

# The 2010 Engineers and Engineering Brand Monitor

Understanding perceptions of engineering, engineers, manufacturing, science and technicians

Extract: Findings on technicians

*EngineeringUK acknowledges the support from the Gatsby Charitable Foundation and the Manufacturing Institute*

*July 2010*

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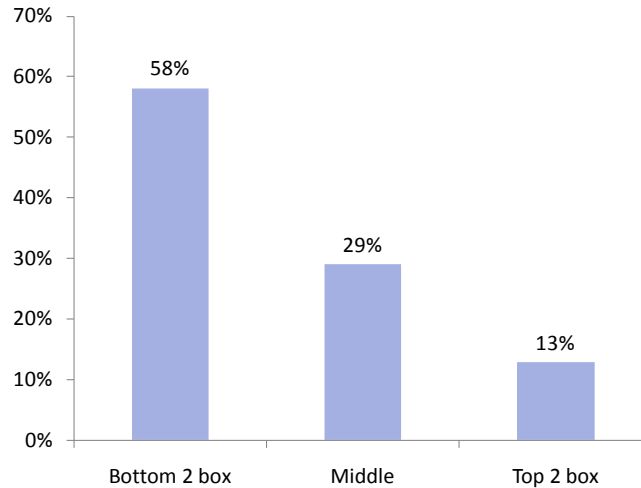




**More than half of respondents (58%) do not know what technicians do.**

Nearly 60% of respondents (58%) did not know much about what technicians do, more than four times the number of respondents who did (top two box of 13%).

**Figure 2: Reported knowledge about what technicians do**



Base: 4618

Single code

Source: FreshMinds 2010

**Women state that they know less about what technicians do than men**

More females than males are in the bottom two box (68% females, 47% males) and more males than females are in the top two box (20% males, 6% females).

**Younger people know less about what technicians do.**

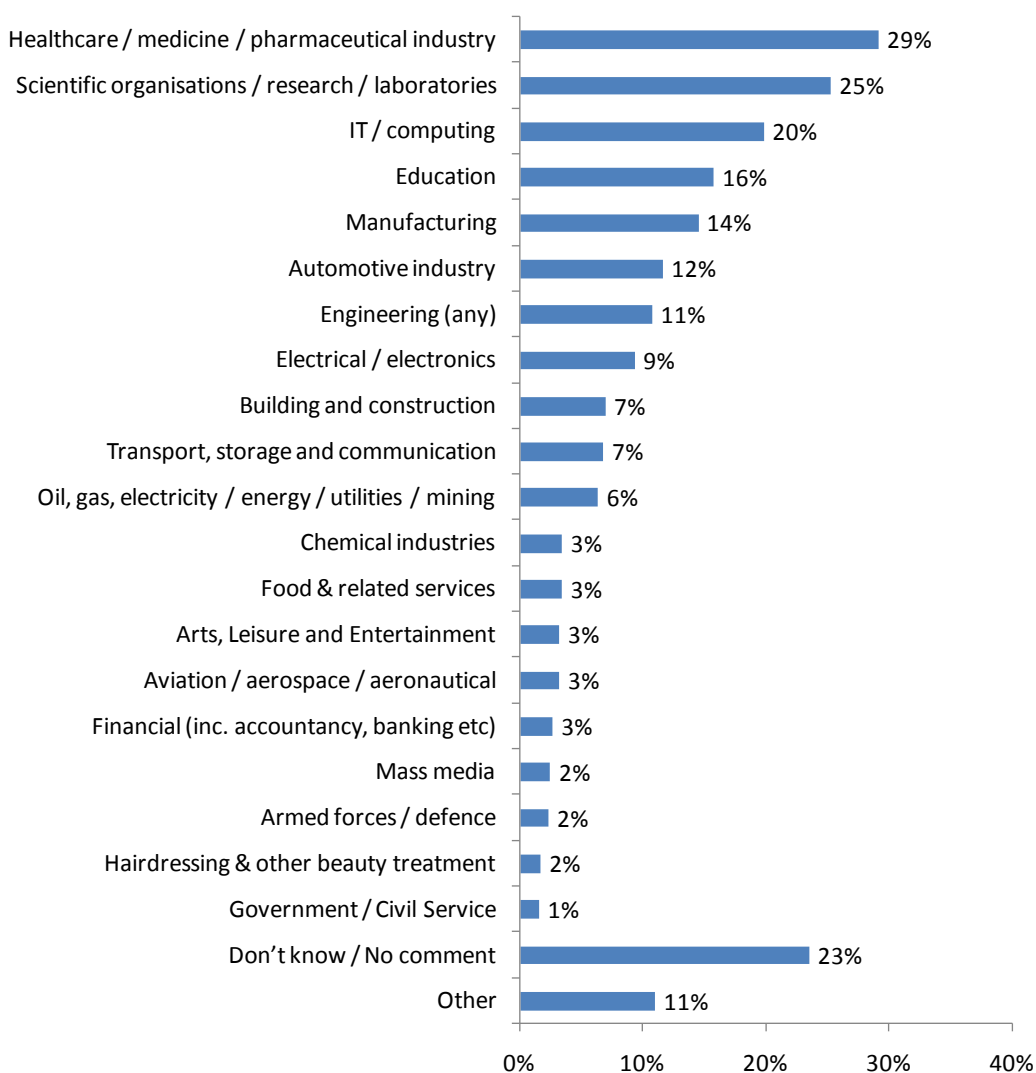
A variety of interesting findings arise when examining this data by age group, see below:

- Significant differences by age were found; generally, older respondents were more likely to say that they know about what technicians do
- Significantly more 20-24, 35-34, and 35-44 year olds than all older age groups were in the bottom two box
- Significantly more 45-54, 55-64 and 65+ year olds were in the top two box
- For example, 64% of 20-24 year olds were in the bottom two box, compared with 59% of 45-54 year olds, 51% of 55-64 year olds and 49% of 65+ year olds

**Healthcare, scientific and ITC were the three sectors where technicians were thought to be employed; nearly a quarter (23%) of respondents didn't know or didn't comment about which sectors employed technicians.**

Continuing the theme of exploring respondent knowledge, they were asked an open question about the business sectors they thought employed technicians. Their multi-code answers were collated, counted and coded, producing the chart below.

**Figure 3: Do you know any business sectors where technicians are employed? (unprompted)**



Base: 4618

Multi-code, open, back-coded

Source: FreshMinds 2010

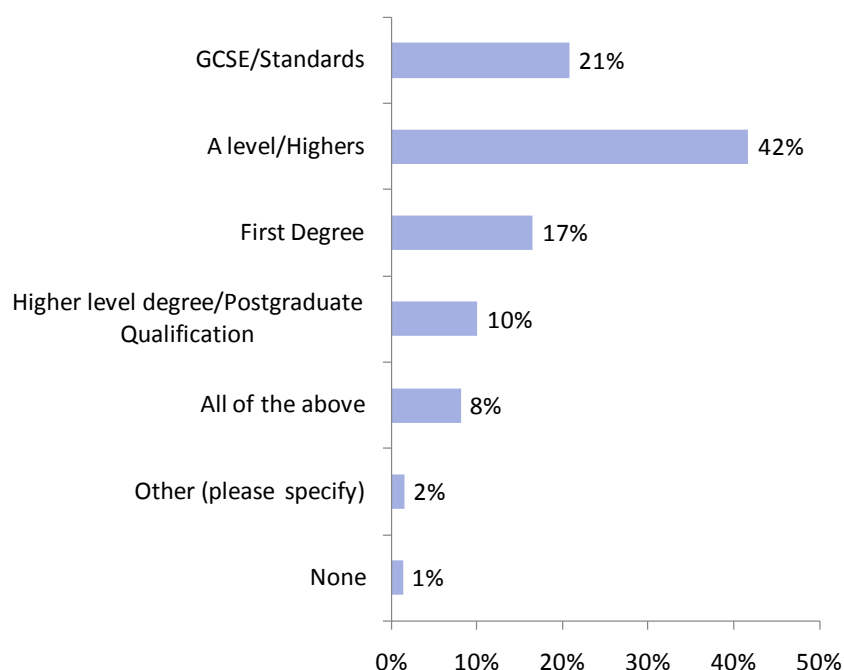
### 1.1.3 Perceptions of the educational pathway to become a technician

Respondents were also asked which one level of qualification they thought was required to become a technician. There were given a short list to choose from and their answers are charted below.

#### **More than two fifths (42%) of respondents think that A-level/Highers are necessary for a job as a technician**

A-level/Highers, GCSEs/Standards then First Degree were the three most commonly selected qualification levels. A-level/Highers was selected by twice as many respondents as the next most commonly selected qualification level, required to become a technician.

**Figure 4: Level of qualification thought to be necessary for a job as a technician (prompted)**



Base: 4618

Single code

Source: FreshMinds 2010

**Women are more likely than men to think higher level qualifications are required to be a technician.**

A higher proportion of males than females selected 'GCSE/Standards' as the required qualification level (23% males, 19% females). However more females than males selected Higher level degree/postgraduate qualification (11% females, 9% males) and all of the above (9% females, 7% males). This indicates that women have higher expectations than men of the education level required.

**Younger people are also more likely to think the qualification level required to be a technician is higher.**

On analysis by age, the following findings are of significance:

- Higher proportion of older respondents selected 'GCSE/Standards' as the required qualification level (26% of 55-64 year olds and 27% of 65+, compared with 17% of 20-24 year olds, 14% of 25-34 year olds, 19% of 35-44 year olds, and 20% of 45-54 year olds)
- Higher proportions of 20-24 year olds and 25-34 year olds than all older age groups selected 'First degree'
- A higher proportion of 25-34 and 35-44 year olds selected 'Higher level degree/postgraduate qualification'

## 2. General public perceptions: 17 to 19 year olds

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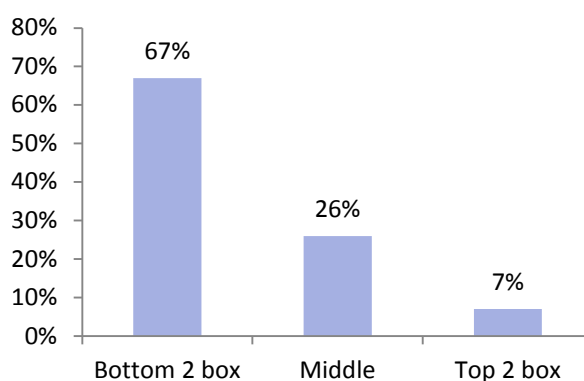
### 2.1.1 Awareness and understanding of technicians

19 to 20 year old respondents were asked to rate on a five point scale how much they knew about what technicians do. Their answers are charted below (Figure 84) using the bottom two and top two box method.

#### About two-thirds of respondents (67%) do not know much about what technicians do

Just about two-thirds of respondents (67%) did not know much about what technicians do, almost ten times the number of respondents who did (top two box of 7%).

**Figure 5: Reported knowledge about what technicians do**



Base = 1163

Single code

Source: FreshMinds 2010

#### 17 to 19 year old female respondents say that they know less about what technicians do

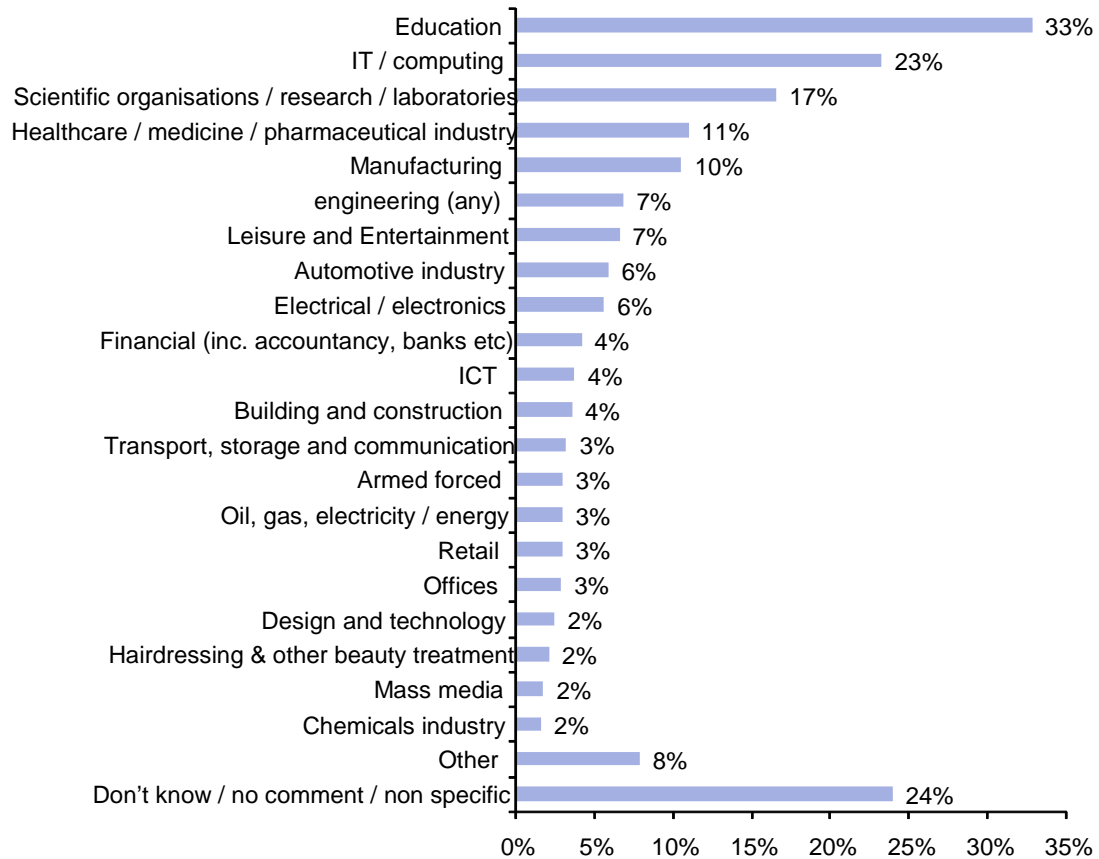
More females than males are in the bottom two box (75% females, 59% males) and more males than females are in the top two box (9% males, 5% females).

Significant differences by region were also found. Respondents in many England regions are more likely to not know what technicians do than in the South East including London group. For example, significantly more from the North East (77%) are in bottom two box of knowledge than in South East including London (59%).

#### Education, IT/computing and scientific organisations/research/laboratories were the three sectors where technicians were thought to be employed; nearly a quarter (24%) of respondents didn't know or didn't comment about which sectors employed technicians

Continuing the theme of exploring respondent knowledge, they were asked an open question about the business sectors they thought employed technicians. Their multi-code answers were collated, counted and coded, producing the chart below.

**Figure 6: Do you know any business sectors where technicians are employed? (unprompted)**

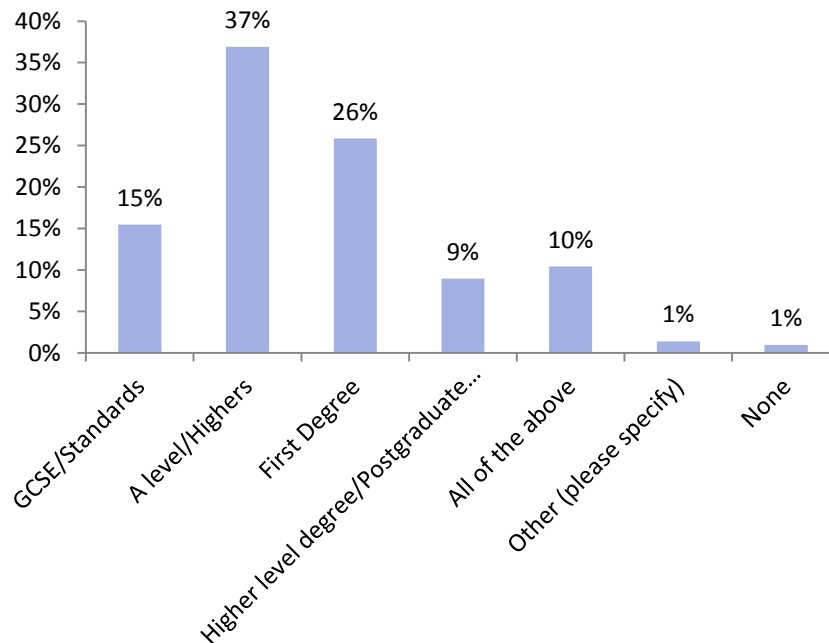


Base = 1163  
 Single code  
 Source: FreshMinds 2010

### 2.1.2 Perceptions of the educational pathway to becoming a technician

Respondents were asked about what level of qualification they felt was necessary to becoming a technician. There were given a short list to choose from and results are shown in Figure 86 below.

**Figure 7: Level of qualification thought to be necessary for a job as a technician (prompted)**



Base = 1163  
Single code  
Source: FreshMinds 2010

**More than a third (37%) of respondents think that A-level/Highers are necessary for a job as a technician**

A-level/Highers, First Degree then GCSEs/Standards were the three most commonly selected qualification levels, with only 1% choosing 'none'.

A higher proportion of males than females selected GCSE/Standards as the required qualification level (19% males, 14% females). Similarly, more respondents in the Western regions than the Eastern ones (as well as Scotland) believe that GCSE/Standards is required. For example, significantly more respondents in the South West (25%) believe so than in the North East (8%).



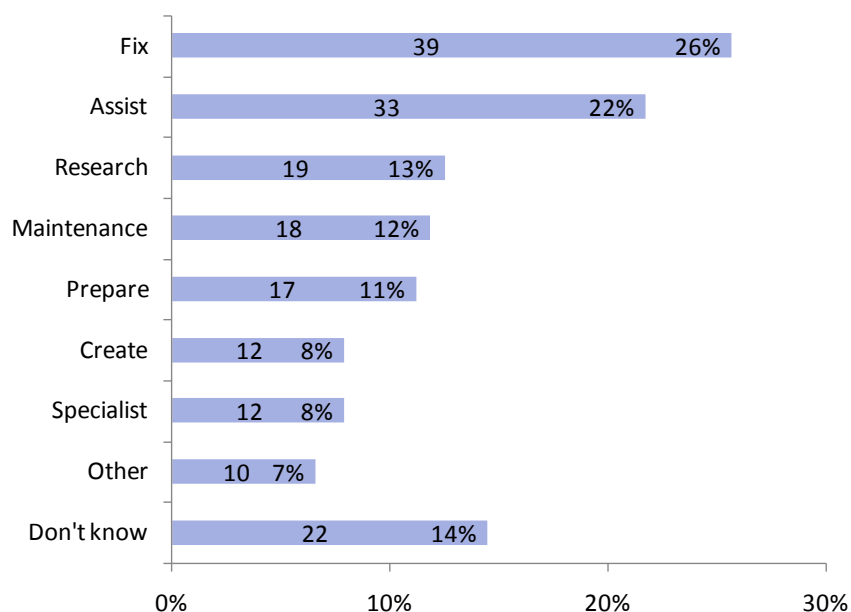
### 3.1.3 Awareness and understanding of technicians

The survey also explored what 12 to 16 year olds think technicians actually do. Respondents were asked to state in their own words what they felt technicians do.

#### **A technician's job is seen by 12 to 16 year olds as involving fixing and assisting others**

Types of responses were identified, and frequencies were generated for each type of response. Findings from this analysis are shown in Figure 122 below.

**Figure 9: What 12 to 16 year olds think technicians do (unprompted)**



Base = 152

Open, back-coded, multi-code

Source: FreshMinds 2010

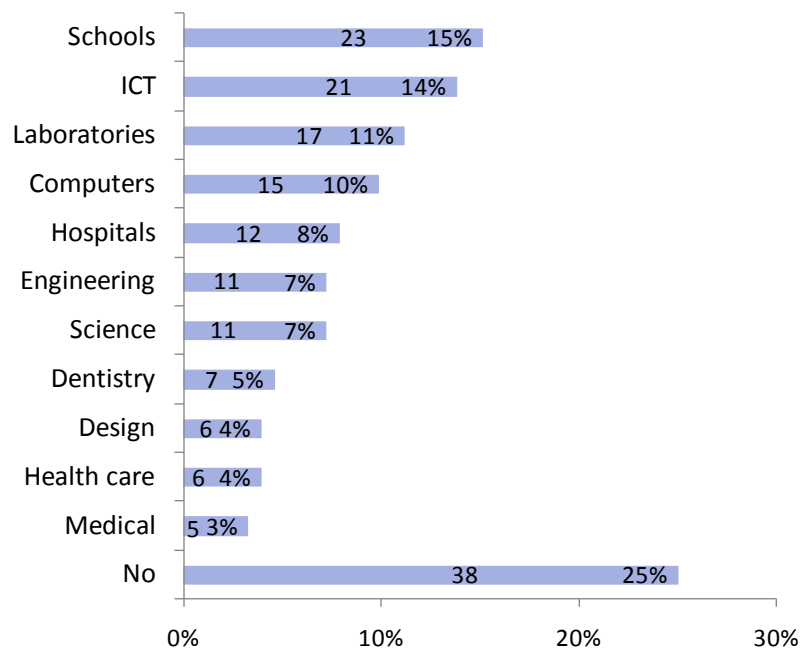
The above chart shows that a high proportion of 12 to 16 year olds think that technicians 'fix' things (26%), and that they 'assist' others in their work (22%). However, a spread of responses across other activities were found, suggesting that the concept of 'technician' is not strongly linked to any single type of activity amongst 12 to 16 year olds.

Respondents were also asked whether they knew of any sectors in which technicians are employed, and if yes, to state in their own words which sector(s) they thought technicians are employed in.

#### **A quarter of 12 to 16 year olds are unsure of what sectors technicians work in**

Figure 123 below shows the frequency of types of response to this question.

**Figure 10: Knowledge of business sectors where technicians are employed**



Base = 152  
 Unprompted, open, back-coded  
 Source: FreshMinds 2010

The chart above shows that a quarter of 12 to 16 year olds feel they don't know any sector in which technicians are employed. It also shows that there is no single sector in which 12 to 16 year olds think technicians are employed in, though 'Schools' (15%), 'ICT' (14%), 'Laboratories' (11%) and 'Computers' (10%) were those sectors mentioned by most respondents.

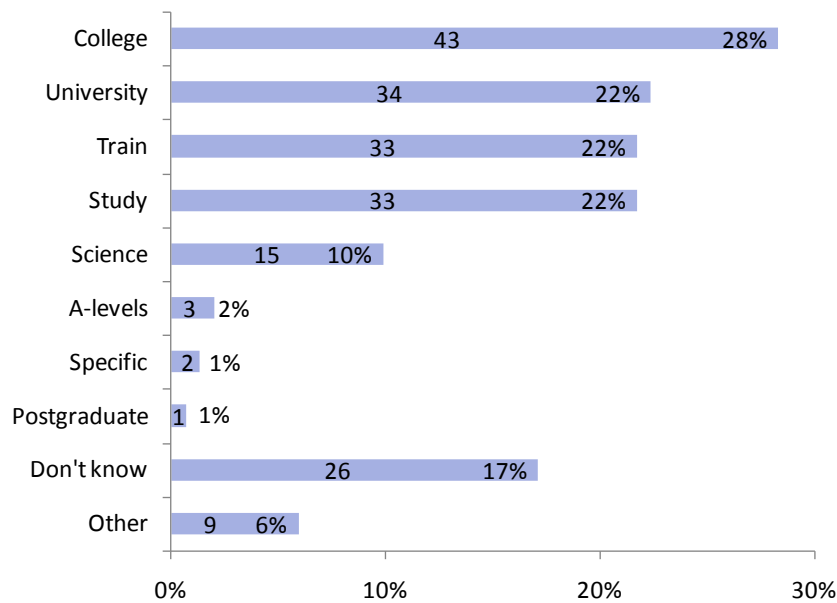
### 3.1.4 Perceptions of the education pathway toward becoming a technician

The survey also explored 12 to 16 year old perceptions of the educational requirements of becoming a technician. Respondents were asked to state in their own words how they thought somebody becomes a technician.

**Becoming a technician is seen by 12 to 16 year olds to require going to college or university, or some kind of training or study**

**Responses were coded, and frequency of common responses are charted below in Figure 124.**

**Figure 11: 12 to 16 thoughts on how somebody becomes a technician**



Base = 152  
 Unprompted, open, back-coded  
 Source: FreshMinds 2010

Results from this question show that over a quarter (28%) of 12 to 16 year olds think that college is the route to becoming a technician. Just over a fifth (22%) thinks that becoming a technician requires going to 'university' (22%), or requires training ('train', 22%) or 'study' (22%). Only 10% specifically stated that becoming a technician would require 'Science', and only 2% specifically stated that 'A-levels' would be required.

### 3.1.5 Desirability and consideration of becoming a technician

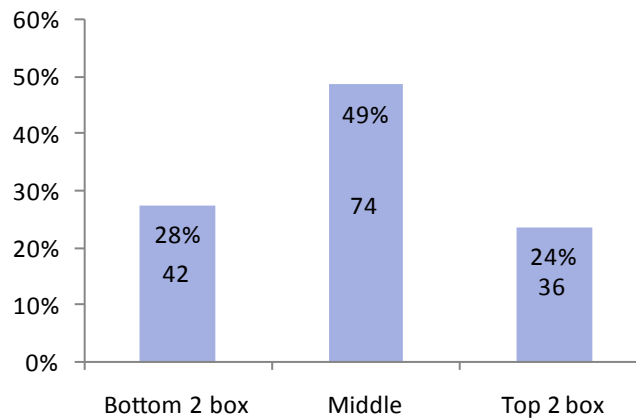
The survey also explored how 12 to 16 year olds feel about a career as a technician, looking at how desirable they feel such a career is, as well as how likely they would be to consider a career as a technician.

Respondents were asked to state how desirable they believe being a technician is, as a career.

**For half of 12 to 16 year olds, a career as a technician is neither desirable nor undesirable, suggesting a potential lack of insight into what the job entails**

Results for this question are shown below in Figure 125.

**Figure 12: How desirable is a career as a technician**



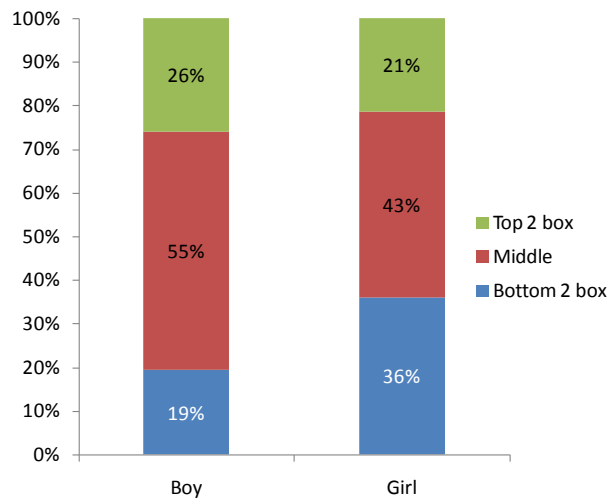
Base = 152  
 Single code  
 Source: FreshMinds 2010

The chart above shows that just under half of 12 to 16 year olds don't feel a career as a technician would be particularly desirable or undesirable – they feel neutrally about its desirability. This could be linked to lower awareness or understanding of what technicians actually do. Just under a quarter (24%) felt that a career as a technician would be desirable, but slightly more (28%) felt it would be undesirable.

**Girls more likely to feel that a career as a technician is undesirable**

Differences by gender show that girls of this age are significantly more likely than boys to think that a career as a technician would be undesirable.

**Figure 13: How desirable is a career as a technician, by gender**



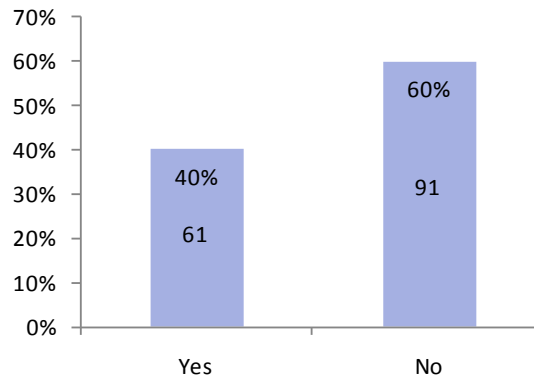
Base = 77 boys, 75 girls  
 Single code  
 Source: FreshMinds 2010

Those 12 to 16 year old respondents that felt a career in engineering would be undesirable were significantly more likely to feel that a career as a technician would be undesirable (45% of those who said engineering is desirable, compared to 8% of those who said engineering is undesirable).

### Two fifths of 12 to 16 year olds would consider becoming a technician

Respondents were also asked whether they would ever consider a career as a technician, and findings are shown in Figure 127 below.

**Figure 14: Would you ever consider a career as a technician?**



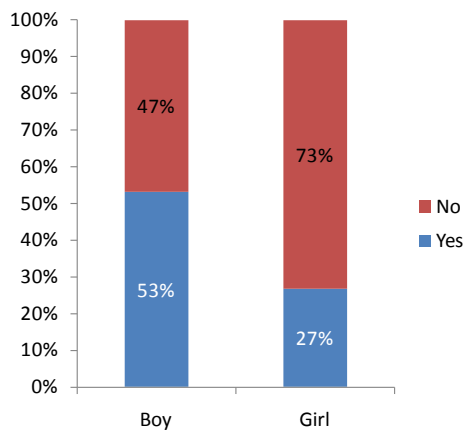
Base = 152  
Single code  
Source: FreshMinds 2010

It can be seen from the chart that two fifths of 12 to 16 year olds would consider a career as a technician.

### Boys are more likely to consider a career as a technician

Looking at differences by gender, it can be seen that significantly more boys than girls would consider a career as a technician, and vice versa (significantly more girls would not consider a career as a technician).

**Figure 15: Would you ever consider a career as a technician? by gender**



Base = 77 boys, 75 girls  
Source: FreshMinds 2010

Those 12 to 16 year olds that said they would consider a career in engineering were also significantly more likely to choose a career as a technician (79%) than those who said they would not consider a career in engineering (14%).

Lastly, significantly more 12 to 16 year old respondents that reported having a knowledge of what engineers do would consider a career as a technician (61%), than those that reported not having a knowledge of what engineers do (27%).



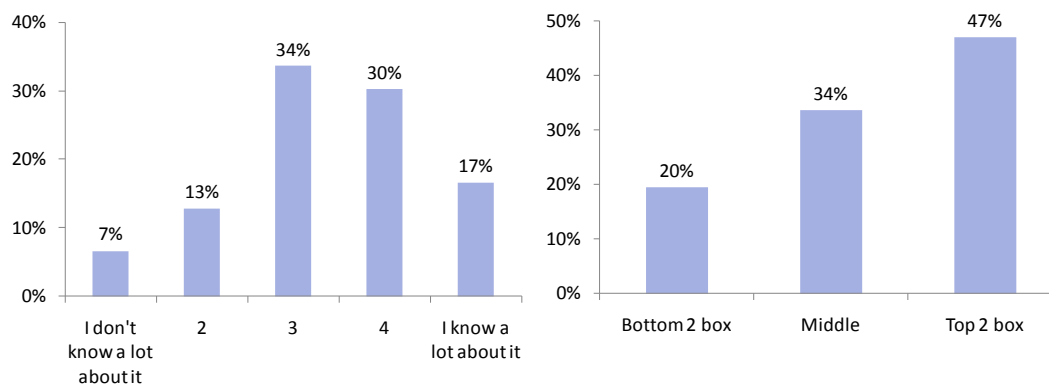
#### 4.1.4 Understanding of technicians' roles

##### Levels of knowledge about what technicians do are reasonably positive

47% of educators gave top two box scores and just 20% bottom two box responses. 17% considered themselves to know a lot about what technicians do. See Figure 173 below for results.

Significant differences in level of knowledge exist between primary and secondary school educators. Secondary educators were more likely (52%) to give top two box scores than primary educators (15%) and far less likely to give bottom two box scores (16% vs. 39%).

**Figure 17: How much educators know about what technicians do**



Base = 241

Single code

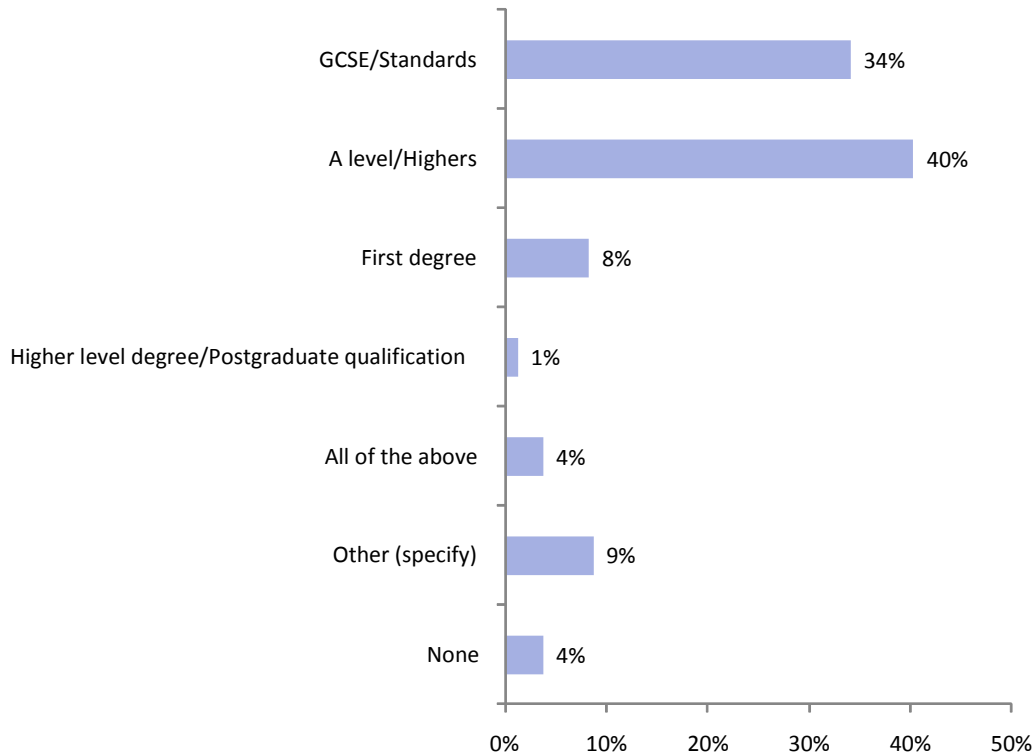
Source: FreshMinds 2010

#### 4.1.5 General perceptions of technicians

**The technician role was most commonly viewed as a helpful, supportive, practical function.**

A similar exercise was conducted asking educators to identify the words they most associate with the word 'technician'. The most frequently mentioned associations were of a technician being a supporting role: 'helpful', 'practical' and 'support'.





Base = 241

Single code

Source: FreshMinds 2010

55-64 year old educators were more likely (50%) than 25-34 year old educators (31%) to believe that A Levels / Highers would be needed for a job as a technician.

Primary educators were more likely than secondary educators to have identified A Levels / Highers as the academic requirement (51% vs. 32%) and less likely to have identified GCSEs / Standards (24% vs. 40%).

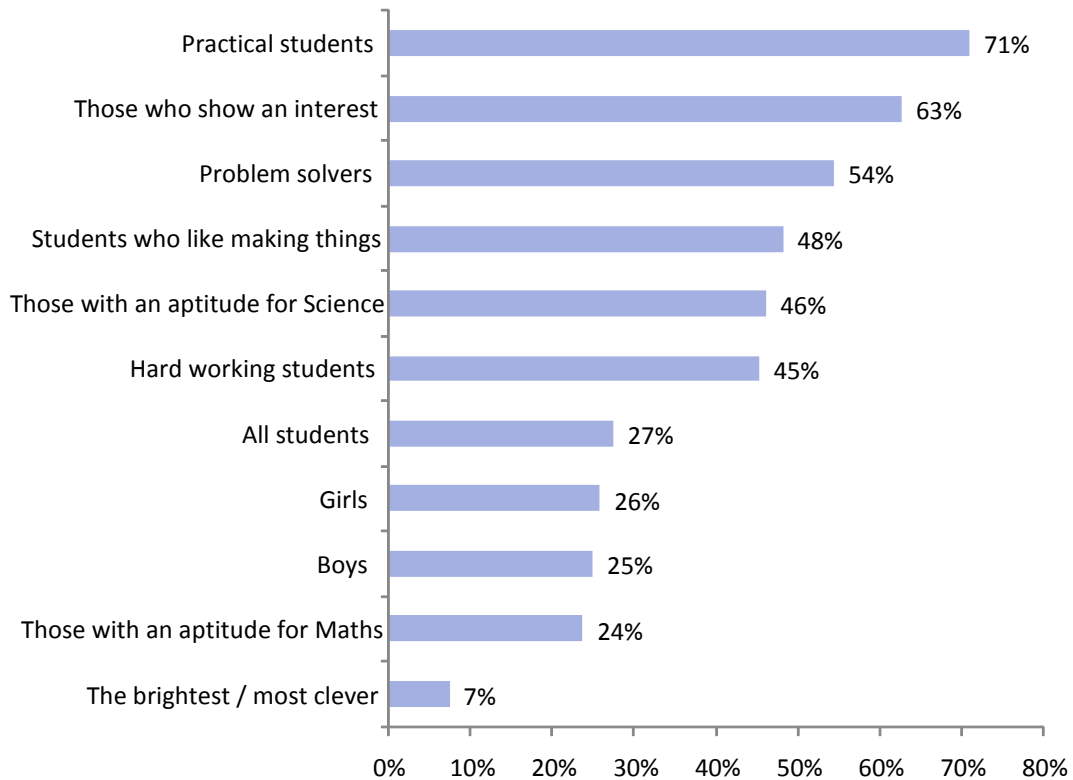
#### 4.1.7 Consideration and recommendation of a career as a technician

##### **Educators would be most likely to recommend a career as a technician to practical students, those who show an interest or problem solvers**

When asked which types of student they would recommend a career as a technician to, educators most frequently identified 'practical students' (71%), 'those who show an interest' (63%) and 'problem solvers' (54%). Those with a specific aptitude for Science (46%) were viewed as suitable; however, unlike recommendation of an engineering career, those with a specific aptitude for Maths (24%) were less likely to be recommended a technician role. See Figure 176 below for a chart of these top-line findings.

As was seen for engineering, suitability for a role as a technician doesn't appear to be determined by overall ability or be focused on one particular gender of student.

##### **Figure 20: Types of student to whom educators would recommend a career as a technician**



Base = 241

Multi-code (prompted)

Source: FreshMinds 2010

### **Older educators are more likely than younger educators to recommend a technicians' role to a range of types of students**

For six of the categories measured there are differences observable by age of respondent. In general, the 55-64 year old educators are more inclined than 25-34 year old educators to recommend technicians' roles to the following types of student:

- Hard working students (63% of 55-64 vs. 29% of 25-34)
- Those who show an interest (78% vs. 50%)
- Those with an aptitude for science (54% vs. 33%)
- Practical students (80% vs. 64%)
- Problem solvers (70% vs. 43%)
- Students who like making things (70% vs. 29%)

Secondary and primary educators tended to give very similar responses, however secondary educators were significantly more likely (54%) than primary educators (24%) to recommend a technician role to 'students who like making things'.