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Supplementary

SUPPLEMENTARY

Supplementary material 1. Characteristics of included studies.

Author	Study design	Participants	N	SV assessed	VSA assessed	Anatomical region
Al-Khalili et al., 2014[45]	RCT pre-posttest	Veterinary students	84	no	no	Thorax, abdomen, pelvis (canine)
Bogomolova et al., 2019[3]	RCT posttest only	Medical and biomedical students	58	No	Yes, by MRT	Lower limb
Cui et al., 2016[4]	RCT pre-posttest	Medical students	39	no	yes, by MRT	Head and neck vascular anatomy
de Faria et al., 2016[40]	RCT pre-posttest	Graduate medical students	84	no	no	Neuroanatomy
Ekstrand et al., 2018[43]	RCT pre-posttest	Medical students	64	no	no	Neuroanatomy
Goodarzi et al., 2017[34]	non RCT pre-posttest	Students of School of Education	249	no	no	Skull
Hackett and Proctor 2018[41]	RCT pre-posttest	Nursing students	179	no	no	Cardiac anatomy
Hilbelink 2009[35]	non RCT pre-posttest	Nursing students, wellness program students	248	no	no	Skull
Kockro et al., 2015[46]	RCT posttest only	Medical students	169	no	no	Ventricular system

Intervention, technology	Feature intervention	Control(s), technology	Feature control	Cognitive level anatomy questions
Stereoscopic 3D dissection images on video, desktop with anaglyphic 3D glasses	Non-interactive	1) 2D dissection images on video, desktop 2) 2D images, textbook	Non-interactive	High order
1) Stereoscopic 3D AR model, Hololens	Interactive user control	1) Monoscopic 3D model, desktop 2) 2D anatomical atlas	1) interactive user control 2) non-interactive	combination
Stereoscopic 3D model, stereo-projector screen with polarizing 3D glasses	Interactive, instructor control	2D images, projector screen	Non-interactive	Combination
Stereoscopic 3D model on videoclip, desktop with stereoscopic anaglyphic 3D glasses	Interactive user control	1) Monoscopic 3D model on videoclip, desktop 2) 2D images, projector screen	1) Interactive user control 2) non-interactive	Low order
Stereoscopic 3D model, VR with Vive HTC head-mounted display	Interactive user control	2D images, paper-based booklet	Non-interactive	High order
Stereoscopic 3D images on video, unknown medium with anaglyphic 3D glasses	Non-interactive	2D images on video, unknown medium	Non-interactive	Unknown
Stereoscopic 3D model, photopolymer	Interactive user control	1) Monoscopic 3D model, desktop 2) 2D images, paper based	1) Interactive user control 2) Non-interactive	Low order
Stereoscopic 3D images, desktop with anaglyphic 3D glasses	Non-interactive	2D images, desktop	Non-interactive	Low order, High order
Stereoscopic 3D images, stereo-projector screen with polarizing glasses	Non-interactive	2D images, projector screen	Non-interactive	High order

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Supplementary material 1. Continued.

Author	Study design	Participants	N	SV assessed	VSA assessed	Anatomical region
Luursema et al., 2017[37]	RCT pre-posttest	Medical and biomedical students	63	yes	Yes, by MRT	Neck anatomy
Luursema et al., 2006[38]	RCT posttest only	Students and employees of behavioral sciences.	36	yes	Yes, by MRT	Abdomen
Luursema et al., 2008[2]	RCT posttest only	Students and employees of behavioral sciences.	46	yes	Yes, by MRT	Abdomen
Moro et al., 2017[36]	RCT posttest only	Medical, biomedical and health sciences	59	no	No	Skull
Remmele et al., 2018[39]	RCT cross-over posttest only	Teacher trainees of biological and non-biological education	171	yes	No	Skull and ear
Stepan et al., 2017[44]	RCT pre-posttest	Medical students	66	no	no	Neuroanatomy

Intervention, technology	Feature intervention	Control(s), technology	Feature control	Cognitive level anatomy questions
Stereoscopic 3D model, VR with Oculus Rift SDK 2 head-mounted display	Interactive user control	1) Monoscopic 3D model, VR with Oculus Rift head-mounted display 2) Watching virtual sea world, Oculus Rift head-mounted display	Interactive user control	High order
Stereoscopic 3D model, desktop with 3D shutter glasses	Interactive user control	2D images, desktop	Non-interactive	High order
Stereoscopic 3D model, desktop with 3D shutter glasses	Interactive user control	Monoscopic 3D model, desktop	Interactive user control	High order
Stereoscopic 3D model, VR with Oculus Rift head-mounted display	Interactive user control	1) Monoscopic 3D model, AR with Samsung Galaxy Tab S2 tablet 2) Monoscopic 3D model, Samsung Galaxy Tab S2 tablet	1) Interactive user control 2) Interactive user control	Low order
1) Dynamic stereoscopic 3D model, desktop with 3D shutter glasses 2) Static stereoscopic 3D model, desktop with 3D shutter glasses	1) Interactive user control 2) non-interactive user control	1) Dynamic monoscopic 3D model, desktop 2) Static monoscopic 3D model, desktop	1) Interactive user control 2) non-interactive user control	High order
Stereoscopic 3D model, VR with Oculus Rift head-mounted display	Interactive user control/ non-interactive user control	2D images, desktop	Non-interactive	Low order

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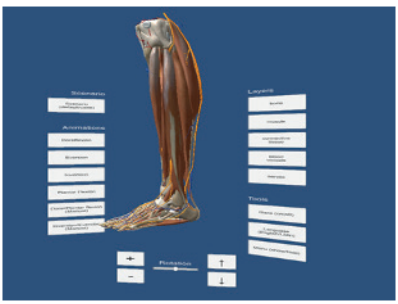
Supplementary material 1. Continued.

Author	Study design	Participants	N	SV assessed	VSA assessed	Anatomical region
Wainman et al., 2019[42]	RCT Posttest only	Health science, Arts and Science, Engineering, Life Science, Science, Social Science, Humanities, Computer Science students	80	No	Yes, by MRT	Pelvis

N = number of participants; SV = stereovision, VSA = visual-spatial abilities, MRT = Mental Rotation Test; RCT = randomized controlled trial; 3D = three-dimensional; 2D = two-dimensional; VR = virtual reality; AR = augmented reality; MR = mixed reality

Supplementary material 2. *DynamicAnatomy* application for Hololens®: a stereoscopic 3D holographic model of the lower leg.



Supplementary material 3. *DynamicAnatomy* application for Hololens®: a *DynamicAnatomy* application for Windows: a monoscopic 3D desktop model of the lower leg.

Intervention, technology	Feature intervention	Control(s), technology	Feature control	Cognitive level anatomy questions
1) Stereoscopic 3D model, VR with HTC Vive 2) Stereoscopic 3D model, MR with Hololens	Interactive user control	1) Monoscopic 3D model, VR with HTC Vive 2) Monoscopic 3D model, MR with Hololens	Interactive user control	Low order

Supplementary material 4A. Learning objectives.

At the end of the learning session, students should be able to:

1. Identify the following bones of the lower leg, ankle, and foot:

tibia	navicular	lateral cuneiform
fibula	cuboid	metatarsals 1-5
talus	medial cuneiform	phalanges 1-5
calcaneus	intermediate cuneiform	

2. Identify the following muscles including their origins and insertions:

I	II	III	IV
m. gastrocnemius (medial head)	m. tibialis posterior	m. tibialis anterior	m. peroneus longus
m. gastrocnemius (lateral head)	m. flexor digitorum longus	m. extensor hallucis longus	m. peroneus brevis
m. soleus	m. Flexor hallucis longus	m. extensor digitorum longus	
m. plantaris		m. peroneus tertius	

3. Indicate for each of the two ankle joints (tibiotalar and subtalar/talocalcaneal) which of the following movements they facilitate
   dorsiflexion = flexion(to bend) of the foot
   plantar flexion = extension(to stretch) of the foot
   inversion= inner rotation of the foot
   eversion= external rotation of the foot

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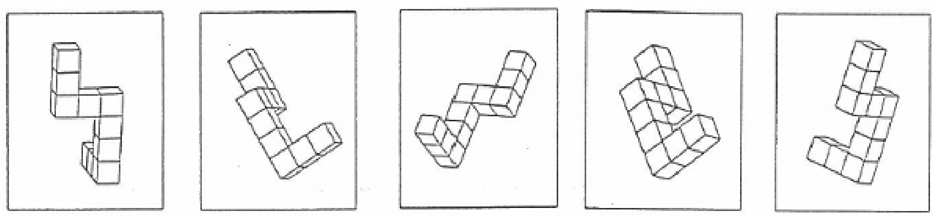
4. Determine the course of the following muscles in relation to neighboring muscles and bones
   m. soleus
   m. tibialis anterior
   m. tibialis posterior
   m. peroneus longus
5. Indicate for each muscle which movements (dorsiflexion, plantar flexion, inversion, eversion) they facilitate. This is determined by their origins and insertions, and by their course with regard to the joint axes.
6. Determine which structure (joint, bone and/or muscle) is injured in case of a patient with affected range of movement in the ankle.

Supplementary material 4B. Instructions for learning session.
1. Identify the relevant bones
2. Identify the two joints of the ankle: the *tibiotalar* (between tibia and talus) and *subtalar or talocalcaneal (*between talus and calcaneus) joints. Note that each of the two ankle joints have their own unique joint axes, and they determine the motion patterns together with the origin, insertion, and course of the muscles
3. Relate the joint axes to the 4 movement patterns.
   There are 14 muscles involved in the movement of the ankle. They are organized in four compartments (see table): I = Superficial posterior (= back side), II = Deep posterior, III = Anterior (= front side), IV = Lateral (=outer side).
4. Identify the m. tibialis anterior and its direct neighboring bones and muscles
5. Examine its course: from the upper head of the tibia (its origin) to the lower side of the medial cuneiform of the foot (its insertion), through the medial side (= inner) side of the ankle joints. Therefore, contraction of this muscle results in inversion (= inner rotation of the foot), and in plantar flexion (= extension of the foot) due to its insertion on the side of the foot pad.
6. Repeat steps 4 and 5 for the other muscles. Note that their unique course and insertion determine which movement they facilitate

Supplementary material 5A. Explanation of the Mental Rotation Test.
Look at these five figures

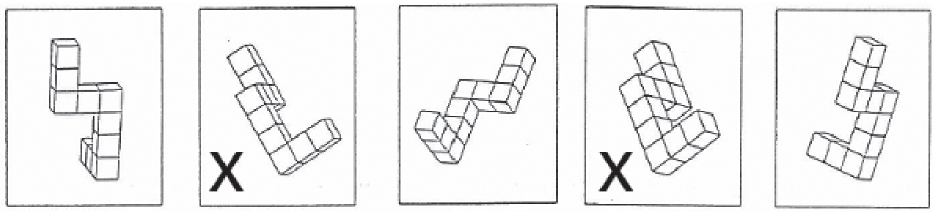


Note that these are all pictures of the same object which is shown from different angles. Try to imagine moving the object, as you look from one drawing to the next.

In the following 24 questions you will be asked to identify the two drawings which show the same object.

EXAMPLE:

Now look at this subject. Two of these four drawings show the same object. They are marked with X:



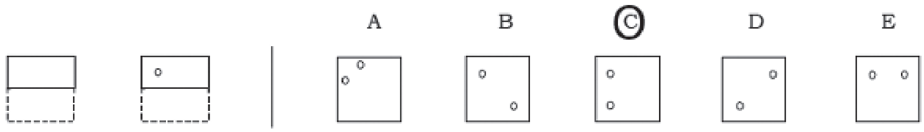
Supplementary material 5B. Explanation of the Paper Folding Test.

In this test you are to imagine the folding and unfolding of pieces of paper. In each problem in the test there are some figures drawn at the left of a vertical line and there are others drawn at the right of the line.

The figures at the left represent a square piece of paper being folded, and the last of these figures has one or two small circles drawn on it to show where the paper has been punched. Each hole is punched through all the thicknesses of paper at that point.

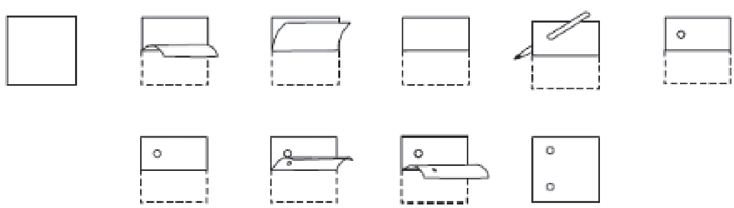
One of the five figures on the right of the vertical line shows where the holes will be when the paper is completely unfolded. You are to decide which one of these figures is correct and encircle the correct option.

EXAMPLE: (In this problem only one hole was punched in the folded paper).



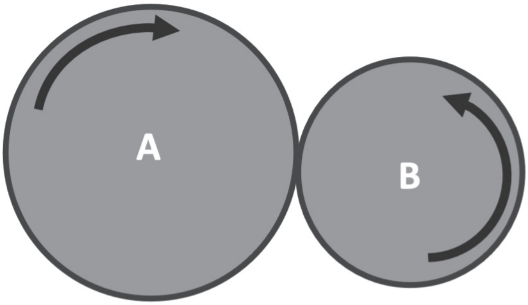
The correct answer to the sample problem above is **C**.

The figures below show how the paper was folded and why **C** is the correct answer.

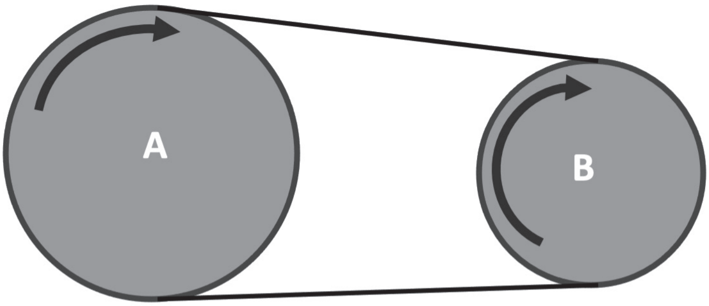


Supplementary material 5C. Explanation of the Mechanical Reasoning Test.
In this test you will be presented with gear problems. A gear problem consists of 2 or more connected gears, which can rotate in response to one another.

In the example below, you can see how gear A rotates in a clockwise direction. As a result, gear B will rotate in a counter clockwise direction.



Instead of being connected directly, these gears can also be connected by a wire, as shown in the example below. Here gear B will rotate in the same direction as gear A.



On the next pages, you will be presented with items concerning these gear problems. For each item, the question is: **Are the arrows in the figure in the correct direction or not?** The first and last gear of the problem have been provided with an arrow, which are in the correct or incorrect position.

There are 12 problems in total, you have 3 minutes to complete as many items as you can. Focus on both accuracy and speed of your responses.

Supplementary material 6. Anatomical knowledge test: an example of extended matching questions and open-ended questions in the factual, functional and spatial domains.

Factual knowledge domain

Which muscle is indicated?

M. extensor digitorum longus
M. extensor hallucis longus
M. flexor digitorum longus
M. flexor hallucis longus
M. gastrocnemius lateral head
M. gastrocnemius medial head
M. peroneus brevis
M. peroneus longus
M. peroneus tertius
M. plantaris
M. soleus
M. tibialis anterior
M. tibialis posterior

Functional knowledge domain

Jan is playing beach volleyball. While jumping off the ground, he hears a snapping sound followed by an immediate sharp pain on the back side of his lower leg. He is not able to walk on his toes anymore.

Which muscle is injured and why?

Spatial knowledge domain

Which 4 bones, that are listed below, are in direct contact with talus?

Tibia
Fibula
Calcaneus
Cuboid
Intermediate cuneiform
Lateral cuneiform
Medial Cuneiform
Navicular

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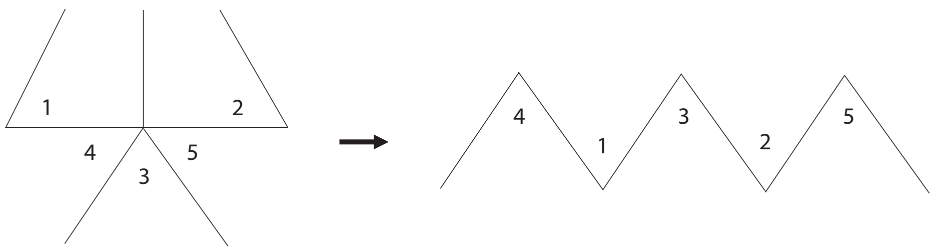
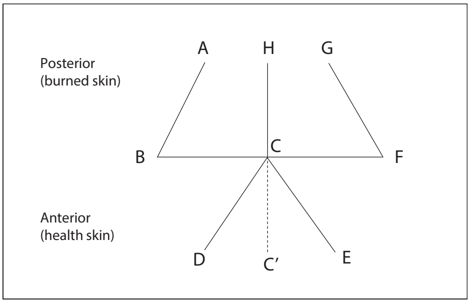
Supplementary material 7. Anatomical specimen test: an example of open ended questions in spatial and functional knowledge domains.

STATION 1	
Question	Answer
What is the name of **structure 1**?	
What is the name of **structure 2**?	
What is the name of **structure 3**?	
What is the name of **structure 4**?	
STATION 2	
Question	Anwser
Which movement of the **ankle** joint is facilitated by **structure 11**?	
Which movement of the **ankle** joint is facilitated by **structure 12**?	
Next to *dorsiflexion*, which movement of the **ankle** joint is facilitated by **structure 13**?	
Next to *plantar flexion*, which movement of the **ankle** joint is facilitated by **structure 14**?	



Supplementary material 8. The 5-flap Z-plasty.

Supplementary material 9. OCHRA checklist for the assessment of a 5-flap Z-plasty.



Total number of steps: 10. Total score: 10.

	Surgical steps				Executional error	
	Step	**Substep (structure)**	**Action**		Correctly performed = 0.5, 1, or 1.5 Incorrectly performed = 0	
OCHRA 1	1. Flap design	A. Skin	1. Identify	Identify resting skin tension lines, the lines of maximal extension, and the slack to determine how and where the jumping man plasty will be positioned.	DCE flap position on the burn site of the skin (posterior)	**1**
OCHRA 2					CC' = CH = 2.5 cm	**1**
OCHRA 3			2. Mark	Mark the jumping man plasty that consists of two opposing Z-plasties with a YV-plasty in between.	DCE angle exceeds 60–90°	**1**
OCHRA 4					GFC angle exceeds 45–60°	**1**
OCHRA 5					ABC angle exceeds 45–60°	**1**

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Supplementary material 9. OCHRA checklist for the assessment of a 5-flap Z-plasty.

	Surgical steps				Executional error	
	Step	**Substep (structure)**	**Action**		Correctly performed = 0.5, 1, or 1.5 Incorrectly performed = 0	
OCHRA 6	2. Flap creation	A. Skin	1. Incise	Incise the skin over the marked lines.	The skin is not completely incised and/or not incised over the marked lines	**0.5**
OCHRA 7			2. Transpose	Transpose both the Z-plasties by interchanging the location of the created triangles per Z-plasty	Transposition of Z-plasties in a wrong direction	**1.5**
OCHRA 8			3. Trim	Adjust the size of the Z-plasty flaps	Trimming of the flaps of the healthy skin	**0.5**
OCHRA 9			4. Advance	Advance the YV-plasty.	Incorrect advancement	**1.5**
OCHRA 10	3. Wound closure	A. Skin	1. Close	Close the skin with standing transcutaneous sutures. First, the three-point sutures should be placed.	Not all five wound sites are closed	**1**
Total						**10**

Supplementary material 10. The logistic regression model and coefficients for the outcome measure "safe lengthening".

			95% CI for Exp (B)	
	Sig	Exp (B)	Lower	Upper
Intervention (stereoscopic vs. monoscopic)	0.078	0.337	0.100	1.131
VSA (high VSA vs. low VSA)	0.011	0.219	0.068	0.704
VSA x Intervention	0.027	6.671	1.239	35.904

Exp (B)=odds ratio

Calculated odds ratios based on the values from the model:

- 3D & high VSA = 8.8
- 3D & Low VSA = 1.8
- 2D & high VSA = 1.9
- 2D & low VSA = 1.6

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Supplementary material 11. OCHRA checklist for open inguinal hernia repair.

Surgical steps		
Step	**Substep**	**Action**
1. External oblique aponeurosis exposure	A. Skin	1. Incise
	B. Subcutaneous tissue	1. Incise
	C. Superficial epigastric vein	1. Transect
	D. Scarpa's fascia	1. Incise
	E. Subcutaenous tissue	
2. Inguinal canal exposure	A. External oblique aponeurosis	1. Identify
		2. Incise
		3. Dissect
3. Spermatic cord mobilization	A. Spermatic cord	1. Isolate
		2. Encircle
4. Hernia sac resection	A. Hernia sac	1. Identify
		2. Remove
5. Mesh placement	A. Inguinal canal	1. Expose
	B. Mesh	1. Trim mesh
		2. Position mesh parallel to inguinal ligament
		3. Fixate - medial to rectus sheath
		4. Fixate - caudal to inguinal ligament
		5. Split - superior 2/3 inferior 1/3
		6. Position - folding tails correctly
		7. Fixate - lateral
		8. Trim mesh laterally
		9. Position mesh under aponeurosis
		10. Fixate - cranial to internal oblique muscle
6. Wound closure	A. External oblique aponeurosis	1. Close
	B. Scarpa's fascia	1. Close
	C. Skin	1. Close

Performed correctly?	Procedural error	Executional error	Consequential?
			HAZARD – Iliohypogastric nerve damage HAZARD - Superficial epigastric vessels damage
			HAZARD - Ilioinguinal nerve damage
			HAZARD - Genital branch of genitofemoral nerve
			HAZARD - Pubic periosteum damage HAZARD - Femoral vessels and nerve damage HAZARD - prosthetic inguinal ring too wide or too small HAZARD - Iliohypogastric nerve damage

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Supplementary material 12. OSATS checklist.

Respect for tissue	1 Frequently used unnecessary force on tissue or caused damage by inappropriate use of instruments	2
Time and motion	1 Many unnecessary moves	2
Instrument handling	1 Repeatedly makes tentative or awkward moves with instruments	2
Knowledge of instruments	1 Frequently asked for the wrong instrument or used an inappropriate instrument	2
Use of assistance	1 Consistently placed assistants poorly or failed to use assistants	2
Flow of operation and forward planning	1 Frequently stopped operating or needed to discuss next move	2
Knowledge of specific procedure	1 Deficient knowledge. Needed specific instruction at most operative steps	2

	3 Careful handling of tissue but occasionally caused inadvertent damage	4	5 Consistently handled tissues appropriately with minimal damage
	3 Efficient time/motion but some unnecessary moves	4	5 Economy of movement and maximum efficiency
	3 Competent use of instruments although occasionally appeared stiff or awkward	4	5 Fluid moves with instruments and no awkwardness
	3 Knew the names of most instruments and used appropriate instrument for the task	4	5 Obviously familiar with the instruments required and their names
	3 Good use of assistants most of the time	4	5 Strategically used assistant to the best advantage at all times
	3 Demonstrated ability for forward planning with steady progression of operative procedure	4	5 Obviously planned course of operation with effortless flow from one move to the next
	3 Knew all important aspects of the operation	4	5 Demonstrated familiarity with all aspects of the operation

List of Publications

LIST OF PUBLICATIONS

Bogomolova K, van Merriënboer JJG, Sluimers JE, Donkers J, Wiggers T, Hovius SER, van der Hage JA. The effect of a three-dimensional instructional video on performance of a spatially complex procedure in surgical residents in relation to their visual-spatial abilities. Am J Surg 2021;222(4):739-745.

Nazari T, **Bogomolova K**, Ridderbos M, Dankbaar MEW, van Merriënboer JJG, Lange JF, Wiggers T, van der Hage JA. Global versus task-specific postoperative feedback in surgical procedure learning. Surgery 2021;170(1):81-87.

Bogomolova K, Sam AH, Misky AT, Gupte CM, Strutton PH, Hurkxkens TJ, Hierck BP. Development of a Virtual Three-Dimensional Assessment Scenario for Anatomical Education. Anat Sci Educ 2021;14(3):385-393.

Bogomolova K, Hierck BP, Looijen AEM, Pilon JNM, Putter H, Wainman B, Hovius SER, van der Hage JA. Stereoscopic three-dimensional visualisation technology in anatomy learning: A meta-analysis. Med Educ 2021;55(3):317-327.

Bogomolova K, van der Ham IJM, Dankbaar MEW, van den Broek WW, Hovius SER, van der Hage JA, Hierck BP. The Effect of Stereoscopic Augmented Reality Visualization on Learning Anatomy and the Modifying Effect of Visual-Spatial Abilities: A Double-Center Randomized Controlled Trial. Anat Sci Educ 2020;13(5):558-567.

Bogomolova K, Hierck BP, van der Hage JA, Hovius SER. Anatomy Dissection Course Improves the Initially Lower Levels of Visual-Spatial Abilities of Medical Undergraduates. Anat Sci Educ 2020;13(3):333-342.

Hop MJ, Moues CM, **Bogomolova K**, Nieuwenhuis MK, Oen IM, Middelkoop E, Breederveld RS, van Baar ME. Photographic assessment of burn size and depth: reliability and validity. J Wound Care 2014;23(3):144-5, 148-52.

PhD Portfolio

PhD PORTFOLIO

1. PhD training	Year	Workload
General academic skills		
NIHES Master of Clinical Epidemiology	2017-2018	70 ECTS
General courses		
Biomedical English Writing and Communication	2017	3 ECTS
Endnote, Pubmed and other databases, Medical Library	2017	30 hours
PhD introductory meeting	2018	8 hours
Data management and data stewardship	2018	12 hours
Creative thinking techniques for PhDs	2018	14 hours
Personal effectivity and communication	2018	24 hours
Basiscursus Regelgeving en Organisatie voor Klinisch onderzoekers (eBROK)	2020	1.5 ECTS
Critical Choices in Qualitative Research	2019	2 ECTS
(Inter) national presentations		
Wetenschappelijke vergadering NVPC, Rotterdam, The Netherlands – oral presentation	2017	20 hours
Symposium in innovaties in plastisch chirurgisch leren, Amsterdam, The Netherlands – oral presentation	2017	20 hours
An International Association for Medical Education (AMEE) – poster with oral presentation	2017	20 hours
Nederlandse Vereniging voor Medisch Onderwijs (NVMO), Egmond aan Zee, The Netherlands – oral presentation	2018	20 hours
An International Association for Medical Education (AMEE), Basel, Switzerland – oral presentation	2018	20 hours
NVMO PhD day, Utrecht, The Netherlands – oral presentation	2018	10 hours
International Federation of Associations of Anatomists (IFAA), London, UK – oral presentation	2019	20 hours
NVMO PhD day, Utrecht, The Netherlands – oral presentation	2019	10 hours
An International Association for Medical Education (AMEE), Vienna, Austria - oral presentation	2019	20 hours

Nederlandse Vereniging voor Medisch Onderwijs (NVMO), Rotterdam, The Netherlands – oral presentation	2019	20 hours
International conference on Residency Education (ICRE), Canada – accepted abstract for oral presentation	2020	3 hours
Nederlandse Vereniging voor Heelkunde (NHvH), The Netherlands – accepted abstract for oral presentation	2020	3 hours

Invited lectures		
LUMC LEARN, Leiden, The Netherlands	2018	10 hours
LUMC LEARN, Leiden, The Netherlands	2019	10 hours
LUMC Groot Onderwijsoverleg, Leiden, The Netherlands	2019	10 hours
External visit from department of Anatomy, Leeds University, London, UK	2019	10 hours
LUMC Board of directors, Leiden, the Netherlands	2019	10 hours
Annual meeting of Experimental Biology – symposium on Visual-Spatial abilities	2020	15 hours

2. Teaching activities

Supervising		
Supervision minor Head & Neck reconstructive Surgery, Erasmus MC	2017	10 hours
Supervision halve minor Medical Education, LUMC	2018 - 2020	30 hours
Master Thesis (Judith Cueto Fernandez), Biomedical Engineering, TU Delft	2019 - 2020	60 hours

Lecturing		
Anatomy of the hand and arm (3rd year students), Erasmus MC	2017	5 hours
Academische & Wetenschappelijke Vorming- (1st year students), LUMC	2020	15 hours

C

Curriculum Vitae

CURRICULUM VITAE

Katerina Bogomolova was born in Tashkent, Uzbekistan, on 26 August 1987. Together with her parents and older sister, she moved to the Netherlands when she was 14 years old in 2001. After a relatively short transition through various levels of secondary education (VMBO, HAVO and VWO) Katerina successfully graduated from the Vechtdal College in Hardenberg in 2006.

From 2006 to 2010 Katerina studied Life Sciences & Innovation Management at the Utrecht University. Finally in 2009, she was admitted to Medicine at the Erasmus University Medical Center in Rotterdam.

During her Medicine study in 2015, Katerina initiated and conducted an educational research project under supervision of prof. dr. Steven Hovius, dr. Jan Sluimers and dr. Eddy Putranto at the department of Plastic and Reconstructive Surgery in Medan, Indonesia. During this project she was inspired by the potentials of new technologies to improve medical education. After obtaining her medical degree, Katerina started her PhD project on the role of 3D learning in anatomical and surgical education in 2017 under supervision of prof. dr. Steven Hovius at the department of Plastic and Reconstructive Surgery at Erasmus MC Rotterdam. In the same year, she attained a master's degree in Clinical Epidemiology at the Netherlands Institute for Health Sciences (NIHES). In 2018, she continued her PhD project resulting in this thesis under supervision of prof. dr. Jos van der Hage at the department of Surgery at the Leiden University Medical Center.

After finishing her PhD in January 2021, Katerina worked as a resident not in training (ANIOS) at the department of Surgery in the Ikazia Hospital, Rotterdam. In November 2021, she started as ANIOS at the department of Plastic and Reconstructive Surgery and Hand Surgery at the Amsterdam University Medical Center. It is her dream to pursue a carrier in the field of Plastic and Reconstructive Surgery and Hand Surgery.

D

Dankwoord

DANKWOORD

Beste Jos, professor van der Hage, jij hebt mij de kans gegeven om mijn promotietraject te kunnen volbrengen in Leiden waarvoor mijn grote dank. De vrijheid die jij mij hebt gegeven binnen het onderzoek was voor mij van onschatbare waarde, je openheid voor nieuwe ideeën heeft geleid tot vruchtbare samenwerkingen die onze onderzoeken tot een hoger niveau hebben getild.

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