Academic Reading 1 (AR1) Sample Final Test (2) Test Booklet

Instructions to Students

- 1. TURN OFF your cell phone.
- 2. Place your student ID, pencils, and eraser on the desk. Put everything else in your bag and put your bag on the floor.
- 3. Before the test begins, you will receive this test booklet and an answer sheet. The test booklet contains 9 pages plus this cover page.
- 4. Do NOT open the test booklet before you are told to do so by the examiner.
- 5. At the top of the answer sheet, write the information required about yourself and your Academic Reading class.
 - Day (Monday, Tuesday, Wednesday, Thursday, or Friday)
 - Class Period (1, 2, 3, 4, or 5)
 - Teacher's Name
 - Student ID
 - Student Name
- 6. Write all your answers on the answer sheet.
- 7. Dictionaries are not allowed.
- 8. The following behavior during the test is considered cheating and is subject to severe punishment.
 - the use of a camera or a cell phone
 - looking at notes
 - looking at another student's answer sheet
 - providing answers to another student
- 9. You will have 60 minutes to complete the test.
- 10. When the test is completed, wait quietly for the examiner to collect all of the answer sheets.
- 11. Take this test booklet home with you.

Important Note

The questions in this sample test are from AY2016 and earlier. Future tests will be based on the current list of Science News items listed on the AR1 web page. The questions here should therefore be seen as samples of the kinds of questions that may appear on the AR1 final test.

Part I (Goal 6): Science News

Instructions: Answer the following questions based on the information contained in the assigned science news articles.

- 1. Which of the following is a problem with the research on the relationship between atrial fibrillation and spouse's death?
 - a. The researchers didn't look at broken heart syndrome.
 - b. The sample size of the study was too small.
 - c. The researchers also looked at weakness and stroke.
 - d. There are many other confounding factors.
- 2. According to the article "Ultrathin organic material enhances e-skin display", a team from which university conducted the research?
 - a. Harvard University

b. University of Tokyo

c. University of Oxford

- d. Massachusetts Institute of Technology (MIT)
- 3. Which of the following is true according to the article "Huge coral reef discovered at Arizona river mouth"?
 - a. This reef is in grave danger because this area was sold for oil exploration.
 - b. This reef is in grave danger because this area was sold for new nuclear power stations.
 - c. This reef is safe because the Brazilian government made an environment protection law.
 - d. This reef is safe because many countries have been donating money to protect it.
- 4. Which of the following statements is true according to the article about "1,284 new planets"?
 - a. These new planets were discovered by the Hubble space telescope.
 - b. The existence of these new planets was predicted by NASA.
 - c. These new planets were discovered by the Kepler space telescope.
 - d. The existence of these new planets was confirmed at an international astronomy conference.
- 5. Which of the following statements about genetically modified (GM) crops is true?
 - a. Consumers are likely to avoid foods with GM ingredients due to higher costs.
 - b. GM food crops are slightly more risky to human health than conventionally grown crops.
 - c. There is no disagreement that genetic alternation is beneficial to solve world hunger.
 - d. There is no distinct difference between GM food crops and conventionally grown crops.
- 6. Which of the following is NOT true about the discovery of a 5,000-year-old beer recipe in China?
 - a. It suggests that barley might have been used for making alcohol before it was grown for food.
 - b. It suggests that beer could have contributed to the emergence of hierarchical societies.
 - c. It is evidence that early China had a tradition of rice-based fermentation.
 - d. It is the first direct evidence of in situ beer making in early China.
- 7. How did researchers show that some fish can recognize human faces?
 - a. They made the fish watch videos of many television dramas and Hollywood films.
 - b. They trained fish to squirt water at different faces in order to receive a food reward.
 - c. They made sure that the fish saw only human faces from the egg stage onward.
 - d. They put the fish with black crows who are already known to recognize humans.
- 8. According to research, which of the following has the highest neuron density in their brains?
 - a. human
- b. pig
- c. owl monkey
- d. blackbird

Part II (Goal 2): Recognizing Common Linguistic Features

Instructions: Read texts [A] - [E] and answer the questions that follow each.

[A] "These differences in individual performance provide additional evidence that some of the fish were using different features for <u>facial</u> identification from the others and that this visual information differed in its <u>effectiveness</u> for the discrimination task."

[Adapted from: Watry 2016]

- 9. Which of the following statements is correct about the word <u>facial</u>?
 - a. It has a prefix only.

b. It has a suffix only.

c. It has a prefix and a suffix.

- d. It has neither a prefix nor a suffix.
- 10. Which of the following is a correct division of the word effectiveness into its meaning parts?
 - a. effect-ive-ness
- b. eff-ect-ive-ness
- c. effec-tiven-ess
- d. ef-fe-ct-iv-en-ess

[B] The role of the systems analyst is to <u>straddle</u> the divide between identifying business needs and imagining a new or redesigned computer-based system to fulfill those needs. This individual will work with a person or team with business requirements and identify the specific details of a system that needs to be built.

[Adapted from: Bourgois 2015, p. 94]

- 11. Which of the following is closest in meaning to straddle?
 - a. strengthen
- b. confirm
- c. connect
- d. enlarge

[C] Children with specific language impairment (SLI) have difficulties with spoken language. However, some recent research suggests that these impairments reflect underlying cognitive limitations. Studying gesture may inform us clinically and theoretically about the nature of the association between language and cognition (the process by which knowledge and understanding are developed in the mind). A total of 20 children with SLI and 19 typically developing (TD) peers were assessed on a novel measure of gesture production (GP). Children were also assessed for sentence comprehension errors in a speech–gesture integration task. Children with SLI performed equally to peers on GP but performed less well when comprehending integrated speech and gesture.

[Adapted from: Botting et al 2009]

- 12. Which of the following is closest in meaning to motor?
 - a. problem
- b. limitation
- c. cognition
- d. physical movement
- 13. Which of the following does NOT have an abbreviation defined in the text?
 - a. gesture production

b. speech-gesture integration task

c. specific language impairment

d. typically developing

- 14. What technical term is defined in the text?
 - a. cognition

b. gesture production

c. typically developing

d. specific language impairment

[D] At <u>its</u> most basic, a blog is just a personal home page in diary format. But as Rich Skrenta notes, the chronological organization of a blog "seems like a trivial difference, but <u>it</u> derives an entirely different delivery, advertising and value chain."

[Adapted from: O'Reilly 2005]

15. What does it of its refer to?

a. diary format b. a blog's chronological organization

c. a blog d. a personal home page

16. What does it refer to?

a. a blog's chronological organization b. a trivial difference

c. a blog d. a personal home page

[E] (1)Science is based on observation and experiment—that is, on measurements. (2)Accuracy is how close a measurement is to the correct value for that measurement. (3)For example, let us say that you are measuring the length of standard computer paper. (4)The packaging in which you purchased the paper states that it is 11.0 inches long. (5)You measure the length of the paper three times and obtain the following measurements: 11.1 in., 11.2 in., and 10.9 in. (6)These measurements are quite accurate because they are very close to the correct value of 11.0 inches. (7)In contrast, if you had obtained a measurement of 12 inches, your measurement would not be very accurate.

[Adapted from OpenStax College "College Physics"]

17. Which sentence is the topic sentence?

a. sentence (1) b. sentence (2) c. sentence (6) d. sentence (7)

18. Which sentences are the supporting sentences?

a. sentences (1)-(7) b. sentences (2)-(6) c. sentences (2)-(7) d. sentences (3)-(7)

Part III (Goal 5): Managing Academic References

Instructions: Read texts [F] - [G] and answer the questions that follow each.

[F] Sousa et al. (1) describe the motivation for and the design of a new masonry block for use in south European countries. Because of the mild winters and relatively dry climate in south Europe, (2) there is not so much need for masonry blocks with a large dead space.(3) The authors used an optimizing procedure to generate dimensions (4) and design for a masonry block that is better suited to the south European climate. The optimized block is easier for workers to handle and tests show that it meets the thermal and load-bearing requirements of European standards.

[Adapted from Rose 2014, p. 63]

19. The text is a summary of a research article. Which position in the text is the most appropriate place for a citation to the article?

a. position (1) b. position (2) c. position (3) d. position (4)

- [G] Velasco, C., Jones, R., King, S., and Spence, C. (2013). In *Flavour*, 2:23. https://flavourjournal.biomedcentral.com/articles/10.1186/2044-7248-2-23
- 20. This text contains the reference information for a journal research article. What necessary piece of information is missing?

c. year

a. author(s)

b. where published

d. title

Part IV (Goal 3): Comprehending Texts

Instructions: Read texts [H] - [J] and answer the questions that follow each.

[H] The global digital divide describes global disparities, primarily between developed and developing countries, in regards to access to computing and information resources such as the Internet and the opportunities derived from such access. As with a smaller unit of analysis, this gap describes an inequality that exists, referencing a global scale.

The Internet is expanding quickly, and not all countries – especially developing countries – are able to keep up with the constant changes. (1) The term "digital divide" doesn't necessarily mean that someone doesn't have technology; it could mean that there is simply a difference in technology. These differences can refer to, for example, high-quality computers, fast Internet, technical assistance, or telephone services. The difference between all of these is also considered a gap.

In fact, there is a large inequality worldwide in terms of the distribution of installed telecommunication bandwidth. In 2014 only 3 countries (China, US, Japan) host 50% of the globally installed bandwidth potential. This concentration is not new, as historically only 10 countries have hosted 70-75% of the global telecommunication capacity. The U.S. lost its global leadership in terms of installed bandwidth in 2011, being replaced by China, which hosts more than twice as much national bandwidth potential in 2014 (29% versus 13% of the global total).

The global digital divide is a special case of the digital divide, the focus is set on the fact that "Internet has developed unevenly throughout the world" causing some countries to fall behind in technology, education, labor, democracy, and tourism. The concept of the digital divide was originally popularized in regard to the disparity in Internet access between rural and urban areas of the United States of America; the global digital divide mirrors this disparity on an international scale and is often characterized as falling along what is sometimes called the north-south divide of "northern" wealthier nations and "southern" poorer ones.

[Adapted from: "Digital Divide", Wikipedia]

- 21. Based on the text, which of the following is the most likely ranking (high to low) of telecommunication capacity now?
 - a. China, USA, Australia, Japan
- b. USA, China, Japan, New Zealand
- c. China, USA, Japan, Philippines
- d. Japan, USA, China, South Africa
- 22. What is the main idea of the text?
 - a. Technological inequality existing among countries is called the 'global digital divide'.
 - b. The digital divide is a problem that affects many poor countries throughout the world.
 - c. Global Internet access has improved widely in recent years with China now leading the US.
 - d. The global digital divide leads to inequality in other areas such as health, politics, and security.
- 23. Which of the following is the best paraphrase of the underlined sentence (1)?
 - a. People who have no access to technology are "digitally divided" from people who have full access to technology.
 - b. Some people in the world have free access to technology, while others in the world have very high costs to access technology. This is called the "digital divide".
 - c. "Digital divide" doesn't mean that people have access to technology. Rather it means that people don't have access to technology even though they need it.
 - d. "Digital divide" means that while one group of people has a certain amount of access to technology, another group has less or maybe no access to technology.
- [I] The global digital divide describes global disparities in regards to access to computing and information resources such as the Internet and the opportunities derived from such access. The Internet is expanding quickly, and not all countries especially developing countries are able to keep up with the constant changes. The global digital divide is a special case of the digital divide, originally popularized in regard to the disparity in Internet access between rural and urban areas of the United States of America.
- 24. Which of the following best describes Text [I] relative to Text [H]?
 - a. Text [I] is not an acceptable summary because it copies the text directly.
 - b. Text [I] is not a good summary because the details it gives are not accurate.
 - c. Text [I] is an acceptable summary because it paraphrases the key ideas well.
 - d. Text [I] is not a good summary because it fails to show the main idea.

[J] More than one third of the world's population can no longer see the Milky Way (made up of vast numbers of faint stars) because of man-made lights. Among those missing out on awe-inspiring Milky Way views: nearly 80 percent of North Americans and 60 percent of Europeans. These are the findings of a new global atlas of light pollution, published as part of a scientific paper Friday.

More than four-fifths of Earthlings now live beneath skies polluted by artificial light, which blocks out the Milky Way for more than a third of <u>them</u>, according to the research. "I hope that (1)this atlas will finally open the eyes of people to light pollution," lead author Fabio Falchi said in a statement. He is with the Light Pollution Science and Technology Institute in northern Italy.

Tiny Singapore is the most light-polluted country; the entire population loses out on seeing the true night sky. Kuwait and Qatar are close runners-up. On the opposite end of the spectrum, countries whose populations are exposed to the least light pollution, are Chad, Central African Republic and Madagascar.

[Adapted from: Dunn 2016]

- 25. What is the topic of the text?
 - a. the most and least light-polluted countries b. Milky Way
 - c. artificial light

- d. light pollution
- 26. What is the main idea of the text?
 - a. Man-made lights drown out the Milky Way for a third of the world's population.
 - b. North America and Europe face the problems of artificial light
 - c. Singapore is a country which uses light at night most in the world.
 - d. A new atlas shows that light pollution is a problem affecting most humans.
- 27. What does the underlined sentence (1) imply?
 - a. Some solutions to light pollution will soon become available.
 - b. Light pollution is a serious issue.
 - c. People are too near-sighted to see the Milky Way.
 - d. People will realize the advantages of man-made lights.
- 28. Which of the following is true according to the text?
 - a. People in Chad, Central Africa Republic and Madagascar cannot view the Milky Way.
 - b. There is no place in Singapore where people can see the Milky Way.
 - c. Kuwait and Qatar are probably the best places in the world to see the Milky Way.
 - d. All of a, b, and c are true.

Part V (Goal 4): Using Higher-level Cognitive Skills

Instructions: Read texts [K] and [L] and answer the questions that follow each.

[K-1] Research ethics involves the application of fundamental ethical principles to a variety of topics involving research, including scientific research. These include the design and implementation of research involving human experimentation, animal experimentation, various aspects of academic scandal, including scientific misconduct (such as fraud, fabrication of data and plagiarism), whistleblowing; regulation of research, etc. Research ethics is most developed as a concept in medical research. The key agreement here is the 1964 Declaration of Helsinki.

- **[K-2]** The academic research enterprise is built on a foundation of trust. Researchers trust that the results reported by others are sound. Society trusts that the results of research reflect an honest attempt by scientists and other researchers to describe the world accurately and without bias. But this trust will endure only if the scientific community devotes itself to exemplifying and transmitting the values associated with ethical research conduct. Research in the social sciences presents a different set of issues than those in medical research.
- **[K-3]** There are many ethical issues to be taken into serious consideration for research. Sociologists need to be aware of having the responsibility to secure the actual permission and interests of all those involved in the study. They should not misuse any of the information discovered, and there should be a certain moral responsibility maintained towards the participants. There is a duty to protect the rights of people in the study as well as their privacy and sensitivity.
- **[K-4]** Research informants participating in individual or group interviews as well as ethnographic fieldwork are often required to sign an informed consent form which outlines the nature of the project. Informants are typically assured anonymity and will be referred to using pseudonyms. Research with people should be negotiated reflexively and through dialogue with participants as a way to bridge global and local understandings of research ethics.

[Adapted from: "Research ethics", Wikipedia]

- 29. Which of the following pairs of words from this text are most different from each other?
 - a. trust, bias

b. ethics, values

c. privacy, anonymity

- d. consent, permission
- 30. Which of the following would NOT be ethical according to the text?
 - a. Getting permission from all experimental participants before starting the procedure.
 - b. Using fake names for participants when talking about specific research results in public.
 - c. Publishing the experimental data in a way that is different than what was originally stated.
 - d. Explaining the experimental method and purpose clearly to each participant in advance.
- 31. Which of the following topics is explained in LEAST detail in the text?
 - a. some features of ethical investigation
- b. issues to consider in ethical research
- c. comparison of ethics in different fields
- d. importance of research ethics
- 32. Which paragraph ends with a sentence that is out of place and should therefore be deleted?
 - a. paragraph [1]
- b. paragraph [2]
- c. paragraph [3]
- d. paragraph [4]
- 33. The text can be seen as containing one or more "main" paragraphs and one or more "supporting paragraphs". Which paragraphs are the supporting paragraphs?
 - a. paragraph [K-1] only

- b. paragraphs [K-2] and [K-3] only
- c. paragraphs [K-2], [K-3], and [K-4] only
- d. paragraphs [K-1], [K-2], and [K-3] only

[L] By zooming in on high-resolution passport-style photographs, we were able to recover images of bystanders from reflections in the eyes of photographic subjects. Performance in the face matching task (Experiment 1) and the spontaneous recognition task (Experiment 2) indicate that these bystander images were not merely *informative* about facial appearance, they were properly *identifiable* to viewers who knew the faces. This is perhaps a surprising result, given the very unpromising source of these images. However, it is consistent with previous evidence that familiar face recognition is extremely tolerant of poor image quality. We note that the reflection images also contain cues to bystanders' emotional state and interest, via facial expression, gaze direction, and posture, although we did not explore those cues here.

One possible extension of this technique would be to combine pairs of images recovered from the subject's two eyes. In principle, these images contain the stereo disparity information required to reconstruct a 3D representation of the environment from the viewpoint of the photographic subject. Since corneal reflections extend beyond the aperture of the pupil, such reconstructions could capture a wider angle of the scene than was visible to the subject at the time (see [21] for a related technique).

For now, our findings suggest a novel application of high-resolution photography: for crimes in which victims are photographed, corneal image analysis could be useful for identifying perpetrators. As with other sources of forensic evidence (e.g. fingerprints), corneal reflection images may not always be readily available. In particular, clear corneal reflections require the subject's face to be in focus, and viewed from a roughly frontal angle under good lighting. They also require high image resolution in order for bystanders' faces to be properly resolved. We note that pixel count per dollar for digital cameras has been doubling approximately every twelve months. This trajectory implies that mobile phones could soon carry >39 megapixel cameras routinely. However, as the current study emphasizes, the extracted face images need not be of high quality in order to be identifiable. For this reason, obtaining optimal viewers – those who are familiar with the faces concerned – may be more important than obtaining optimal images.

[Adapted from: Jenkins and Kerr 2013]

- 34. Which of the following scenarios best matches the situation that is described in this study?
 - a. John is taking a picture of Mary. Bill is standing next to Mary.
 - b. John is taking a picture of Mary and Bill. Fred is standing between Bill and Mary.
 - c. John is taking a picture of Mary. Bill is standing next to John.
 - d. John is taking a picture of Mary and Bill. Fred is standing between John and Mary.
- 35. In what way are the results of the experiment NOT surprising?
 - a. The identification was successful despite the unpromising source of the images.
 - b. Previous experiments show that people can recognize poor images of people they know.
 - c. The obtained images included information about bystanders' emotions and expressions.
 - d. Reflections of other people in the eyes of photographed people were identifiable.

- 36. What do the authors say is one potential value of their findings?
 - a. It's possible to identify people in pictures.
 - b. It's possible for bystanders to take pictures.
 - c. It is possible to recover a new and useful type of forensic evidence.
 - d. It's possible to double the resolution of cameras every twelve months.
- 37. In which of the following crime situations would the researchers' discovery be most useful?
 - a. A pick-pocket (thief) targets a tourist who is taking a close-up photograph of his spouse's face.
 - b. A criminal examines a bank that he wants to target, secretly taking pictures of the waiting area.
 - c. A computer expert hacks into a company's network and downloads photographs and data.
 - d. A gangster escapes prison and his face is recorded by a security camera at a convenience store.
- 38. The authors explain several conditions which are necessary to get clear images by reflections in eyes. Which of the following is NOT one of them?
 - a. The bystander's face should be in focus.
 - b. There must be sufficient lighting.
 - c. The camera image must have a high resolution.
 - d. The target person should be viewed in profile.

End of Final Test

List of sources

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Watry, Greg (2016) This Tropical Fish Can Recognize Human Faces. *R&D* (accessed June 14, 2016 at http://www.rdmag.com/article/2016/06/tropical-fish-can-recognize-human-faces).

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Day	Class Period	Teacher's Name
Student ID		Student Name

Academic Reading 1 (AR1) Sample Final Test (2) Answer Sheet

Instructions: Fill in the circle corresponding to your answer for each item below. Be sure to fill in the circle completely. Fill in only one circle for each item.

Ex.	a		©	d	19	a	Ь	©	d
1	a	Ь	©	d	20	a	Ь	©	d
2	a	Ь	©	a	21	a	Ь	©	d
3	a	Ь	©	a	22	a	Ь	©	d
4	a	Ь	©	d	23	a	Ь	©	d
5	a	Ь	©	d	24	a	Ь	©	d
6	a	Ь	©	d	25	a	Ь	©	d
7	a	Ь	©	d	26	a	Ь	©	d
8	a	Ь	©	d	27	a	Ь	©	d
9	a	Ь	©	d	28	a	Ь	©	d
10	a	Ь	©	d	29	a	Ь	©	d
11	a	Ф	©	a	30	a	Ь	©	d
12	a	Ь	©	a	31	a	Ь	©	d
13	a	Ь	©	a	32	a	Ь	©	d
14	a	Ь	©	d	33	a	Ь	©	d
15	a	Ь	©	d	34	a	Ь	©	d
16	a	Ь	©	d	35	a	Ь	©	d
17	a	Ь	©	d	36	a	Ь	©	d
18	a	Ь	©	d	37	a	Ь	©	d
					38	a	b	©	d

Day	Class Period	Teacher's Name
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Academic Reading 1 (AR1) Sample Final Test (2) Answer Sheet

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Ex.	a		©	d		19		b	©	d
1	a	Ь	©			20	a	6	©	
2	a		©	d		21	a	b		d
3		Ь	©	d		22		b	©	d
4	a	Ь		d		23	a	b	©	
5	a	Ь	©			24		b	©	d
6	a	Ь		d		25	a	b	©	
7	a		©	d		26	a	b	©	
8	a	Ь	©			27	a		©	d
9	a		©	d		28	a		©	d
10		Ь	©	d		29		b	©	d
11	a	Ь		d		30	a	b		d
12	a	Ь	©			31	a	b		d
13	a		©	d		32	a		©	d
14		Ь	©	d		33	a	b		d
15	a	Ь		d		34	a	b		d
16		Ь	©	d		35	a		©	d
17	a	•	©	d		36	a	b		d
18	a	Ь	©			37		b	©	d
						38	a	b	©	•