

Wind power

'Tilting at windmills: the boy who harnessed the wind'

Malawian teenager William Kamkwamba built a generator out of a bicycle and tractor fan. Now he's lauded by environmentalists



▲ Reaching for the skies: Kamkwamba, 14, fine tunes his invention. Photograph: Flickr

John Vidal

William Kamkwamba

[https://www.theguardian.com/theguardian/2009/oct/03/
malawian-teenager-builds-wind-turbine](https://www.theguardian.com/theguardian/2009/oct/03/malawian-teenager-builds-wind-turbine)

Quick Start

- When was this article published?

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Sat 3 Oct 2009 00.05 BST

Back in 2001 William Kamkwamba was a semi-educated 14-year-old Malawian who had been forced to drop out of secondary school when, during a terrible drought, his parents could no longer pay for him to go. This week, he has been in California and Chicago on a whirlwind book tour, hailed as a "genius" and appeared on TV chat shows. He has been the toast of international technology conferences, lauded by Al Gore and environmentalists and shared a stage with Bono and Google co-founder Larry Page - as well as co-writing a book about his life, with journalist Bryan Mealer.

- Why did William stop going to school?
- How old was he when he left school?

- **How did he learn about motors and electricity?**
- **What did William use to create a generator?**

When Kamkwamba stopped going to school because his family could no longer afford the fees, he went to his local library, read up on his science, found a DIY guide to making a wind generator and set about trying to build it. Using a tractor fan, shock absorbers, PVC pipes, a bicycle frame and anything else he could lay his hands on, he then built a rudimentary wooden tower, plonked his home-made generator on the top, and eventually got one, and then four bulbs to light up. He is now known as "the boy who harnessed the wind" - the title of his book.

Vocabulary Check

- Now he's lauded by environmentalists



Vocabulary Check



- during a terrible drought

- he then built a rudimentary wooden tower



- **equally innovative and inventive people**



- Water distillation process



- devised ingenious ways to lift water from rivers and wells for irrigation





Infer

WHY IS WILLIAM
DESCRIBED AS
SEMI-EDUCATED?

“William is described as semi-educated because...”



Infer

*Is William's
situation
unusual?*

*Explain your
answer fully
using evidence
from the text.*

William's situation is/is not unusual
because...

The article says that....

Explain



What opinion do you have
of the inventors within this
article?

Why do you think this?

Explain

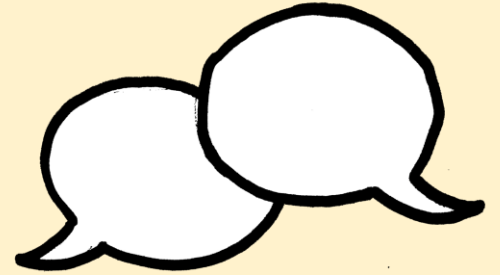
Choose one word to describe William, considering what you have read.

Explain fully why you have chosen your answer, using evidence from the text.

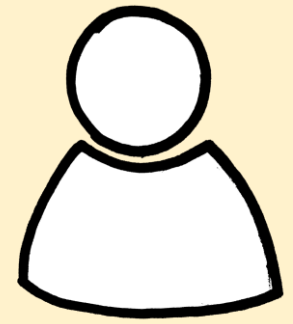


Summarise

Thinking about what you have read in the whole article, what argument could you present to someone who says you need education to be ‘intelligent’?



Solo Work



The article tells us about lots of poor, uneducated people who create amazing inventions.

Why do you think these people have the ability to do amazing things without lots of money, education and resources?