material (superficial to deep): 1) Allevyn foam dressing (“skin”), 2) silicone layer (“external abdominal oblique muscle”), 3) silicone layer (“internal abdominal oblique muscle”), 4) two silicon layers adhered (“transverse muscle and peritoneum”); finally the uterus was simulated using a 10 liter polyester dry-bag covered in liquid rubber. The fetus was simulated using a lamb soft toy which had a 3D printed tarsus to enable the correct location for the uterine incision. Alongside the models, we developed clinical skills sheets. The model has been assessed by a large animal surgeon and students.

Feedback received from staff and students has been positive, and the overall cost of the model was approximately US\$150, with many parts reusable. In conclusion, we successfully developed an affordable, effective model for teaching sheep caesarean sections in Hong Kong, overcoming local challenges. The model has been well-received and further validation and improvement is ongoing.



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