

JAZYKOVÁ KOMPETENCE I Session I

Task 1 The scientific method

a) The scientific method is a process in which experimental observations are used to answer questions. Complete the collocations for describing the stages in the scientific method using the words and phrases in the list below.

a hypothesis an experiment (x2) conclusions data (x3) the question

Analyse _____
Collect _____
Conduct (run) _____
Define _____
Design _____
Draw _____
Interpret _____
Form _____

b) Number the stages above in the order you would normally do them.

c) Read this extract from a student website and check your answers to ex. 2.

The scientific method is a process in which experimental observations are used to answer questions. Scientists use the scientific method to search for relationships between items. That is, experiments are designed so that one variable is changed and the effects of the change observed. While the exact methodologies used vary from field to field, the overall process is the same. First, the scientist must define the question – what exactly they are trying to find out. Next comes the formation of a hypothesis, which is an idea or explanation for a situation based on what is currently known. The next stage of the method is the design of an experiment which will allow this hypothesis to be tested. Usually a primary run of the experiment is conducted, and any changes to the experimental set-up made. In each experimental run, data collection takes place, followed by data analysis. Finally the data is interpreted and from this, the scientist is able to draw conclusions.

d) Read the extract again to find the nouns forms of the verbs below. Which word/s use/s the same form for the verb and the noun?

analyse – collect – design – explain – form – observe – relate – run – vary

Task 2 Doing research - vocabulary

a) Choose the correct option:

1. *Qualitative / Quantitative* research studies large samples with the intention of generalizing to populations.
2. Because of its nature, *qualitative / quantitative* research is appropriate to develop information about the values, beliefs, and behaviours of e.g. sport consumers and uncovers much richer information regarding their motivations and needs.
3. “*Is there any gender difference in the extent to which sport fans identify with their favourite team?*” is an example of a *research design / research question*.
4. “*To determine and apply a suitable operationalisation of fan identification*” is an example of a *research objective / research method*.
5. Case studies are a form of *qualitative predictive / descriptive* research that is used to look at individuals, a small group of participants, or a group as a whole.
6. *Dependent / Independent* variables are the presumed cause of the effect being researched, e.g. if gender influences attitudes towards violent sports, then it is gender that has the presumed effect.
7. *Dependent / Independent* variables are those that can be explained by the effect of the other variable, which in the above instance is the attitude towards violent sport.
8. *Reliability / Validity* means the extent to which measurements actually reflect the phenomena being studied.
9. *Reliability / Validity* (in quantitative research) refers to the extent to which findings would be similar if the research were to be repeated.
(Adapted from Gratton, C., Jones, I. (2010). *Research Methods for Sports Studies*. Routledge.)

b) Having completed task 1, give the following expressions in English:

<i>výzkumná otázka</i>	<i>postoj</i>
<i>vhodná operacionalizace</i>	<i>platnost</i>
<i>vzorek,</i>	<i>jevy</i>
<i>zobecnění</i>	<i>případová studie</i>
<i>závislá a nezávislá proměnná</i>	<i>účastníci</i>
<i>příčina</i>	<i>stanovit</i>

c) Complete the gaps in the paragraph:

‘Can you compete under pressure?’ aims to be the biggest ever _____ of the psychology of pressure. By _____ the data from those who take part, the scientists who _____ it aim to shine unprecedented light on what _____ performance under pressure. In doing so, they’ll _____ something new about pressure in sport and in everyday life.

What kind research design would you use to explore pressure in sport?

Task 3 Making connections

a) Read the article and answer the questions below:

Educational attainment and obesity

Some research suggests that there may be a relationship between obesity and poor educational attainment. It is likely that obesity and poor school performance are elements of a broader picture of inequalities in health and education, whereby disadvantaged socio-economic groups tend to have poorer health and lower levels of education. It is also possible that other factors influence obesity and attainment, such as gender, discrimination, and poor mental and emotional well-being.

Twenty-nine studies on the link between obesity and educational attainment were reviewed. While often conflicting, an overall pattern emerges from the research evidence suggesting that there is a weak negative association between obesity and educational attainment in children and young people; i.e. that higher weight is associated with lower educational attainment. However, obesity appears to be associated with other variables, such as socio-economic status, and when these other variables are taken into consideration, the association between obesity and attainment becomes still weaker, and often loses statistical significance. Specifically, place of residence, ethnicity, occupation, gender, religion, education, socio-economic status and social capital were all explored as potential moderating variables in the included research. The most commonly explored moderating variable was socio-economic status, which was tested in 23 of the 29 studies.

Most studies explored the influence of obesity upon attainment. Only two studies examined the influence of attainment upon obesity. Many authors suggested multiple causal pathways, many of which remained untested in their studies. The moderating variables used in statistical analyses of the relationship between obesity and attainment were not consistent with the causal pathways proposed, which is probably a reflection of the constraints imposed upon authors conducting secondary analyses of pre-existing datasets (i.e. they made use of existing variables, rather than collecting their own, tailored data). The most frequently cited factors resulting from obesity and impacting upon educational attainment were poor mental health, stigmatisation and discrimination, disordered sleep, decreased time spent in physical activity and socialising, and absenteeism.

In sum, various factors appear to be associated with obesity which contribute to low educational attainment to some extent. Given the variation in definitions, analyses and quality of data, it is impossible to point to any causative or definite risk factors.

Paper by the EPPI – Centre: The Evidence for Policy and Practice Information and Co-ordinating Centre, part of the Social Science Research Unit at the Institute of Education, University of London. (available at eppi.ioe.ac.uk/cms/Default.aspx?tabid=2957)

Are the following statements true or false?

1. The author believes that obesity is the number one cause of low school performance.
2. In association with educational attainment, other variables, such as socio-economic status were found more significant than obesity.
3. The author states that the existing studies have not explored all the intervening factors and causal pathways.
4. According to the author there are conclusive results showing that low school performance is caused primarily by obesity.

b) Find collocations expressing relationships.

c) Fill in the prepositions which normally accompany the verbs. Then use the expressions to fill the gaps in these sentences. You may have to change to form of the verb.

compare
react
associate
contribute
correlate
refer
rely

1. The study shows that high eating deviancy _____ high body dissatisfaction.
2. Some sports _____ stamina and in other sports it is an advantage.
3. The media representation of sport also _____ the construction of the hegemonic masculine image.
4. The term reliability _____ whether the statistics are replicable.
5. The results of the experimental group were significant when _____ the established normative values.
6. This shows that babies know whether their mother is _____ their actions, and they prefer it when their mothers are being responsive
7. Type two diabetes is generally _____ older, overweight individuals and develops when the body cannot use insulin.

d) Consider eating dark chocolate and stress levels. Formulate a hypothesis about the effect, suggest an experimental/ descriptive; qualitative/quantitative study and predict the results.

Task 4 Collocations

Read all the sentences in each section and choose a word from below which best collocates to every sentence in the group.

factor research area theory performance

Group 1 _____

She was able to maintain a high level of ... over the last ten years.

The author explains how sports science support can help to improve athletic ...

The team put in an excellent ... at the Olympics.

We achieved the highest ... rating of three stars from the Healthcare Commission.

The use of – enhancing drugs is commonly referred to as doping.

Use a sport test to measure and track your...!

Group 2 _____

Addictions affect various ...s of a person's life.

The study of Sport Science traditionally incorporates ...s of physiology, psychology, motor control and biomechanics, but also includes topics such as nutrition and diet, sports technology, anthropometry and performance analysis.

All instructors are well qualified to teach their ...s of expertise.

The evaluation also identified specific ...s where further development was required.

The course covers two main subject ... s.

There 's also a play ... for the children in the facility.

Group 3 _____

They are carrying out original .. into the psychological and intellectual effects of physical education upon the total development of the child.

Dr. Elliott's groundbreaking ... on NFL hamstring injuries has recently been published by the American Journal of *Sports Medicine*.

Recent scientific ...has shown a link between poor oral health and other conditions such as heart and lung disease.

It can be seen that both quantitative and qualitative methodologies do have strengths for sports fan ...

Most ... in the field has concentrated on the effects on adult athletes.

One paper based on ... conducted at Oxford suggested that the drug may cause brain damage.

Group 4 _____

Penalty kicks are the new deciding ... in football matches.

Studies have established that smoking is a risk ... for cancer..

Look for the common ...in all these cases.

The outcome will depend on a number of

The findings of this study add value to the field by identifying ...s contributing to coaching effectiveness.

Orthopedics Medical Article: Behaviour, the Key ... for Sports Injury Prevention.

Group 5 _____

Dr. Smith put forward the popular ... of madness.

She draws a distinction between ... and practice.

In ... these machines should last for ten years.

Data that challenges the original ... forces the researcher to re-consider their position.

The germ ... has been refuted by many researchers.

Having completed task 4 fill in this table with collocations for the nouns listed. Use a dictionary if necessary. There are many ways to complete the table.

verb	adjective	noun
<i>to publish</i>	<i>an outstanding</i>	article
Possible answers:		research
to carry out	original	
to put forward	the popular	theory
to identify	a specific	area
to identify	a contributing	factor