Educational psychology is the study of how humans learn in __________________________, the effectiveness of __________________________, the psychology of teaching, and the social psychology of schools as organizations. Educational psychology is concerned with how students learn and develop, often focusing on subgroups such as gifted children and those subject to __________________________.

Educational psychology can in part be understood through its relationship with other disciplines. It is informed primarily by psychology, bearing a relationship to that discipline analogous to the relationship between __________________________. Educational psychology in turn informs a wide range of specialities within educational studies, including instructional design, educational technology, __________________________, organizational learning, special education and classroom management. Educational psychology both ___________________________ cognitive science and the learning sciences.

**Social, moral and cognitive development.** To understand the characteristics of learners in childhood, adolescence, adulthood, and old age, educational psychology __________________________ theories of human development. Often represented as stages __________________________, developmental theories describe changes in mental abilities (cognition), social roles, moral reasoning, and beliefs about the nature of knowledge.

For example, educational psychologists have researched the ___________________________ of Jean Piaget's theory of development, according to which children mature through four stages of cognitive capability. Piaget hypothesized that children are not capable of abstract logical thought until they are older than about 11 years, and therefore younger children need to be taught using ___________________________. Researchers have found that transitions, such as from concrete to abstract logical thought, do not occur at the same time __________________________. A child may be able to think abstractly about mathematics, but remain limited to concrete thought __________________________ about human relationships.

**Individual differences and disabilities.** Each person has an individual profile of characteristics, abilities and challenges that result from __________________________. These manifest as individual differences in intelligence, creativity, cognitive style, motivation and __________________________, communicate, and relate to others. The most prevalent disabilities found among school age children are _________ ___________________________ (ADHD), dyslexia, and speech disorder. Less common disabilities include mental retardation, hearing impairment, and blindness.

Although theories of intelligence have been discussed by philosophers since Plato, intelligence testing is an invention of educational psychology, and __________________________ the development of that discipline.
Continuing debates about the nature of intelligence revolve on whether intelligence can be characterized by a single factor known as ________________, multiple factors (e.g., Gardner's theory of multiple intelligences), or _________________. In practice, standardized instruments such as the Stanford-Binet IQ test and the WISC are widely used in economically developed countries to identify children in need of individualized educational treatment. Children classified as gifted are often provided with ___________________________. Children with ________________ may be provided with enhanced education in specific skills such as phonological awareness. In addition to basic abilities, the individual's ________________ are also important, with people higher in conscientiousness and hope attaining ___________________________, even after controlling for intelligence and past performance.

**Learning and cognition.** Two fundamental assumptions that ________________ are that students (a) retain knowledge and skills they acquire in school, and (b) can apply them in situations outside the classroom. But are these assumptions ________________? Research has found that, even when students report not using the knowledge acquired in school, a considerable portion is retained for many years and long-term retention is strongly dependent on the _________________. One study found that university students who took a child development course and attained high grades showed, when tested ten years later, average ________________ of about 30%, whereas those who obtained moderate or lower grades showed average retention scores of about 20%.

There is much less consensus on the ________________ of how much knowledge acquired in school transfers to tasks encountered outside formal educational settings, and how such transfer occurs. Some psychologists claim that research evidence for this type of far transfer is ________________, while others claim there is abundant evidence of far transfer in _________________.

Several perspectives have been established within which the theories of learning used in educational psychology are formed and contested.

**Behavioral perspective.** Applied behavior analysis, a set of techniques based on the behavioral principles of ________________, is effective in a range of educational settings. For example, teachers can ________________ by systematically rewarding students who follow classroom rules with praise, stars, or tokens exchangeable for sundry items. Despite the demonstrated efficacy of awards in changing behavior, their use in education has been criticized by ________________, who claim that praise and other rewards undermine intrinsic motivation. There is evidence that ________________ decrease intrinsic motivation in specific situations, such as when the student already has a high level of intrinsic motivation to perform the goal behavior. But the results showing detrimental effects are ________________ by
evidence that, in other situations, such as when rewards are given for attaining a gradually increasing standard of performance, rewards enhance intrinsic motivation.

**Cognitive perspective.** Cognitive theories claim that memory structures determine how information is _________________.

*The spaced learning effect*, a cognitive phenomenon strongly supported by psychological research, has broad applicability within education. For example, students have been found to perform better on a test of knowledge about a text passage when a second reading of the passage is _________________. Educational psychology research has confirmed the applicability to education of other findings from cognitive psychology, such as the benefits of using ____________ for immediate and delayed retention of information.

**Developmental perspective.** The psychology of cognitive development involves understanding how cognitive change takes place and recognizing the factors and processes which ________________ _________________.

The psychology of cognitive development is also concerned with individual differences in the organization of cognitive processes and abilities, in their rate of change, and in their mechanisms of change. The principles underlying _________________ could be educationally useful, because knowing how students differ in regard to the various dimensions of cognitive development would enable the teacher _________ the needs of the different students so that no one is left behind.

**Social cognitive perspective.** Social cognitive theory is a ________________ of behavioral, cognitive and social elements that was initially developed by educational psychologist Albert Bandura. In its earlier, ________________ called *social learning theory*, Bandura emphasized the process of observational learning in which a learner's behavior changes as a result of observing others' behavior and its consequences. The theory identified several factors that determine whether observing a model will affect ________________. These factors include the learner's developmental ________, the perceived ________________ of the model, the ____________ received by the model, the ________ of the model's behaviors and consequences to the learner's goals, and the learner's _________________. The concept of self-efficacy, which played an important role in later developments of the theory, refers to the learner's _________ in his or her ability to perform the modeled behavior.

An experiment by Schunk and Hanson, that studied students who had previously experienced difficulty in learning subtraction, illustrates the type of research stimulated by _________________. One group of students observed a subtraction demonstration by a teacher and then participated in an instructional program on subtraction. A second group observed other students performing the same subtraction procedures and then
participated in the same instructional program. The students who observed __________________ scored higher on a subtraction post-test and also reported greater _________________________________. The results were interpreted as supporting the hypothesis that perceived similarity of the model to the learner ________________, leading to more effective learning of modeled behaviors. It is supposed that peer modeling is particularly effective for students who have _________________.

Over the last decade, much research activity in educational psychology has focused on developing theories of __________________________ (SRL) and metacognition. These theories work from the central premise that effective learners are _______________________________ by setting goals, analyzing tasks, planning strategies and monitoring their understanding. Research has indicated that learners who are better at goal-setting and self-monitoring tend to have greater intrinsic task interest and self-efficacy; and that teaching learning strategies can ________________________________.

**Motivation.** Motivation is an internal state that activates, guides and ___________________. Educational psychology research on motivation is concerned with the __________________________ that students bring to a task, their level of interest and ______________________________, the personally held goals that guide their behavior, and their belief about the causes of their __________________________. As intrinsic motivation deals with activities that act as their own rewards, extrinsic motivation deals with motivations that are brought on by _________________________________.

A form of __________________________ developed by Bernard Weiner describes how students' beliefs about the causes of academic success or failure affect their emotions and motivations. For example, when students attribute failure to _________________, and ability is perceived as uncontrollable, they experience the emotions of _________________ and consequently decrease effort and show poorer performance. In contrast, when students attribute failure to _____________________, and effort is perceived as controllable, they experience the emotion of _______ and consequently increase effort and show improved performance.

Motivational theories also explain how learners' goals affect the way they ____________________ academic tasks. Those who have *mastery goals* strive to increase their ___________________________. Those who have *performance approach goals* strive for ________________ and seek opportunities to demonstrate their abilities. Those who have *performance avoidance* goals are driven by _________________ and avoid situations where their abilities are exposed. Research has found that mastery goals are associated with many positive outcomes such as ________________, preference for challenging tasks, creativity and intrinsic motivation. Performance avoidance goals are associated with negative outcomes such as _________________ while studying, disorganized studying, less self-regulation, shallow information processing and test anxiety. Performance
approach goals are associated with positive outcomes, and some negative outcomes such as an _______________
_________ and shallow information processing.

**History. Before 1890.** Modern educational psychologists are not the first to _________________________.
Philosophers of education such as Juan Vives, Johann Pestalozzi, Friedrich Froebel, and Johann Herbart had examined, classified and judged the methods of education centuries before the beginnings of psychology in the late 1800s. Juan Vives (1492-1540) believed in the ________________________ of the study of nature. He was one of the first to emphasize that _________________ is important to learning. He suggested that the school should be located away from disturbing noises; the air quality should be good and there should be plenty of food for the students and teachers. Vives emphasized the importance of understanding _________________ of the students and suggested practice as an _________________________. He also supported the education of women.

Johann Pestalozzi (1746-1827) emphasized the child rather than _________________________. He spoke out against the method of ___________________________ as the method for learning and suggested direct observation as a better way of learning. He used object teaching, which means when teaching the teacher should proceed gradually from the concrete objects to the ___________________________. He believed that the relationship between the teacher and the child was important in providing __________________________ of the child. He also was interested in the education of poor children. He was the first to establish ________________ ______. Friedrich Froebel (1782-1853) is the founder of ______________________, which combined work and play to teach children ________________________.

Johann Herbart (1776-1841) is considered the father of educational psychology. He believed that learning was influenced _____________________________. He thought that teachers should consider the students’ _____________________________, what they already know, when presenting new information or material. Herbart came up with what is now known as the formal steps. They are 5 steps that teachers should use are:

1. Review material that has already been learned by the teacher.
2. Prepare the student for new material by giving them _________________ of what they are learning next.
3. Present the new material.
4. Relate the new material to the old material that has already been learned.
5. Show how the student can __________ the new material and show the material they will learn next.

**1890-1920.** The period of 1890-1920 is considered _______________ of educational psychology where aspirations of the new discipline rested on the application of the scientific methods of ___________________________.

to educational problems. From 1840 to 1920 37 million people immigrated to the United States. This created an ________________ of elementary schools and secondary schools. The increase in immigration also provided educational psychologists the opportunity to use intelligence testing ____________ immigrants at Ellis Island. Darwinism influenced the beliefs of the ________________ educational psychologists. Even in the earliest years of the discipline, educational psychologists recognized the ____________ of this new approach. The pioneering American psychologist William James commented that “…psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediate inventive mind must make that application, by ________________”.

James is the father of psychology in America but he also ________________ educational psychology. In his famous series of lectures Talks to Teachers on Psychology, published in 1899 and now regarded as the first educational psychology textbook, James defines education as "the organization of ________________ of conduct and tendencies to behavior”. He states that teachers should “train the pupil to behavior” so that he fits into the ________________. Teachers should also realize the importance of _________________.

They should present information that is clear and interesting and relate this new information and material to things the student already knows about. He also _________________ such as attention, memory, and association of ideas.

Alfred Binet published Mental Fatigue in 1898, in which he attempted to apply the ________________ to educational psychology. In this experimental method he ________________ two types of experiments, experiments done in the lab and experiments done in the classroom. In 1904 he was appointed the Minister of Public Education. This is when he began to look for a way to _________________ with developmental disabilities. Binet strongly supported special education programs because he believed that ________________. The Binet-Simon test was the first _________________ and was the first to distinguish between “normal children” and those with developmental disabilities. Binet believed that it was important to study individual differences between age groups and children of the same age. He also believed that it was important for teachers to take into account individual student strengths and also the needs of the classroom as a whole when teaching and creating a ________________. He also believed that it was important to train teachers in observation so that they would be able to see individual differences among children and ________________ to the students. Binet also emphasized that practice of material was important. In 1916 Lewis Terman revised the Binet-Simon so that ________________ was always 100. The test became known as the Stanford-Binet and was one of the most widely used _________________.

Terman, unlike Binet, was interested in using intelligence test to identify ________________.
In his ______________________ of gifted children, who became known as the Termites, Terman found that gifted children become gifted adults.

Edward Thorndike (1874-1949) supported the scientific movement in education. He based teaching practices on __________________________. Thorndike developed the theory of instrumental conditioning or ____________________. It states that associations are ________________ when followed by something pleasing and associations are ________________ when followed by something not pleasing. He also found that learning is done a little at a time or ________________, learning is an automatic process and all the principles of learning apply to ________________. Thorndike’s research with Robert Woodworth on the theory of transfer found that learning one subject will only influence your ability to learn another subject if ________________. Thorndike contributed word dictionaries that were scientifically based to determine the words and definitions used. The dictionaries were the first to take into consideration the users’ ________________. He also integrated pictures and __________________________ into each of the definitions. Thorndike contributed arithmetic books based on learning theory. He developed tests that were standardized to __________________________ in school related subjects.

John Dewey (1859-1952) believed that the classroom should prepare children to be good citizens and ________________. He pushed for the creation of practical class that could be ________________ a school setting. He also thought that education should be ________________ not ________________. For Dewey education was social that helped bring together ________________. He states that students learn by ______. He believed in an active mind that was able to be educated through observation and problem solving and ______. In his 1910 book How We Think he emphasizes that material should be provided in way that is _________ _______________ to the student and it encourages original thoughts and problem solving. He also stated that material should be relative to the student’s ________________.

Jean Piaget (1896-1980) developed the theory of ______________________. The theory stated that intelligence developed in ____ different stages. The stages are: the ________________ stage from birth to 2 years old, the ________________ state from 2 years old to 7 years old, the ________________ stage from 7 years old to 10 years old, and ________________ stage from 11 years old and up. He also believed that learning was constrained to the child’s ________________. Piaget influenced educational psychology because he was the first to believe that cognitive development was important and something that ________________ in education.

1920-Present. From the 1960’s to present day educational psychology has switched from a behaviorist perspective to a more ______________________ perspective because of the influence and development of cognitive
psychology at this time. Jerome Bruner was the first to apply the __________________________ in educational psychology. He was the one who introduced the ideas of Jean Piaget into educational psychology. He advocated for ________________ where teachers create a problem solving environment that allows the student to ________, ________ and __________. In his book *The Process of Education* he believed that how the subject was _____ was important for the students understanding of the subject and it is the goal of the teacher to ________ the subject in a way that was easy for the student to understand.

Benjamin Bloom (1913-1999) believed that all students can learn. He developed taxonomy of educational __________. The objectives were divided into three ________: __________, __________, and __________. The cognitive domain deals with how we think. It is divided into categories that are on a ___________ from easiest to more complex. The categories are knowledge or recall, _________________, analysis, synthesis and evaluation. The affective domain deals with emotions and has 5 categories. The categories are receiving phenomenon, responding to that phenomenon, valuing, organization, and _________________. The psychomotor domain deals with the development of motor skills, movement and ____________ and has 7 categories, that also go from simplest to complex. The 7 categories of the psychomotor domain are perception, set, guided response, mechanism, complex overt response, adaptation, and origination.

<table>
<thead>
<tr>
<th>Educational Objectives</th>
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<tbody>
<tr>
<td><strong>Cognitive</strong> (how we think)</td>
</tr>
<tr>
<td>Knowledge (Recall)</td>
</tr>
<tr>
<td>Comprehension Application</td>
</tr>
<tr>
<td>Analysis</td>
</tr>
<tr>
<td>Synthesis</td>
</tr>
<tr>
<td>Evaluation</td>
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<tr>
<td><strong>Affective</strong> (emotions)</td>
</tr>
<tr>
<td>Receiving Phenomenon</td>
</tr>
<tr>
<td>Responding to it</td>
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<tr>
<td>Valuing</td>
</tr>
<tr>
<td>Organization</td>
</tr>
<tr>
<td>Internalizing Values</td>
</tr>
<tr>
<td><strong>Psychomotor</strong> (development of motor skills, movement and coordination)</td>
</tr>
<tr>
<td>Perception</td>
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<tr>
<td>Set</td>
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<td>Adaptation</td>
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<tr>
<td>Origination</td>
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</tbody>
</table>

The taxonomy provided broad educational objectives that could be used to help ______________________ to match the ideas in the taxonomy. Internationally, the taxonomy is used in _________________ from training of the teachers to the development of testing material. Bloom believed in communicating clear learning goals and promoting an _____________. He thought that teachers should provide __________ to the students on their strengths and weaknesses. Bloom also did research on college students and their _________________ processes. He found that they differ in understanding the _______ of the problem and the _______ in the problem. He also found that students differ in _____ of problem solving in their approach and ______ toward the problem.

**QUIZ**

1. … is the study of how humans learn in educational settings, the effectiveness of educational interventions, the psychology of teaching, and the social psychology of schools as organizations.
2. …’s theory of cognitive development states that intelligence develops in four different stages.
   a) S. Freud   b) Albert Bandura   c) Juan Vives   d) Jean Piaget

3. Choose the most prevalent disability found among school age children:
   a) attention deficit hyperactivity disorder
   b) schizophrenia
   c) seasonal affective disorder
   d) agoraphobia

4. A teacher striving to alter student behavior by systematically rewarding students who follow classroom rules with praise, stars, or tokens exchangeable for different items is probably a representative of a … approach to eduction.
   a) psychoanalytic   b) humanistic
   c) behavioral   d) none of the above

5. The spaced learning effect shows that:
   a) a student always performs better when there is enough space for him to study
   b) students perform better on a test of knowledge about a text passage when a second reading of the passage is delayed rather than immediate
   c) the procedure of learning is different depending on the space where it happens
   d) if students are spaced in a particular way, they show better results on a test of knowledge

6. According to Albert Bandura, … defines a learner's belief in his or her ability to perform the modeled behavior.

7. What factor DOES NOT determine if a learner’s behavior will be changed according to the model observed?
   a) the learner’s developmental status
   b) the perceived prestige and competence of a model
   c) the relevance of the model’s behavior to the learner’s goals
   d) the subject learned

8. Which is incorrect?
   a) learners who are better at goal-setting and self-monitoring tend to have lower intrinsic task interest and self-efficacy
   b) perceived similarity of the model to the learner increases self-efficacy and leads to more effective learning of modeled behaviors
   c) effective learners are active agents who construct knowledge by setting goals, analyzing tasks, planning strategies, and monitoring their understanding
   d) teaching learning strategies can increase academic achievement

9. When … motivation deals with activities that act as their own rewards, … motivation deals with motivations that are brought on by consequences or punishments.
   a) intrinsic, extrinsic   b) extrinsic, intrinsic
   c) intrinsic, internal   d) extrinsic, external

10. What DOES NOT comply with motivational theories of academic performance?
    a) students with mastery goals strive to increase their ability and knowledge
    b) those who have performance approach goals aim at high grades to demonstrate their abilities
    c) performance avoidance goals means fear of failure and avoidance of situations where one’s abilities may be exposed
    d) poor concentration while studying, disorganized studying, less self-regulation, shallow information processing and test anxiety are associated with mastery goals.

11. Number the steps teachers should use to influence learners’ interest in the subject (according to Johann Herbart):

<table>
<thead>
<tr>
<th>Present the new material.</th>
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</thead>
<tbody>
<tr>
<td>Prepare the student for new material by giving them an overview of what they are learning next.</td>
</tr>
<tr>
<td>Relate the new material to the old material that has already been learned.</td>
</tr>
<tr>
<td>Show how the student can apply the new material and show the material they will learn next.</td>
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<tr>
<td>Review material that has already been learned by the teacher.</td>
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