

"1,000 IDEAS & ACTIVITIES FOR LANGUAGE TEACHERS"

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Clever mums boost kids' maths skills

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THE ARTICLE

Have you ever wondered why some children are so much better with numbers than other kids? New research shows that children who have well-educated mothers do better at maths at the age of 10. The study, conducted by the University of London, concludes that the education of a child's mother can boost the mathematical abilities of her child. Researchers conducted a long-term study into the reasons for the differences in children's numeracy skills by the time they reach secondary school. The biggest factor was the education of the mother and a good "home learning environment". In particular, a child who plays number games with his or her mother at home is more likely to do well in maths tests. Researchers also discovered that a good quality pre-school can greatly help in increasing maths skills in youngsters.

The research was led by Professor Edward Melhuish from Birkbeck College and is published in the journal 'Science'. His researchers interviewed dozens of parents about the kinds of activities they did with their children. Questions included how often mothers read stories to their children, sang songs and nursery rhymes and played number games. Professor Melhuish said: "The results indicated that the home learning environment, pre-school...and primary school all make separate, significant impacts [but] the mother's [education] is the strongest effect, there's no doubt about that." Melhuish added that not all well-educated mothers turned their children into mathematics geniuses. "There are quite a few well-educated people who do not provide a good home learning environment," he said.

WARM-UPS

1. MATHS: Walk around the class and talk to other students about maths. Change partners often. After you finish, sit with your partner(s) and share your findings.

2. CHAT: In pairs / groups, decide which of these topics or words from the article are most interesting and which are most boring.

numbers / maths / study / secondary school / learning environment / pre-school / journal / science / parents / singing songs / nursery rhymes / games / geniuses

Have a chat about the topics you liked. Change topics and partners frequently.

3. MOTHERS: What did your mother teach you? Was it good? Complete the table below. Change partners and share your ideas.

About...	What my mother taught me	Was it good?
Life		
Maths		
Common sense		
Cooking		
Love		
Other _____		

4. PARENT TEACHERS: Students A strongly believe parents should spend a few hours each day teaching their children; Students B strongly believe children get enough teaching from school and need to play. Change partners again and talk about your roles and conversations.

5. WHAT'S IMPORTANT?: What should parents teach their children? Rank the following in order of importance. Change partners to share and discuss your ranking.

- | | |
|----------------------------|--------------------------|
| _____ mathematics | _____ religion |
| _____ how to make money | _____ how to look good |
| _____ how to fight | _____ common sense |
| _____ environmental issues | _____ about who to trust |

6. NUMBER: Spend one minute writing down all of the different words you associate with the word 'number'. Share your words with your partner(s) and talk about them. Together, put the words into different categories.

BEFORE READING / LISTENING

1. TRUE / FALSE: Look at the article's headline and guess whether these sentences are true (T) or false (F):

- | | |
|--|-------|
| a. Children whose mothers had a good education do better in maths. | T / F |
| b. Mothers who studied child education are better at maths. | T / F |
| c. Learning about the environment increased children's maths skills. | T / F |
| d. A study found the quality of pre-schools did not change maths skills. | T / F |
| e. The research team interviewed tens of thousands of parents. | T / F |
| f. Interviewers asked parents about whether they sang nursery rhymes. | T / F |
| g. The lead researcher doubts a mother's education affects her child. | T / F |
| h. Most well-educated people do not teach their children at home. | T / F |

2. SYNONYM MATCH: Match the following synonyms from the article:

- | | |
|----------------|------------------|
| 1. wondered | a. increase |
| 2. conducted | b. important |
| 3. boost | c. Einsteins |
| 4. reach | d. probable |
| 5. likely | e. carried out |
| 6. interviewed | f. exercises |
| 7. activities | g. suggested |
| 8. indicated | h. get to |
| 9. significant | i. thought about |
| 10. geniuses | j. questioned |

3. PHRASE MATCH: Match the following phrases from the article (sometimes more than one combination is possible):

- | | |
|---|-----------------------------|
| 1. Have you ever wondered | a. skills |
| 2. better with | b. dozens of parents |
| 3. the differences in children's numeracy | c. to do well in maths |
| 4. a good home | d. mathematics geniuses |
| 5. more likely | e. numbers |
| 6. His researchers interviewed | f. rhymes |
| 7. nursery | g. about that |
| 8. there's no doubt | h. why? |
| 9. turned their children into | i. few well-educated people |
| 10. quite a | j. learning environment |

WHILE READING / LISTENING

GAP FILL: Put the words into the gaps in the text.

Have you ever _____ why some children are so much better with numbers than other kids? New research _____ that children who have well-educated mothers do better at maths at the age of 10. The study, conducted by the University of London, concludes that the education of a child's mother can _____ the mathematical abilities of her child. Researchers conducted a _____ -term study into the reasons for the differences in children's numeracy skills by the time they reach secondary school. The biggest _____ was the education of the mother and a good "home learning environment". In _____, a child who plays number games with his or her mother at home is more _____ to do well in maths tests. Researchers also discovered that a good quality pre-school can _____ help in increasing maths skills in youngsters.

The research was led by Professor Edward Melhuish from Birkbeck College and is _____ in the journal 'Science'. His researchers interviewed _____ of parents about the kinds of activities they did with their children. Questions included how often mothers read stories to their children, sang songs and _____ rhymes and played number games. Professor Melhuish said: "The results _____ that the home learning environment, pre-school...and primary school all make separate, significant _____ [but] the mother's [education] is the strongest _____, there's no doubt about that." Melhuish added that not all well-educated mothers _____ their children into mathematics geniuses. "There are _____ a few well-educated people who do not provide a good home learning environment," he said.

long
greatly
boost
particular
wondered
factor
likely
shows

nursery
effect
dozens
turned
impacts
published
quite
indicated

LISTENING: Listen and fill in the spaces.

Have you _____ some children are so much better with numbers than other kids? New research shows that children who have well-educated mothers _____ at the age of 10. The study, conducted by the University of London, concludes that the education of a child's mother _____ mathematical abilities of her child. Researchers conducted a long-term study into the reasons for the differences in children's numeracy skills _____ secondary school. The biggest factor was the education of the mother and a _____ environment". In particular, a child who plays number games with his or her mother at home is _____ in maths tests. Researchers also discovered that a good quality pre-school can greatly help in increasing maths skills in youngsters.

_____ Professor Edward Melhuish from Birkbeck College and is published in the journal 'Science'. His researchers interviewed dozens of parents about _____ they did with their children. Questions included how often mothers read stories to their children, sang songs and _____ played number games. Professor Melhuish said: "The results indicated that the home learning environment, pre-school...and primary school _____, significant impacts [but] the mother's [education] is the strongest effect, _____ that." Melhuish added that not all well-educated mothers turned their children into mathematics geniuses. "_____ well-educated people who do not provide a good home learning environment," he said.

AFTER READING / LISTENING

1. WORD SEARCH: Look in your dictionaries / computer to find collocates, other meanings, information, synonyms ... for the words 'learning' and 'environment'.

learning	environment

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

<ul style="list-style-type: none">• wondered• boost• 10• long-term• particular• greatly	<ul style="list-style-type: none">• led• dozens• nursery• primary• doubt• few
--	--

STUDENT MATHS SURVEY

Write five GOOD questions about maths in the table. Do this in pairs. Each student must write the questions on his / her own paper.

When you have finished, interview other students. Write down their answers.

	STUDENT 1 _____	STUDENT 2 _____	STUDENT 3 _____
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

PARENT TEACHERS DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

- a) What did you think when you read the headline?
- b) What springs to mind when you hear the word 'maths'?
- c) Are you surprised at the findings in this article?
- d) What did your mother and father teach you?
- e) Were you good at maths at school?
- f) Was your home a good learning environment?
- g) Is your mother well-educated? How did your mother's education affect you?
- h) What or who boosted your mathematical abilities?
- i) Did you play learning games with your parents?
- j) Do you remember anything about your pre-school?

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PARENT TEACHERS DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

- a) Did you like reading this article?
- b) What school subjects will you help your children with?
- c) What activities did you most enjoy with your parents when you were a child?
- d) Can you remember your parents reading stories to you? Do you think this is important?
- e) Do you think the father's level of education is as important for children as the mother's education?
- f) What do you think is the most important thing we can learn from our parents?
- g) Did you learn things from your parents that weren't so useful?
- h) Who did you learn more from, your mother or father?
- i) What would you like your children to learn from you?
- j) What questions would you like to ask Professor Edward Melhuish?

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LANGUAGE

Have you ever (1) ____ why some children are so much better with numbers than other kids? New research shows that children who have well-educated mothers (2) ____ better at maths at the age of 10. The study, conducted by the University of London, concludes that the education of a child's mother can (3) ____ the mathematical abilities of her child. Researchers conducted a long-term study (4) ____ the reasons for the differences in children's numeracy skills by the time they reach secondary school. The biggest factor was the education of the mother and a good "home learning environment". In particular, a child who plays number games with his or her mother at home is more (5) ____ to do well in maths tests. Researchers also discovered that a good quality pre-school can (6) ____ help in increasing maths skills in youngsters.

The research was led by Professor Edward Melhuish from Birkbeck College and is published (7) ____ the journal 'Science'. His researchers interviewed dozens of parents about the kinds of activities they did with their children. Questions (8) ____ how often mothers read stories to their children, sang songs and nursery rhymes and played number games. Professor Melhuish said: "The results indicated that the home learning environment, pre-school...and primary school all (9) ____ separate, significant impacts [but] the mother's [education] is the strongest effect, there's no doubt (10) ____ that." Melhuish added that not all well-educated mothers turned their children (11) ____ mathematics geniuses. "There are quite a (12) ____ well-educated people who do not provide a good home learning environment," he said.

Put the correct words from the table below in the above article.

- | | | | | |
|-----|--------------|--------------|---------------|---------------|
| 1. | (a) winded | (b) wandered | (c) wounded | (d) wondered |
| 2. | (a) do | (b) make | (c) add | (d) sum |
| 3. | (a) boast | (b) boost | (c) beast | (d) baste |
| 4. | (a) unto | (b) onto | (c) into | (d) to |
| 5. | (a) likes | (b) liked | (c) likely | (d) liken |
| 6. | (a) great | (b) greatly | (c) greatness | (d) grater |
| 7. | (a) to | (b) at | (c) on | (d) in |
| 8. | (a) included | (b) includes | (c) including | (d) inclusive |
| 9. | (a) grow | (b) make | (c) be | (d) do |
| 10. | (a) by | (b) over | (c) around | (d) about |
| 11. | (a) by | (b) with | (c) into | (d) up |
| 12. | (a) few | (b) pair | (c) duo | (d) several |

WRITING:

Write about **maths** for 10 minutes. Correct your partner's paper.

HOMework

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find out more about the study in the article. Share what you discover with your partner(s) in the next lesson.

3. PARENT TEACHERS: Make a poster about what parents should do to help their children's skills and talents. Show your work to your classmates in the next lesson. Did you all have similar things?

4. GENIUS: Write a magazine article about a mother who helped her child learn maths. Include imaginary interviews with mother and child.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).

5. DIARY / JOURNAL: You are a maths genius. Write about one day in your life. What do you think of your rivals? Read your entry to your classmates in the next lesson.

ANSWERS

TRUE / FALSE:

- a. T b. F c. F d. F e. F f. T g. F h. F

SYNONYM MATCH:

- | | |
|----------------|------------------|
| 1. wondered | a. thought about |
| 2. conducted | b. carried out |
| 3. boost | c. increase |
| 4. reach | d. get to |
| 5. likely | e. probable |
| 6. interviewed | f. questioned |
| 7. activities | g. exercises |
| 8. indicated | h. suggested |
| 9. significant | i. important |
| 10. geniuses | j. Einsteins |

PHRASE MATCH:

- | | |
|---|-----------------------------|
| 1. Have you ever wondered | a. why? |
| 2. better with | b. numbers |
| 3. the differences in children's numeracy | c. skills |
| 4. a good home | d. learning environment |
| 5. more likely | e. to do well in maths |
| 6. His researchers interviewed | f. dozens of parents |
| 7. nursery | g. rhymes |
| 8. there's no doubt | h. about that |
| 9. turned their children into | i. mathematics geniuses |
| 10. quite a | j. few well-educated people |

GAP FILL:

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LANGUAGE WORK

- 1 - d 2 - a 3 - b 4 - c 5 - c 6 - b 7 - d 8 - a 9 - b 10 - d 11 - c 12 - a