Development of Learning Outcomes of Day 1 Competencies for Graduating Veterinarians in Korea

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Chair, Education Committee
Korean Association of Veterinary Medical Colleges
Topics

- Background
- ‘Veterinary Education Exit Outcomes 2016’
- Identification of Learning Outcomes, Skills and Performance
- Plans and Conclusion
Veterinary Education in Korea

- **6 Year curriculum**
  - 2 year pre-vet and 4 year DVM programs

- **10 Colleges of veterinary medicine**
  - established in 1947 or later
  - small class size (about 50 students per year)
  - discipline-based education
  - clinical rotations and externship (~ 2 semesters)

- **Accreditation**
  - Korean: 2nd round of accreditation will begin in 2019
  - AVMA: Seoul Nat’l U (Comprehensive site visit, Dec 2018)
  - EAEVE: few schools are looking for

- **Licensure examination**: written test
Players in Veterinary Education in Korea

**VEEs**
Veterinary Education Establishments

**ABOVEK**
Accreditation Board of Veterinary Education in Korea

**License Exam Board**
Ministry of Agriculture, Food and Rural Affairs (MAFRA)

**KVMA**
(Korean Veterinary Medical Association)

**KAVMC**
(Korean Association of Veterinary Medical Colleges)

**KSVME**
(Korean Society for Veterinary Medical Education)
OIE Initiatives for Veterinary Education

- Identified **Veterinary Services** as global public goods
- Developed Day 1 competencies and Core Courses for graduating veterinarians in the fields of **Veterinary Services** of OIE
- Promoting domestic and international collaborative efforts for implementation of the recommendations and guidelines

- 1\textsuperscript{st} Conference, Paris 2009
- 2\textsuperscript{nd} Conference, Lyon 2011
- 3\textsuperscript{rd} Conference, Iguazu, 2013
- 4\textsuperscript{th} Conference, Bangkok, 2016
Triggered to Develop Other Parts of Day-1 Competencies for Good Veterinary Doctors

1. Basic sciences and skills
2. Clinical sciences, skills and performance
3. Non-technical competencies
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Development of Exit Outcomes (Day-1 Competencies)

- survey (1535 responses, Dec 2015)
## Domain (5)

### 1. Management of animal health and diseases
- 1.1 Animal medical care
- 1.2 Animal welfare

### 2. One Health expertise
- 2.1 One Health leadership
- 2.2 Infectious disease control
- 2.3 Food and environmental safety

### 3. Communication and collaboration (C&C)
- 3.1 C&C with owners and public
- 3.2 C&C with colleague vets
- 3.3 C&C with local and global experts of common interests

### 4. Research and learning
- 4.1 Life-long learning
- 4.2 New knowledge and skills

### 5. Professionalism
- 5.1 Veterinary ethics
- 5.2 Mission as veterinarian
- 5.3 Management of individuals and organizations
Domain 1: Management of animal health and diseases

Statement:
The veterinarian should have a responsibility in the animal health and disease management, and have the capacity to care animal health and diseases and to implement animal welfare, on the basis of scientific evidence.

The veterinarian with the professional knowledge and clinical skill, should be able to draw on the best practice results via a seamless communication based on understanding to the interests of owner, veterinarian and animal……

1.1. Animal medical care (core competency)

1.1.1. Treatment based on understanding of the causes and treatments of disease:

Veterinarians should be able to make a correct judgment and clinical decisions on the basis of understanding the causes and treatment of disease in animals. (Achievement standard)
Next step 1: to set learning outcomes by each school: ex) Achievement Standard 1.1.1.

1.1.1.5. Aseptic surgery
- 1.1.1.5.1. preparation of surgical field
- 1.1.1.5.2. (local) anesthesia
- 1.1.1.5.3. suture
- 1.1.1.5.4. prevention of infection

1.1.1.9. Diabetes Mellitus (DM)
- 1.1.1.9.1. structure and function of pancreas
- 1.1.1.9.2. pathophysiology of DM
  
  1.1.1.9.7. adverse effects of insulin and patient care
Next step 2: in which year?, at which courses, and at which chapters?, at which level?

- Phase outcomes
- Course/unit outcomes
- Lesson outcomes
- Level of achievements
Looks good....... but do you have more tangible guidelines?

Looks O.....k, but my role does not seem to be stated???
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Plan for Model Learning Outcomes, Skills and Performance Corresponding to Exit Outcomes 2016

- **Learning outcomes** (← Underlying principles)
  1. Scientific concept and principle
  2. Clinical care and
  3. Vets and Society (non-technical competencies)

- **Clinical skills and performance**
  1. Clinical skills
  2. Clinical performance
Competencies for a Visitor to Go Todaimae (N12) from Edmont Hotel (N10) by Subway
## Competencies for a Visitor to Go Todaimae (N12) from Edmont Hotel (N10) by Subway

<table>
<thead>
<tr>
<th>Type of Competency</th>
<th>Knowledge and Information</th>
<th>Skills</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
## Competencies for Caring a Dog with Fever

<table>
<thead>
<tr>
<th>Competency level</th>
<th>Hi, Dr Kimura, my dog, ‘Runny’ has fever!</th>
</tr>
</thead>
</table>


Development of National Model of Learning Outcomes Corresponding to Exit Outcomes 2016

- **Learning outcomes** (of underlying principles)
  - [1] Scientific concept and principle
  - [2] Clinical care and
  - [3] Vets and Society (non-technical competencies)

- **Clinical skills and performance**
  - [1] Clinical skills
  - [2] Clinical performance

1. Cell and Metabolism
2. Animal incidence
3. Blood, lymph and immune system
4. Nervous system
5. Circulation system
6. Respiratory system
7. Digestive system
8. Endocrine system
9. Muscle and skeletal system
10. Skin
11. Kidneys and urinary system
12. Reproductive system
13. Heredity and disease
14. Inflammation and tumor
15. **Principles of drug action**
16. Microbial and parasitic infections
17. Food Hygiene
18. Environmental hygiene
19. Disease prevention and control
20. Herd management and nutrition
21. One Health
1. Students can explain receptor-mediated drug responses

2. Students can explain the drug interactions and its consequences

3. Students can explain absorption, distribution, metabolism and excretion of drugs in relation to drug effects

4. Students can explain adverse drug effects

5. Students can explain principles and procedures of new drug development
<table>
<thead>
<tr>
<th>Systems</th>
<th>Clinical presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Reproductive Problems</td>
<td>Abnormalities of external genitalia appearances, External genitalia discharges, Abnormal mammary gland, Parturition problem</td>
</tr>
<tr>
<td>7. Neurologic Problems</td>
<td>Paresis/Paralysis and Tremor, Abnormal gait, Seizure/Epilepsy, Abnormal consciousness/Coma</td>
</tr>
<tr>
<td>8. Hematologic/chemical Problems</td>
<td>Anemia, Jaundice, Cyanosis/Hypoxemia, Bleeding, Transfusion, Water/Electrolytes abnormalities, Acid-base abnormalities</td>
</tr>
<tr>
<td>9. Musculoskeletal Problems</td>
<td>Lameness, Fracture and luxation, Bone/joint and periskeletal swelling/enlargement, Hoof abnormalities</td>
</tr>
<tr>
<td>10. Dermatologic Problems</td>
<td>Pruritus, Skin lesions, Alopecia, Abnormalities of skin/hair and mucous membrane pigmnetations</td>
</tr>
<tr>
<td>11. Sensation Problems</td>
<td>Disturbed vision, Abnormal pupil, Red eyes, Abnormal cornea and lens</td>
</tr>
</tbody>
</table>
### Clinical Presentations of Learning Outcomes in Clinical Care (draft)

<table>
<thead>
<tr>
<th>Systems</th>
<th>Clinical presentations</th>
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</thead>
<tbody>
<tr>
<td>1. Polysystemic problems</td>
<td>Hyperthermia and Hypothermia, Anorexia and Polyphagia, Weakness, Polydipsia/Polyuria,</td>
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<tr>
<td></td>
<td>Cachexia, Pleural effusion and ascites, Lymphadenopathy, Shock, Poisoning, Trauma</td>
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<tr>
<td></td>
<td>and Resuscitation, Allergic reaction/anaphylaxis, Pain</td>
</tr>
<tr>
<td>2. Behavioral Problems</td>
<td>Misdirected aggression, <strong>Self-mutilation</strong></td>
</tr>
<tr>
<td>3. Conformational Problems</td>
<td>Abdominal distention, Edema, Retarded growth/Growth failure, Weight loss, Obesity,</td>
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<td>Disturbances of the heart rate/rhythm and pulse, Heart murmurs, Syncope, Hyper-/Hypotension,</td>
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<td></td>
<td>Cardiopulmonary arrest (CPA), Nasal discharge and sneezing, Coughing, Abnormal</td>
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<td>respiration and Dyspnea, Abnormal respiratory sounds</td>
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<tr>
<td>4. Digestive Problems</td>
<td>Ptyalism/Bad smell, Dysphagia, Regurgitation, Nausea/Vomiting, Diarrhea, Constipation/</td>
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<tr>
<td></td>
<td>Dyschezia, Abnormal feces (melena and hematochezia)</td>
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<tr>
<td>5. Urologic Problems</td>
<td>Micturition disorder and Urinary incontinence, Hematuria/Discolored urine, Proteinuria</td>
</tr>
</tbody>
</table>
Learning Outcomes of Clinical Presentation [2-15], Self-mutilation

2-15-1.
Students understand that disease can cause behavioral problems such as self-mutilation

2-15-2.
Students can identify the causes of self-mutilation and make appropriate treatment plan
3-1. Communications and collaboration
3-2. Research and learning
3-3. Professionalism
3-4. Ethics of veterinarian
3-5. Animal welfare
3-6. Veterinarians and law
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Future Steps for Development of Learning Outcomes and Implementation

- Collection of online comments from Korean veterinarians
- Public hearing
- Adoption by KAVMC and KVMA
- Publicize
Hope of KAVMC

- Development of Model Learning Outcomes can
  - help teachers to set the scope and depth of their courses and each lectures
  - promote standardization of DVM curricular of 10 Korean VEEs
  - overall quality of DVM program in Korea
Thank you for your attention!