

Speakers

Kay Haralson is an Associate Professor of Developmental Mathematics at Austin Peay State University. She earned her BS, MAEd, and EdS degrees in Mathematics Education from Austin Peay State University. Teaching mathematics to under-prepared, at-risk students in the Developmental Studies Program at APSU has been the focus of her career for the last 20 years. Special topics of interest include study skills in mathematics, graphing calculators, math anxiety, math learning disorders, and attention deficit disorder in adults.

Loretta Griffy is an Associate Professor of Mathematics at Austin Peay State University. She earned her BS from Austin Peay State University, MS from University of Memphis and EdD from Tennessee State University. She has taught in the Developmental Program or the Mathematics Department at APSU for 14 years. Her special interests include statistics, on-line instruction, and non-traditional student learning.

Nancy Matthews is currently an Adjunct Professor of Education at APSU. She earned her Bs, MAEd, and EdS degrees from Austin Peay State University and her EdD from Tennessee State University. Nancy has taught mathematics at the middle school, high school, and college level. Currently, Nancy works with pre-service teachers in the Education Department. Special topics of interest include math learning disorders and study skills, technology in the classroom, and on-line learning.

To receive a copy of the power point presentation of this session, e-mail your request to

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NOTES

The Effects of Attention Deficit Hyperactivity Disorder on Mathematics Learning

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The focus of this presentation is attention deficit hyperactivity disorder and how it effects achievement in mathematics.

Presentation outline:

- ▶ What is ADHD?
- ▶ Possible Causes of ADHD
- ▶ Diagnostic Criteria for ADHD
- ▶ Subtypes of ADHD
- ▶ Prevalence of ADHD
- ▶ Identifying ADHD and Subtypes
- ▶ ADHD in Adults
- ▶ Effects on Math Achievement
- ▶ Treatment Options for ADHD
- ▶ Multi-modal Treatment
- ▶ Mathematics Individualized Instructional Practices

Attention Deficit Hyperactivity Disorder is:

- ▶ a neurobiochemical disorder involving differences in brain activity, and insufficient availability of certain neurotransmitters
- ▶ categorized by inattention, hyperactivity and impulsivity
- ▶ a mental health disorder with specific criteria for diagnosis and classification of subtypes identified

in APA's DSM-IV-TR, 2000.

Prevalence of ADHD

- ▶ 3-7% of all children
- ▶ three time more boys than girls
- ▶ half continue into adulthood
- ▶ up to half also have other mental disorders

Symptoms of ADHD in adults are similar to children and can effect daily living:

- ▶ frequently late or rushed
- ▶ forgetful, daydreams
- ▶ unorganized
- ▶ overwhelmed by life or job
- ▶ anxious and restless
- ▶ impulsive spender
- ▶ impulsive job changes
- ▶ trouble with authority
- ▶ tendency for addictions
- ▶ mood disorders
- ▶ sense of failure

Effects on mathematics achievement:

- ▶ inattention causes careless mistakes
- ▶ poor organization of materials, thoughts
- ▶ easily distracted from work

- ▶ does not attempt or does not finish homework assignments
- ▶ performs worse under pressure
- ▶ inconsistent performance
- ▶ difficulty retrieving learned information

Treatment should be multi-modal:

- ▶ educate student, parents and teachers about ADHD
- ▶ medication (usually stimulants)
- ▶ behavioral therapy
- ▶ appropriate educational intervention

Mathematics individualized instructional practices should include:

- ▶ teach recognition of patterns
- ▶ teach mnemonics
- ▶ color code math symbols
- ▶ use computer for practice drills
- ▶ encouraging visualization of problem situations
- ▶ allowing extra time and use of calculator if needed
- ▶ teaching for mastery
- ▶ use number lines for visualization
- ▶ use manipulatives
- ▶ use graph paper for alignment of

numbers

- ▶ use guiding questions
- ▶ use real life examples
- ▶ **PATIENCE**, student *and* teacher