

What Contributes to Vocational Excellence?

Characteristics and experiences of Competitors and Experts in WorldSkills London 2011

Annex to the report to the WorldSkills Foundation on the MoVE International research project conducted at WorldSkills London 2011



April 2012

Professor Petri Nokelainen, University of Tampere, Finland

Dr Helen Smith, RMIT University, Australia

Mr Mohammad Ali Rahimi, Deakin University, Australia

Dr Cathy Stasz, ESRC Centre on Skills, Knowledge and Organizational Performance (SKOPE), University of Oxford, UK

Dr Susan James, ESRC Centre on Skills, Knowledge and Organizational Performance (SKOPE), University of Oxford, UK

Contents

1. Notes on theoretical framework	3
1.1. Characteristics of vocational excellence	3
1.2. Emergence and consolidation of professional identity	4
2. Charts and tables referenced in the report.....	5
2.1. Participant Member organisations.....	5
2.2. Participant skill areas	7
2.3. Factors attracting Competitors and Experts to their trades/professions	9
2.4. Analysis of narratives	10
2.5. Comparison of meanings: triad questions 4.2-4.6.....	16
2.6. Characteristics of vocational excellence	19
3. Survey instruments.....	22
3.1. Competitor survey	22
3.2. Expert survey	35

1 Notes on theoretical framework

1.1 Characteristics of vocational excellence

1.1.1 Giftedness and talent

K. Anders Ericsson stresses the role of deliberate practice in the development of talent, stating that in most fields, to become an expert requires ten years (Ericsson, Krampe & Tesch-Römer 1993). Subsequent research has shown that the ten year rule is not absolute: in some fields (for example, chess and sports) total mastery of the skill requires about six years, and in other fields (for example, music and science) reaching the top level requires 20-30 years of deliberate practice (Ericsson 2006). His relative approach to the study of the characteristics of experts assumes that the fundamental capacities and domain-general reasoning abilities of experts and non-experts are virtually identical (Chi 2006). The major difference between experts and novices is that the former are more knowledgeable, through deliberate practice, than are the latter.

However, Gagné's Differentiated Model of Giftedness and Talent (DMGT) is based on a different approach to the study of the characteristics of experts: the goal of the absolute approach is to understand how truly exceptional people perform in their domain of expertise (Chi 2006). Nokelainen (2012) has defined the concepts of 'expertise' and 'excellence' in the context of WorldSkills Competitions by investigating Competitors' self-evaluated characteristics. According to Nokelainen, gifted individuals with exceptionally high levels of natural abilities (intellectual, creative, socio-affective, sensori-motorical), intrinsic characteristics (physical characteristics, self-regulation, personality), and auspicious extrinsic conditions (physical, cultural and sociological milieu, important individuals, programs, activities, awards, accidents) may reach the level of vocational excellence. In this study, gold, silver and bronze medal winners at WorldSkills London 2011 represent vocational excellence. Competitors who scored less than 500 points represent vocational expertise.

1.1.2 Self-regulation

According to Barry Zimmerman (1998), self-regulation consists of motivation, volition and self-reflection. Motivation directs Competitors' interest towards a certain task, volition is needed to maintain action to complete the task, and self-regulation relates to monitoring both the self ('how am I doing?') and environment during the process. Motivation is further divided into extrinsic and intrinsic, and volition is divided into perseverance and time management. Self-judgment is a sub-component of self-reflection containing attribution interpretations in which an individual interprets the reasons for success or failure. In this study, we have applied Weiner's attribution theory (1974) to investigate if Competitors prefer to attribute their success to effort or ability.

1.2 Emergence and consolidation of professional identity

Research on identity formation has led to conclusions that identity is not a fixed predetermined 'essence of oneness' but rather is a dynamic set of factors related to the perceptions of self and others.

Three research frameworks of particular relevance to this study are outlined below.

The first framework of relevance is that developed by Lave and Wenger (1991) and Wenger (1998). They emphasise that the process is one in which there is an interaction between individual characteristics and perceptions, and the (social) system relations provided by the communities to which the individual belongs.

The second framework we have referenced is that developed by Ruohoti (1993) and Puurula and Lofstrom (2003). For them, professional identity emerges as a result of the interaction between three dimensions of self:

- 'a self-directed, active human being'
- 'a skilled professional'
- 'a member of working community'.

These three dimensions contribute to a range of attributes, including the ability to learn, being able to engage with work challenges, maintaining professional knowledge, being flexible and able to work with others, and being committed to membership of the working community.

The third framework emerges from Brown's (2004) study of engineers. Brown names four dimensions of identity formation:

- engagement with work activities – particularly with challenging tasks
- interaction with others
- learning and development
- self-reflection.

Other researchers draw similar conclusions about the intertwining of individual and social factors in the formation of identity, including: Vygotsky (1978), Kerby (1991), Holmes (2000), Harré and Langenhove (1999, 2010), and Collin (2008).

2 Charts and tables referenced in the report

2.1 Participant Member organisations

Figure A1: Member organisations represented in the MoVE Competitor sample

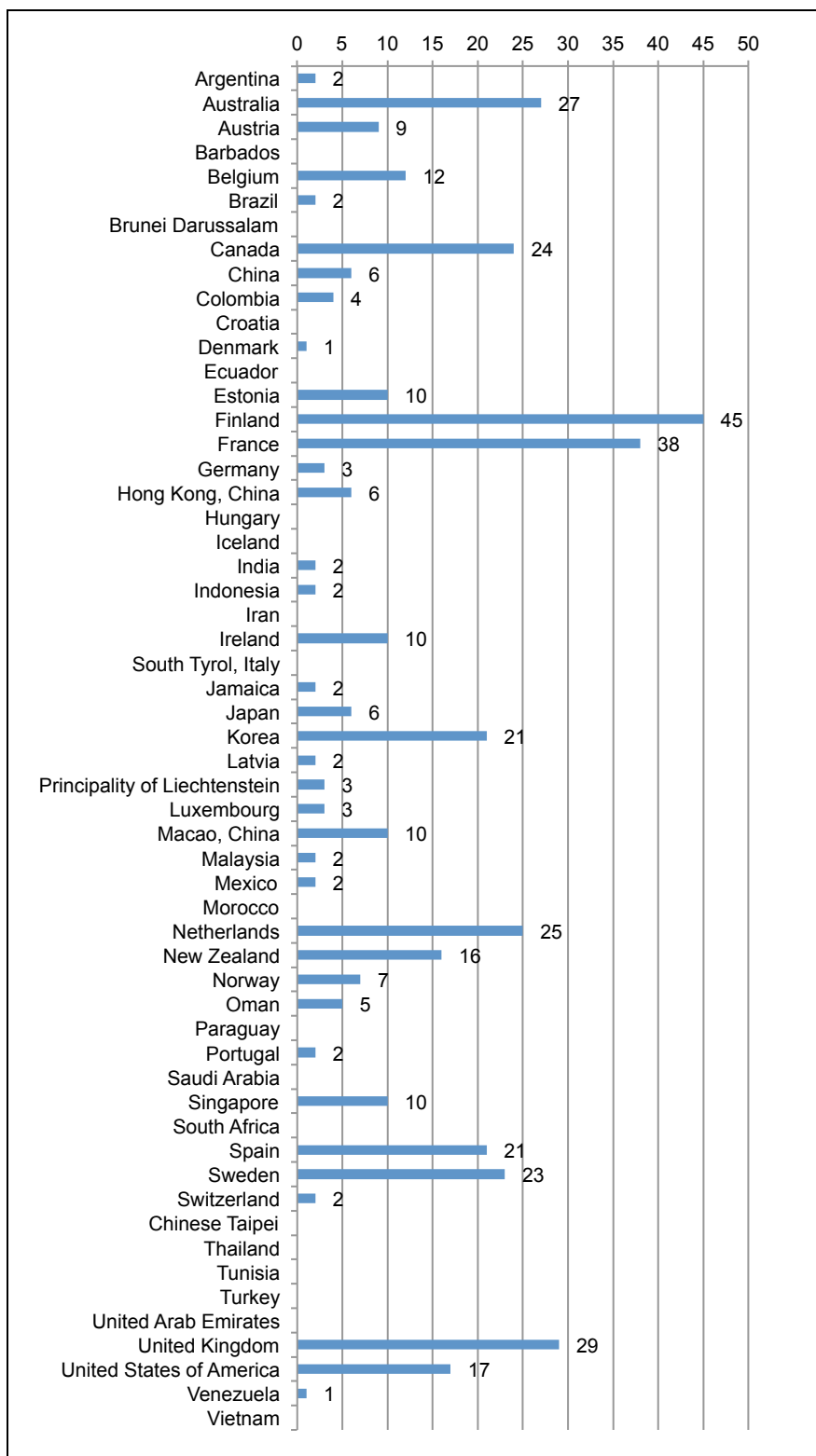
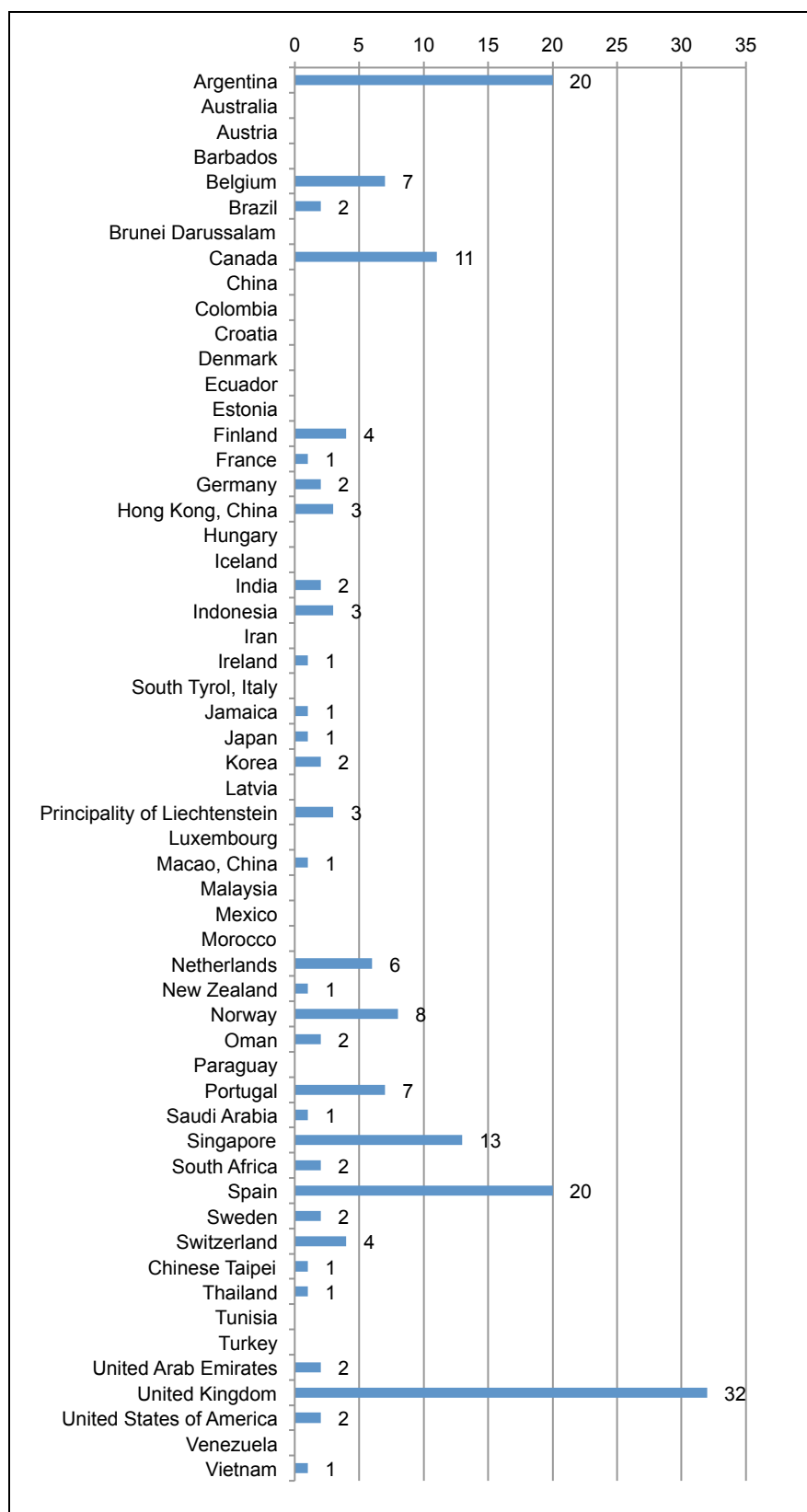


Figure A2: Member organisations represented in the MoVE Expert sample



2.2 Participant skill areas

Figure A3: Skill competitions represented in MoVE Competitor sample

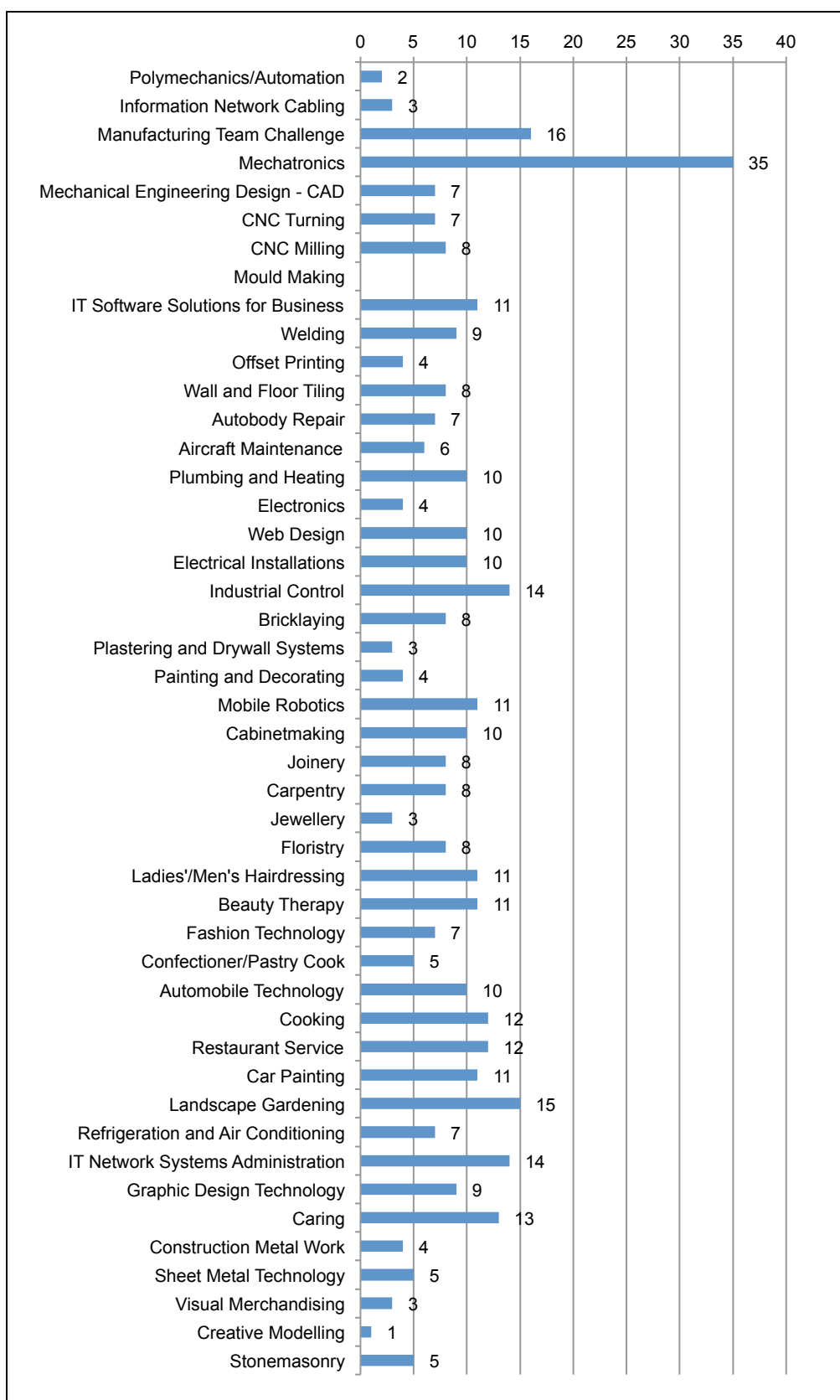
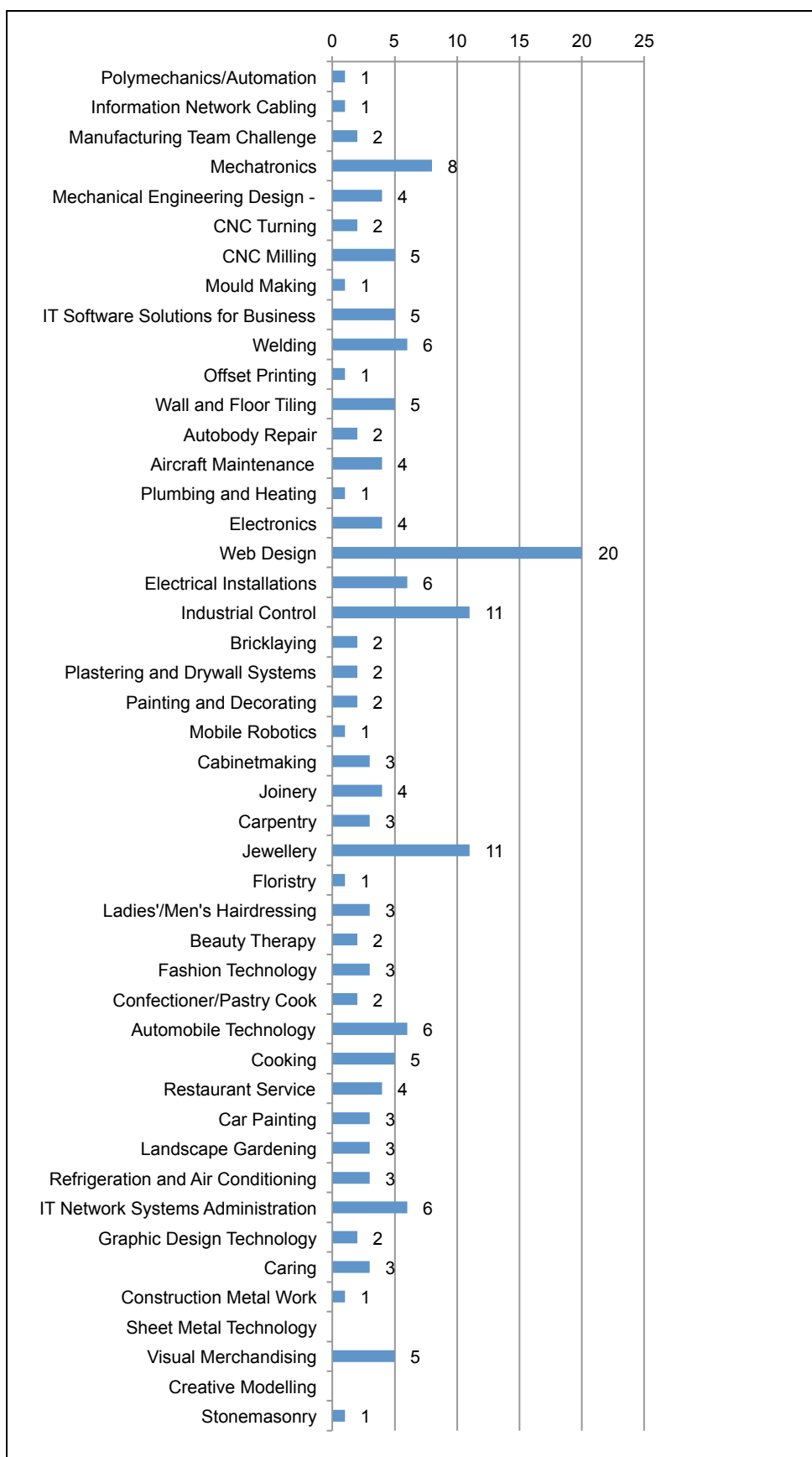


Figure A4: Skill competitions represented in MoVE Expert sample



2.3 Factors attracting Competitors and Experts to their trades/professions

Figure A5: Factors attracting WorldSkills Competitors to their chosen trades/professions

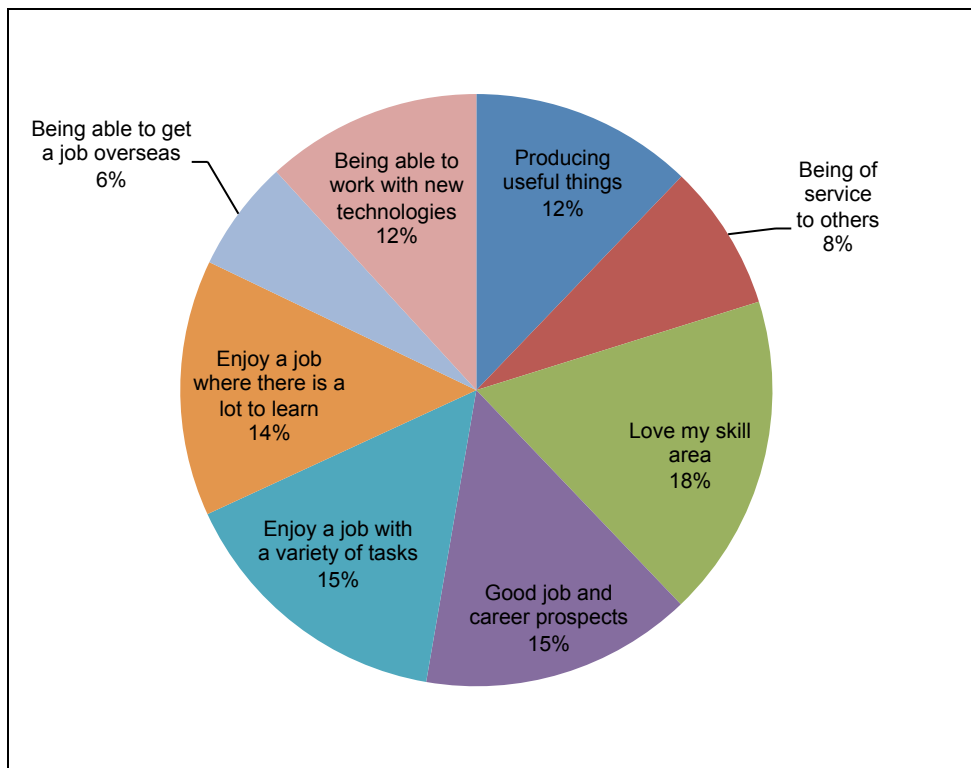
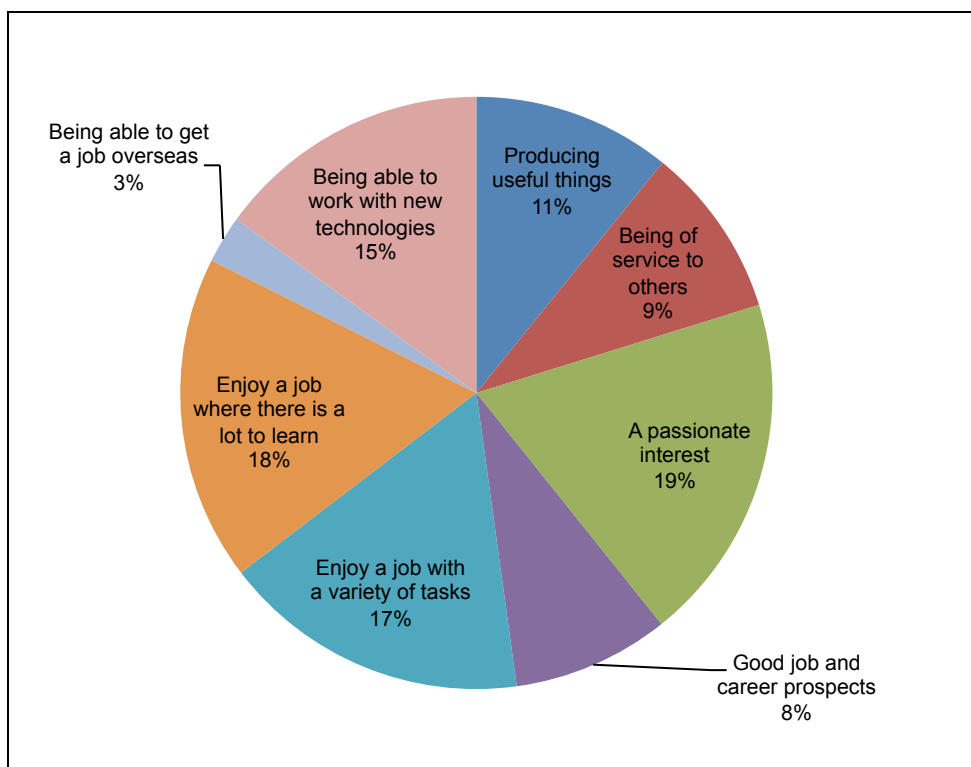


Figure A6: Factors attracting WorldSkills Experts to their chosen trades/professions



2.4 Analysis of narratives

(a) Coding of themes

Figure A7: Coding of themes in Competitor narratives

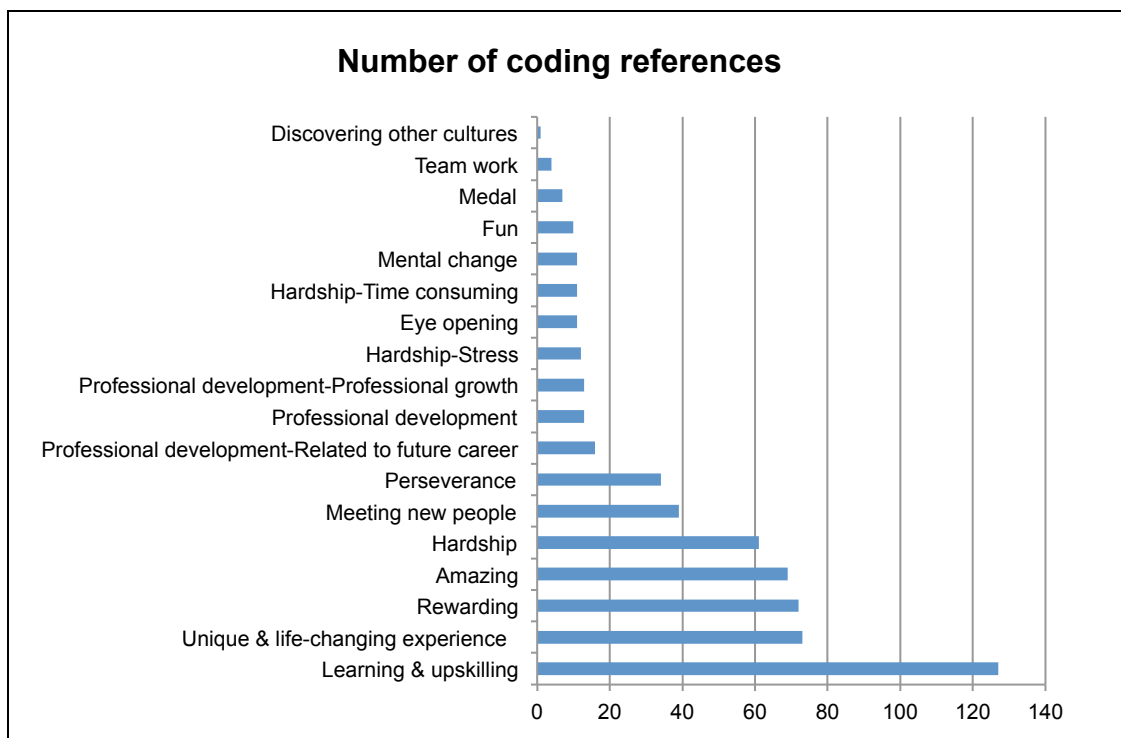
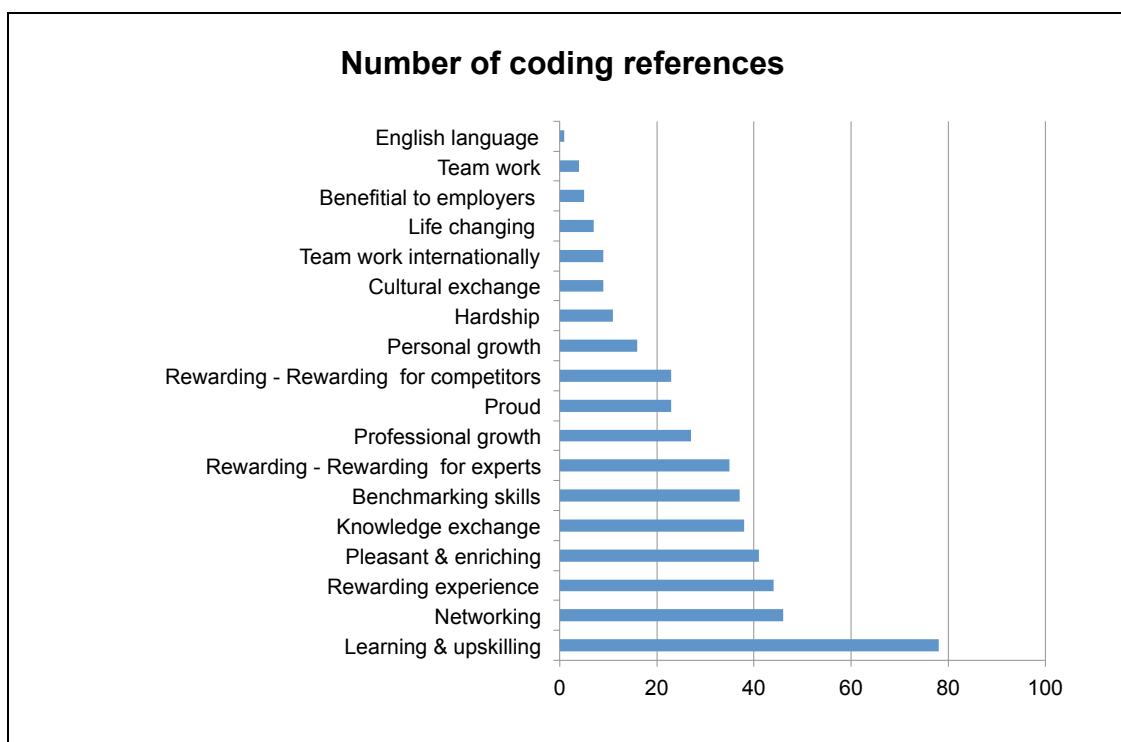


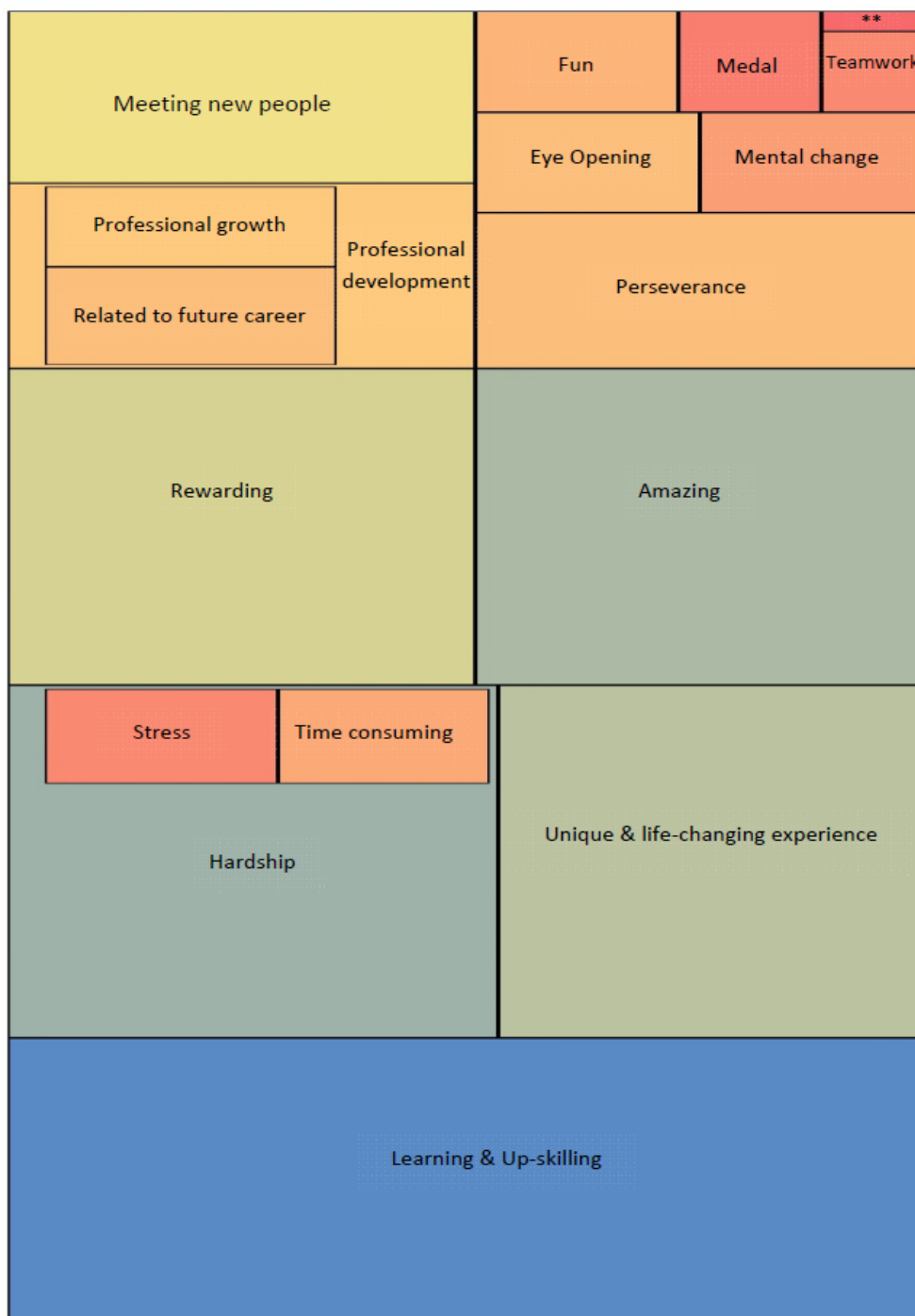
Figure A8: Coding of themes in Expert narratives



(b) Mapping of major themes

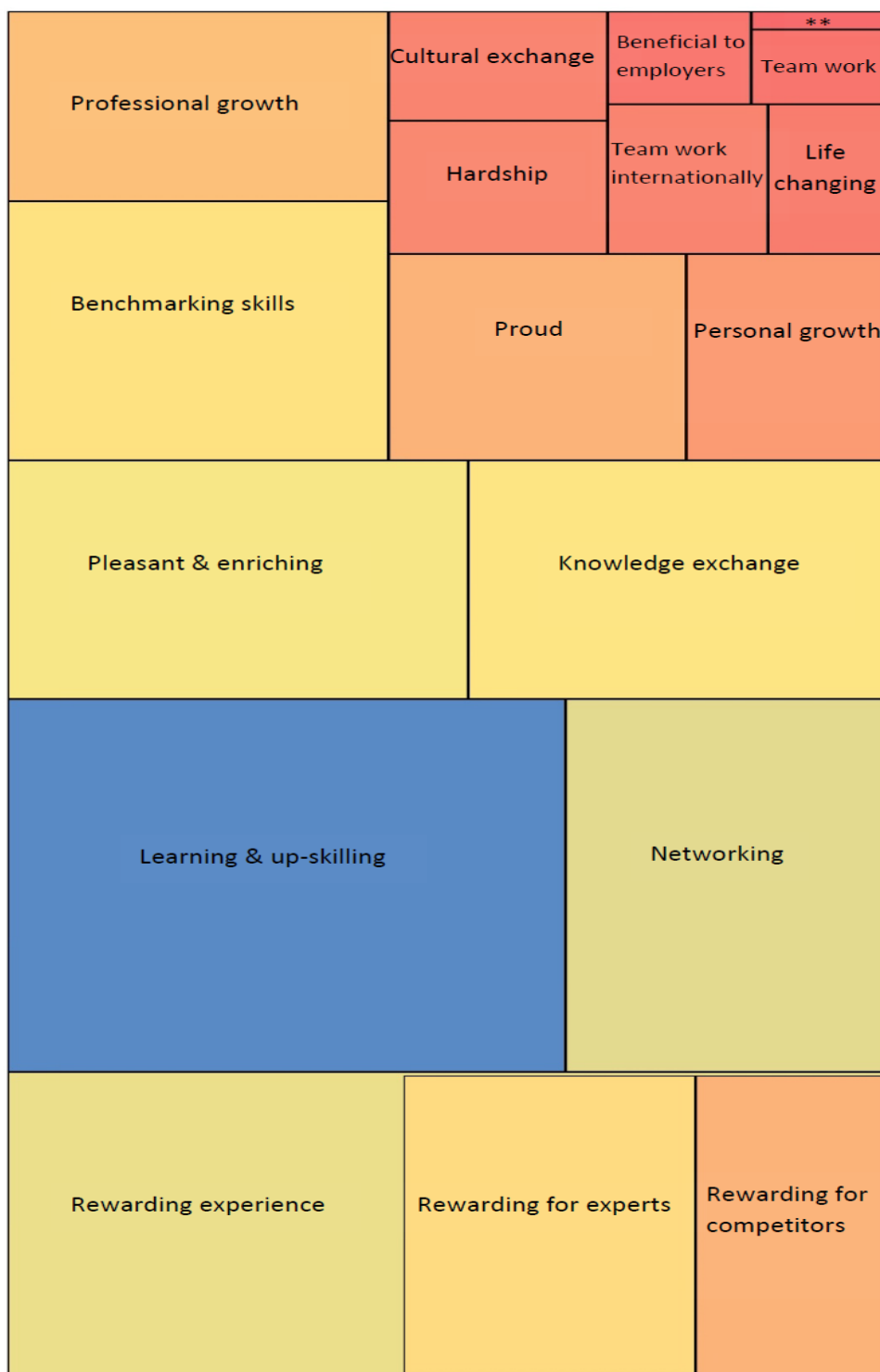
The data were analysed using the NVivo tool Tree Map. The Tree Map tool enables us to show visually how collections of coding are distributed. The size of each box denotes the relative number of Competitors' narratives (Figure A9) and Experts' narratives (Figure A10), coded by the themes presented.

Figure A9: Major themes represented in Competitors' narratives



** = discovering other cultures

Figure A10: Major themes represented in Experts' narratives



** = English language

(c) Clustering of narrative themes

Figure A7 and Figure A8 show how different themes are clustered across the narratives. By applying the similarity metric of Jaccard's coefficient, the similarity of coding at each node (a node represents a reference to an identified theme) has been examined. The nodes that were coded with highest level of similarity were clustered together on the Horizontal Dendrogram cluster analysis diagrams shown in Figure A11 and Figure A12.

These figures show how different themes are clustered across the narratives. For example:

- in the Competitor narratives (Figure A11) the themes of 'hardship' and 'rewarding' tend to be clustered together, and these clustered themes tend to be associated with 'learning and upskilling'¹
- in the Expert narratives (Figure A12) the theme of 'learning and upskilling' was associated with that of 'networking', and the theme of 'hardship' was associated with 'rewarding'.

The ways in which the themes of 'hardship' and 'rewarding' are associated is illustrated in the title of the narrative and the story told by a competitor from New Zealand:

Hard work but rewarding

Getting ready for the Competition involved a lot of training and hard work but seeing it all come together over time is the best thing. Now, to be here, it's the most incredible feeling – we're all the same but different. It's just great to see it all.

The following narrative by a Competitor from Norway illustrates how the themes 'hardship' and 'rewarding' are also associated with the theme 'learning and upskilling':

Getting ready

Getting ready to participate in WorldSkills London 2011 was a learning experience! I learned so much more than I already knew! And I want to learn more! Even though studying and practicing was stressful, and I wanted to 'tear the head' off my partner ... it was definitely worth it!

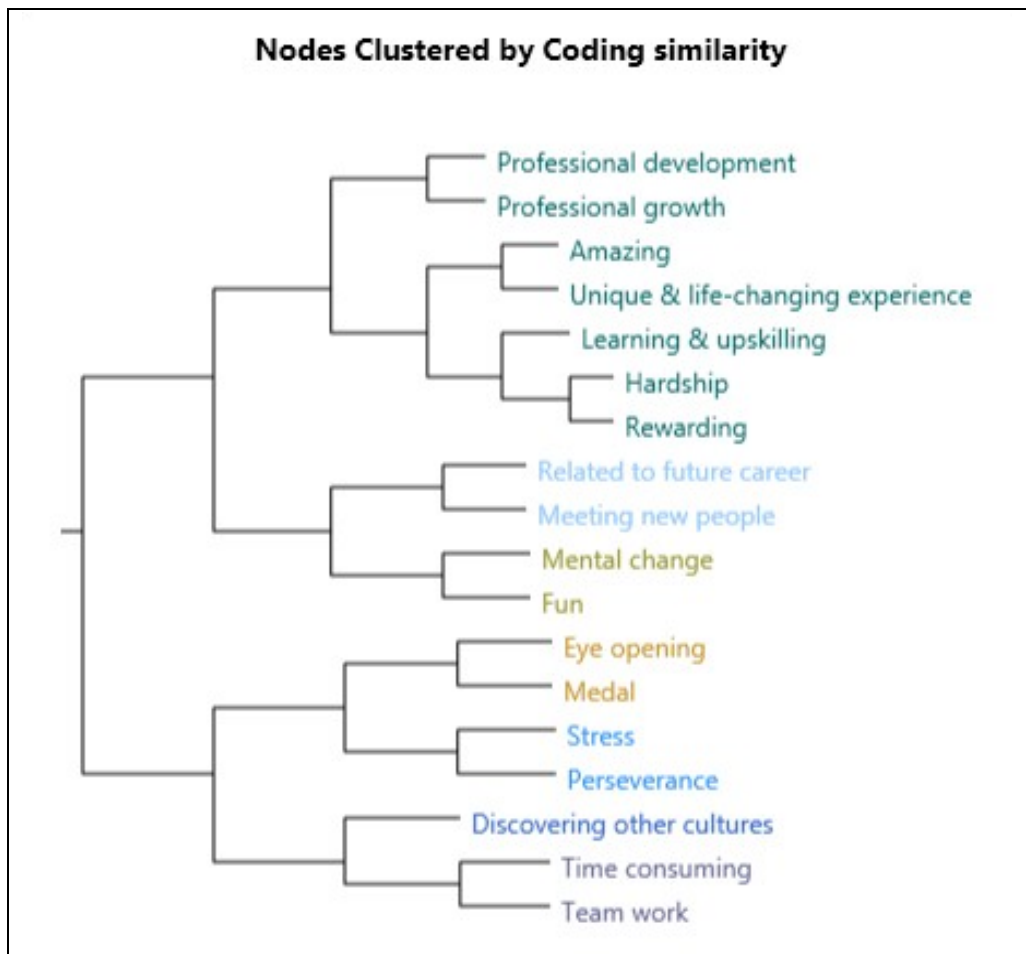
The story below by an Irish competitor is a good example of the way that all the themes in blue/green in the upper main branch of the dendrogram in Figure A11 are associated. In particular, this story shows an association between the themes 'hardship', 'rewarding', 'learning and upskilling', 'amazing' and 'unique and life-changing experience':

Amazing

It has been very intense. I had to make big commitments to get this far. I have changed my diet, my fitness, my mental approach. It has made me more confident for the future and it has opened my eyes up to the possibilities, which are endless ... I have been amazed at all the different skills and talent on show. We have become very close as a team and hopefully will see each other after the Competition in years to come.

¹ Note that where codes are referenced only a few times (that is, those at the top of the charts in Figure A7 and Figure A8), conclusions cannot be drawn from the clusters.

Figure A11: Clustering of themes in Competitors' narratives

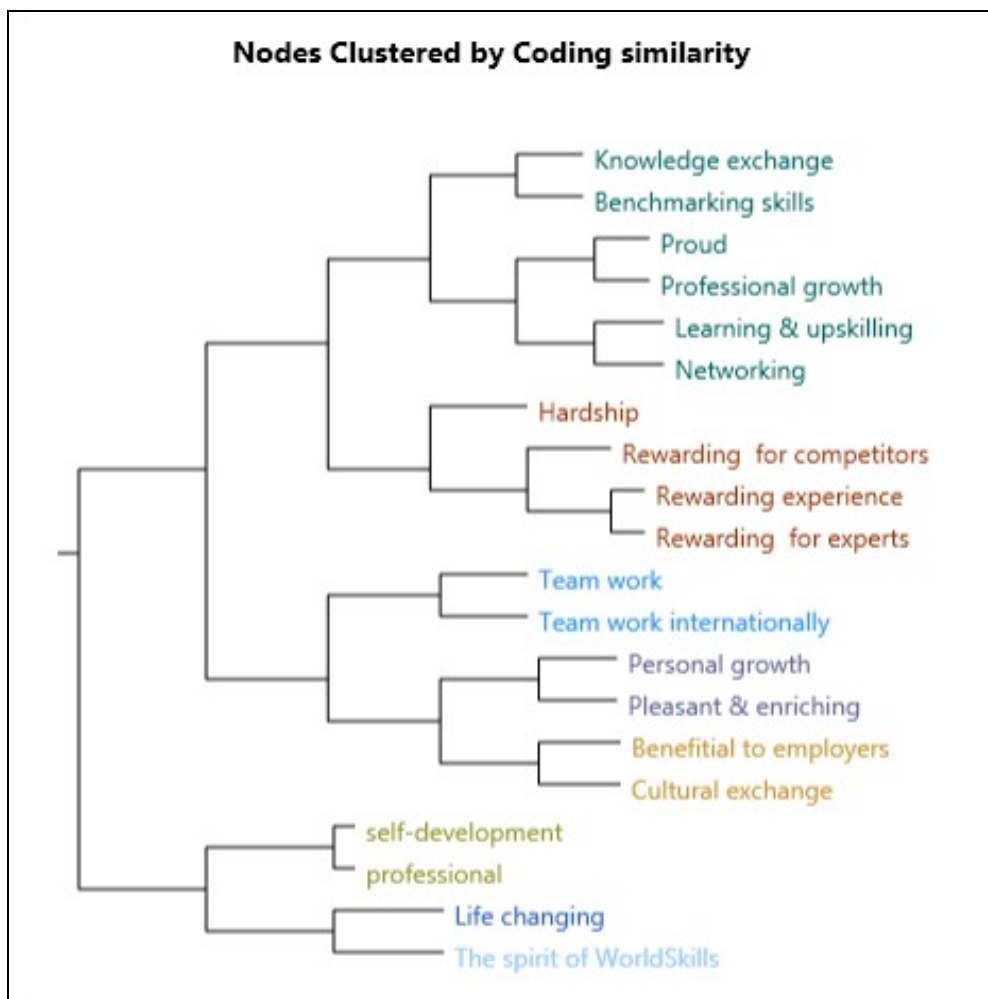


The clustering of themes in Expert narratives is shown in Figure A12. The example below from an Expert from Norway indicates an association of two themes of 'personal growth' and 'pleasant and enriching', which is shown in purple in Figure A12.

A once in a lifetime experience

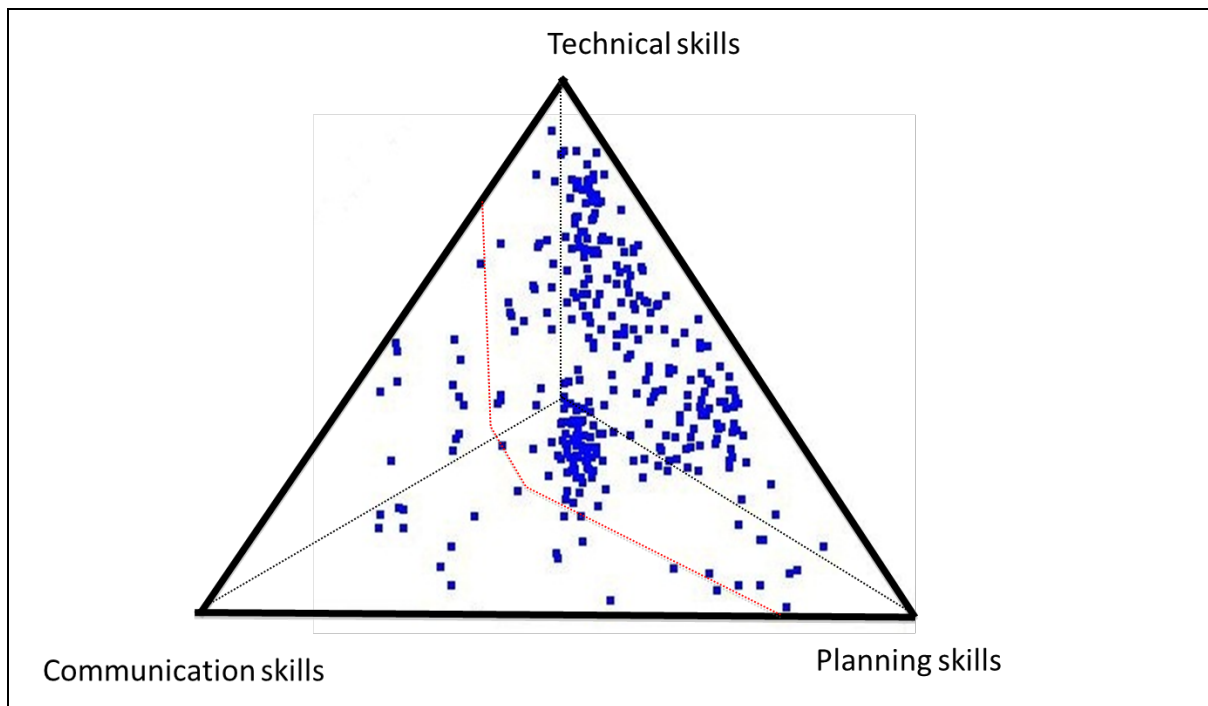
For all the young professionals, WorldSkills is a once in a lifetime experience. The Competition will most certainly influence both their professional career and personal future. Our job as an Expert, is to make their experience as good as possible. That is only possible if you have a team of skilled Experts. With skilled I mean not only the outstanding professional knowledge they demonstrate. Just as important is their ability to work together with fellow Experts from different cultures and countries. One of the moments I feel real proud of being part of this team is when I see my fellow Experts put all their effort in making it possible for all competitors to perform well, not just their own. That's the spirit of WorldSkills.

Figure A12: Relationships between themes in Experts' narratives

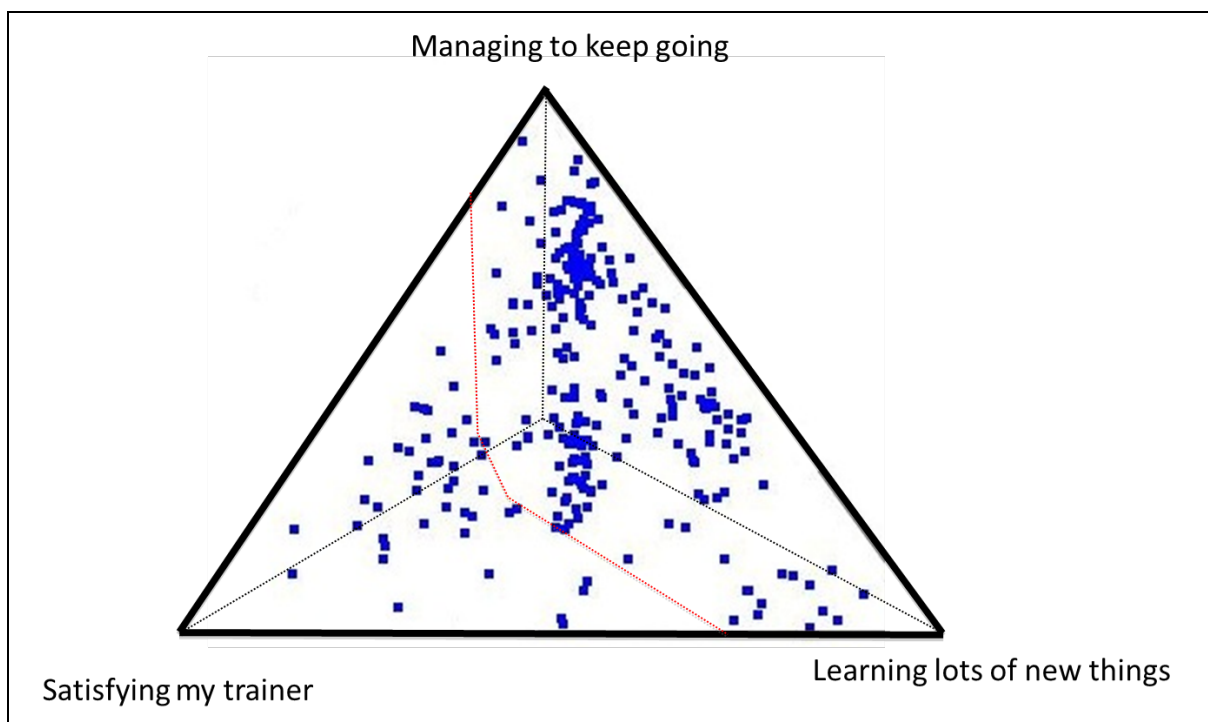


2.5 Comparison of meanings: triad questions 4.2-4.6

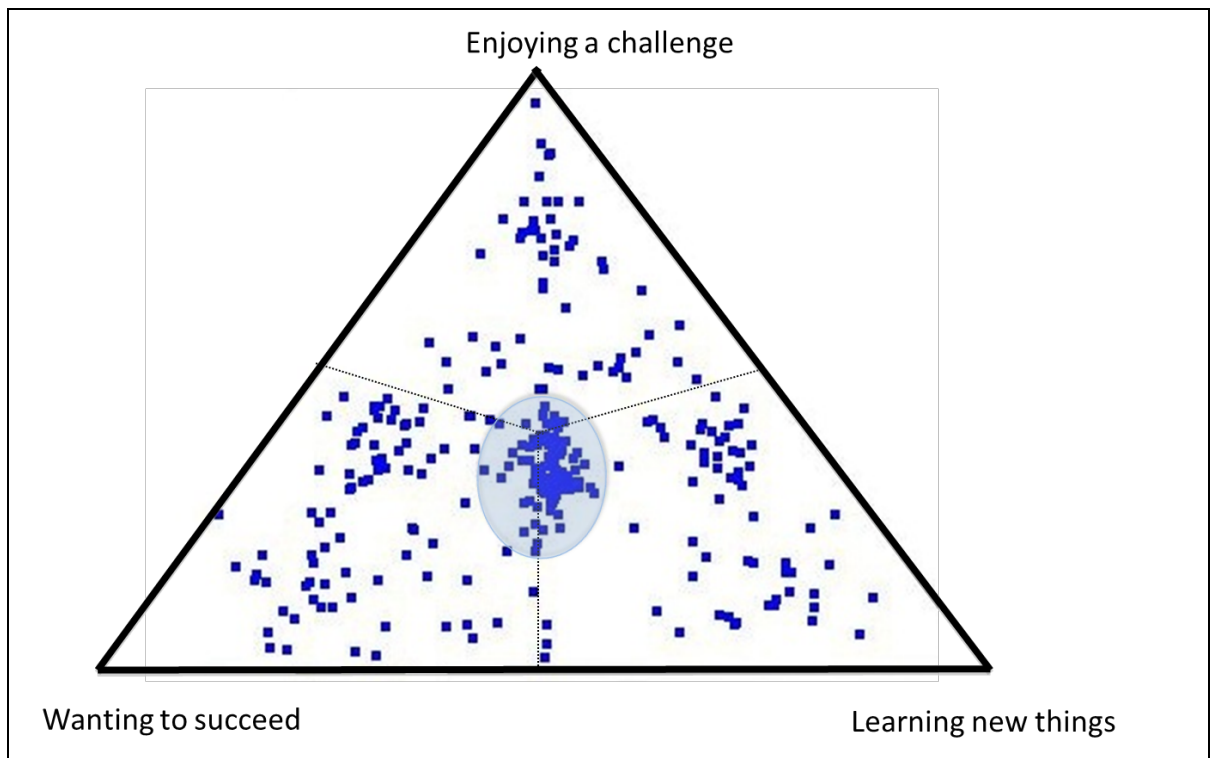
Triad 4.2: Skill types ('My experience involved ...')



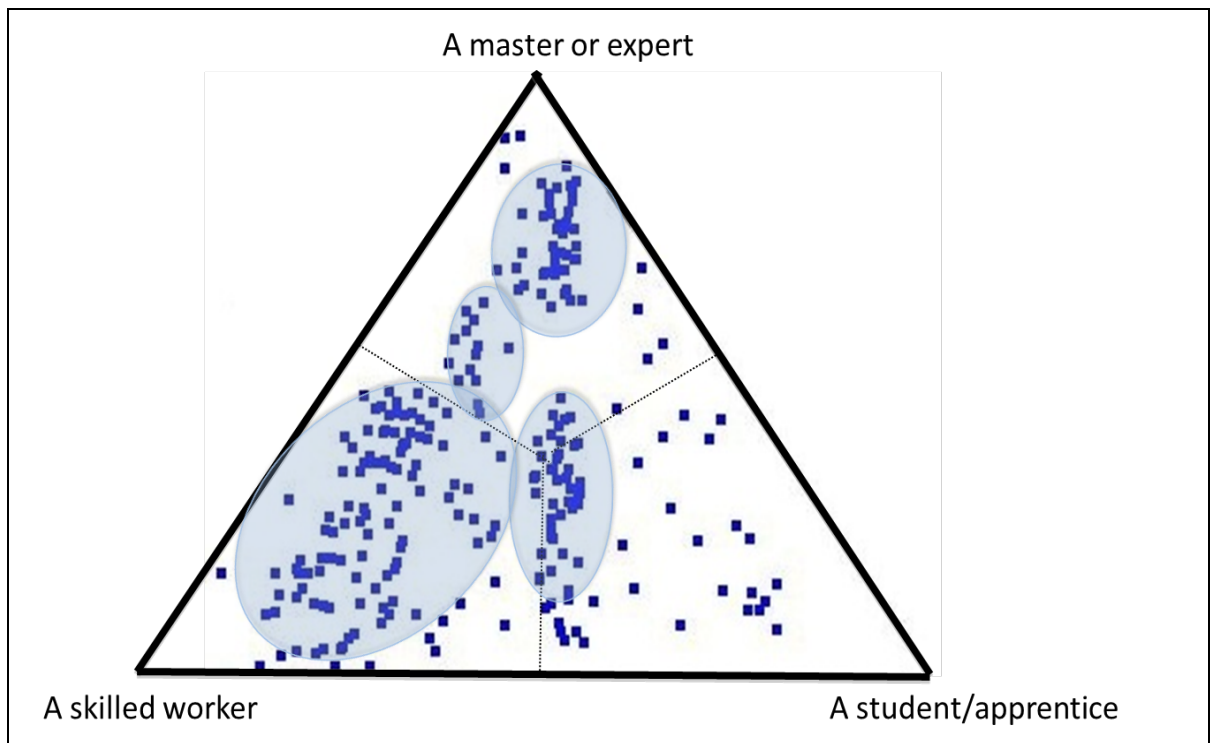
Triad 4.3: Difficulties and challenges ('What mattered most in this experience was ...')



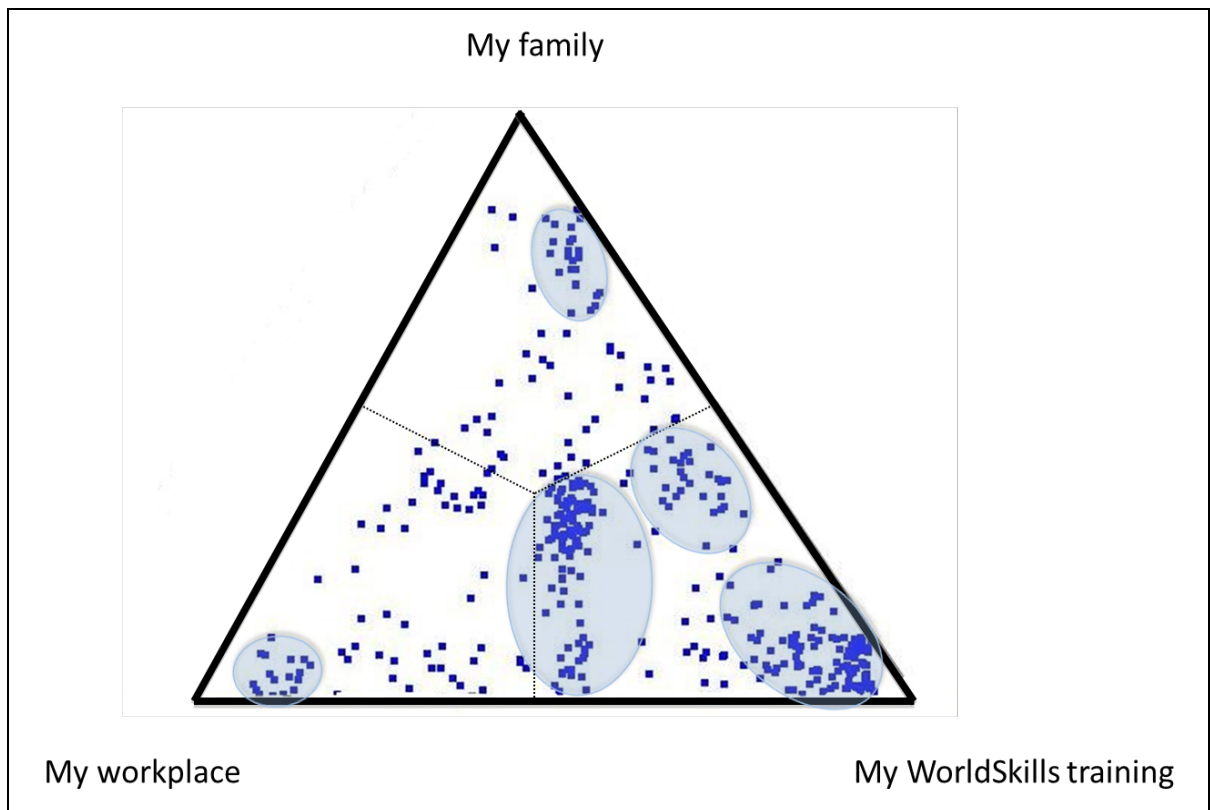
Triad 4.4: **Motivating factors** ('In this experience I was motivated by ...')



Triad 4.5: **Self-perceptions** ('As a result of this experience I see myself as ...')



Triad 4.6: Important influences and reference points ('The really important thing about this experience was ...')



2.6 Characteristics of vocational excellence

Data on Competitors' self-ratings on the nine dimensions of multiple intelligence.

Table A1: Competitors' ratings of their multiple intelligences

Multiple intelligence dimensions	Competitors' self-ratings of multiple intelligences ^a	
	<i>M</i>	<i>SD</i>
Linguistic	2.9	1.313
Mathematical-logical	3.6	1.249
Spatial	3.9	.960
Bodily-Kinesthetic	4.1	1.013
Musical	3.4	1.315
Interpersonal	3.8	.957
Intrapersonal	3.9	.876
Spiritual	3.7	1.051
Environmental	3.7	1.106

^a $n=409$ with 397 (97%) usable responses and 12 (3%) missing responses.

Table A2: Competitors' ratings of their ethical sensitivities

Ethical sensitivity dimensions	Competitors' self-ratings of ethical sensitivities ^a	
	<i>M</i>	<i>SD</i>
Reading and expressing emotions	3.8	.938
Taking the perspectives of others	3.7	.916
Caring by connecting to others	3.8	.926
Working with interpersonal and group differences	3.8	.939
Generating interpretations and options	4.0	.902
Identifying the consequences of actions and options	3.8	.948

^a $n=409$ with 396 (97%) usable responses and 13 (3%) missing responses.

Table A3: Competitors' ratings of domain and non-domain specific influential factors

Domain and non-domain specific influential factors	Competitors' self-ratings of influential factors ^a	
	<i>M</i>	<i>SD</i>
Non-domain specific extrinsic conditions	3.8	.930
Domain specific extrinsic conditions	4.0	.719
Domain specific intrinsic motivation	4.3	.764
Domain specific extrinsic motivation	4.1	.870

^a *n*=409 with 398 (97%) usable responses and 11 (3%) missing responses.

Table A4: Competitors' ratings of domains of expertise

Domains of expertise	Competitors' self-ratings of influential domains of expertise ^a	
	<i>M</i>	<i>SD</i>
Social (skills)	4.1	.748
Cognitive (intelligence)	4.1	.793
Entrepreneurial (aptitude)	4.2	.749

^a *n*=409 with 399 (98%) usable responses and 10 (2%) missing responses.

Table A5: Competitors' ratings of goal orientations

Goal orientations	Competitors' self-ratings of goal orientations ^a	
	<i>M</i>	<i>SD</i>
Mastery goal orientation	4.4	.789
Performance-approach goal orientation	4.1	.898
Performance-avoidance goal orientation	3.8	1.023

^a *n*=409 with 399 (98%) usable responses and 10 (2%) missing responses.

Table A6: Competitors' ratings of their self-regulatory abilities

Self-regulatory abilities	Competitors' self-ratings of self-regulation ^a	
	<i>M</i>	<i>SD</i>
Motivation – intrinsic	4.0	.766
Motivation – extrinsic	3.9	.954
Volition – perseverance	4.1	.909
Volition – time management	4.0	.915
Self-reflection – effort	3.7	.790
Self-reflection – ability	3.8	.848

^a *n*=409 with 399 (98%) usable responses

3 Survey instruments

MoVE International's research involved two surveys administered during WorldSkills London 2011: one administered to WorldSkills Competitors, and the other administered to Experts. The surveys were available online and in a paper-based version.

3.1 Competitor survey

Information about the data collection method and structure of the survey instruments is provided in sections 3.1 and 3.2 of the main report.

move

Modelling Vocational Excellence

International

Competitors Survey



world **skills**
foundation

First we'd like to know something about you.

This information will help us to analyse the survey, and we will not share it with anyone outside the research team.

First Name: _____ Surname: _____

Email: _____

Age: _____ Gender: Male Female Country: **(Please tick one box from below)**

- | | | | | | |
|--|---|---|--|---|---|
| <input type="checkbox"/> Argentina | <input type="checkbox"/> Croatia | <input type="checkbox"/> India | <input type="checkbox"/> Liechtenstein | <input type="checkbox"/> Saudi Arabia | <input type="checkbox"/> United Arab Emirates |
| <input type="checkbox"/> Australia | <input type="checkbox"/> Denmark | <input type="checkbox"/> Indonesia | <input type="checkbox"/> Macao, China | <input type="checkbox"/> Singapore | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Austria | <input type="checkbox"/> Ecuador | <input type="checkbox"/> Iran | <input type="checkbox"/> Malaysia | <input type="checkbox"/> South Africa | <input type="checkbox"/> United States of America |
| <input type="checkbox"/> Barbados | <input type="checkbox"/> Estonia | <input type="checkbox"/> Ireland | <input type="checkbox"/> Mexico | <input type="checkbox"/> Sweden | <input type="checkbox"/> Venezuela |
| <input type="checkbox"/> Belgium | <input type="checkbox"/> Finland | <input type="checkbox"/> South Tyrol, Italy | <input type="checkbox"/> Morocco | <input type="checkbox"/> Spain | <input type="checkbox"/> Vietnam |
| <input type="checkbox"/> Brazil | <input type="checkbox"/> France | <input type="checkbox"/> Jamaica | <input type="checkbox"/> Namibia | <input type="checkbox"/> Switzerland | |
| <input type="checkbox"/> Brunei Darussalam | <input type="checkbox"/> Germany | <input type="checkbox"/> Japan | <input type="checkbox"/> New Zealand | <input type="checkbox"/> Chinese Taipei | |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Hong Kong, China | <input type="checkbox"/> Korea | <input type="checkbox"/> Oman | <input type="checkbox"/> Thailand | |
| <input type="checkbox"/> China | <input type="checkbox"/> Hungary | <input type="checkbox"/> Latvia | <input type="checkbox"/> Paraguay | <input type="checkbox"/> Tunisia | |
| <input type="checkbox"/> Colombia | <input type="checkbox"/> Iceland | <input type="checkbox"/> Principality of | <input type="checkbox"/> Portugal | <input type="checkbox"/> Turkey | |

Think back to when you were in school and, rate your overall success in school subjects (Mathematics, Science, History) before you started vocational studies. **(Tick one answer only)**

- Poor Satisfactory Average Good Excellent

Rate your overall success in vocational studies: **(Tick one answer only)**

- Poor Satisfactory Average Good Excellent

Congratulations! You've made it to WorldSkills London!

Please use the space below to write what you would tell your friends about the experience of getting ready for the competition.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

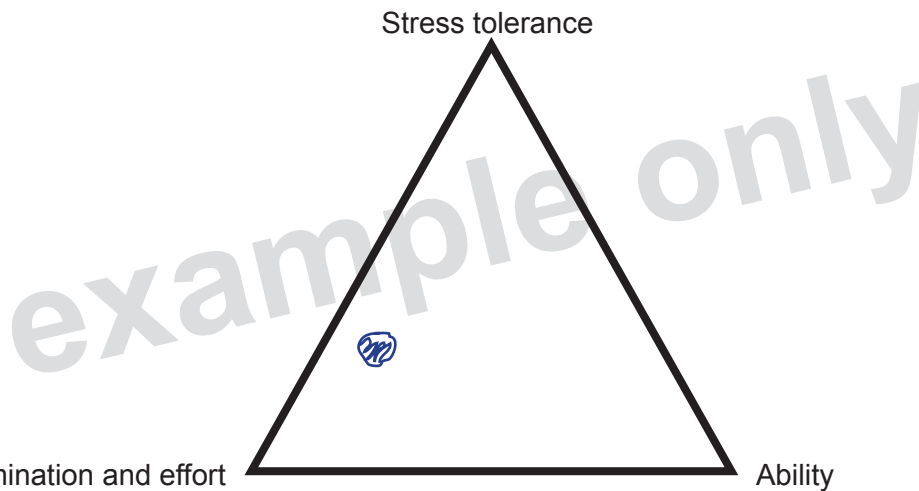
What title would you give to the experience you have just written about?

.....

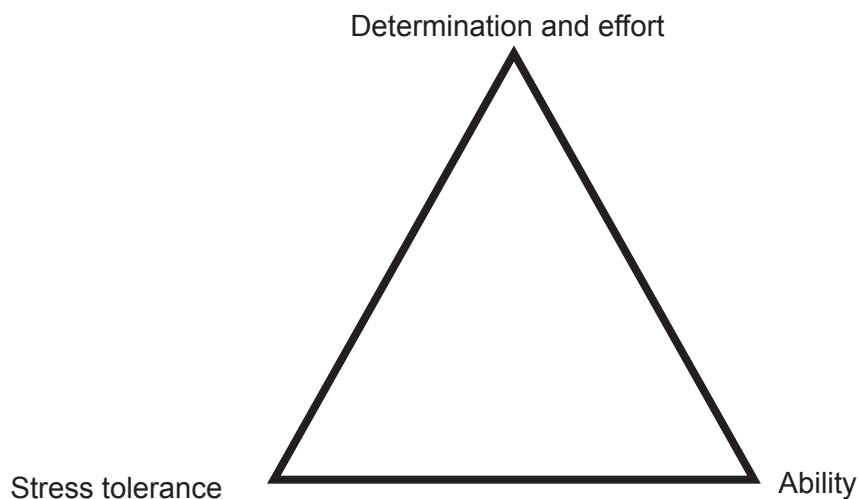
Please look at the triangles following.

- Draw a dot to the place inside the triangle which best applies to the experience you have just written about.
- If any triangle is not relevant to your experience, just tick “Does not apply”.
- There are no right or wrong answers.

What mattered in this experience was...

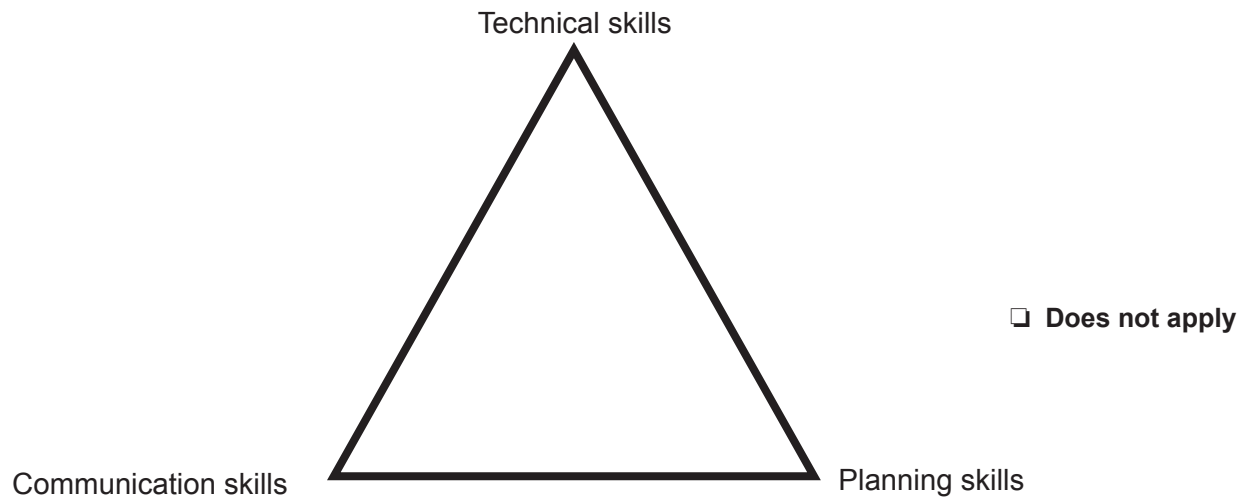


What mattered in this experience was...

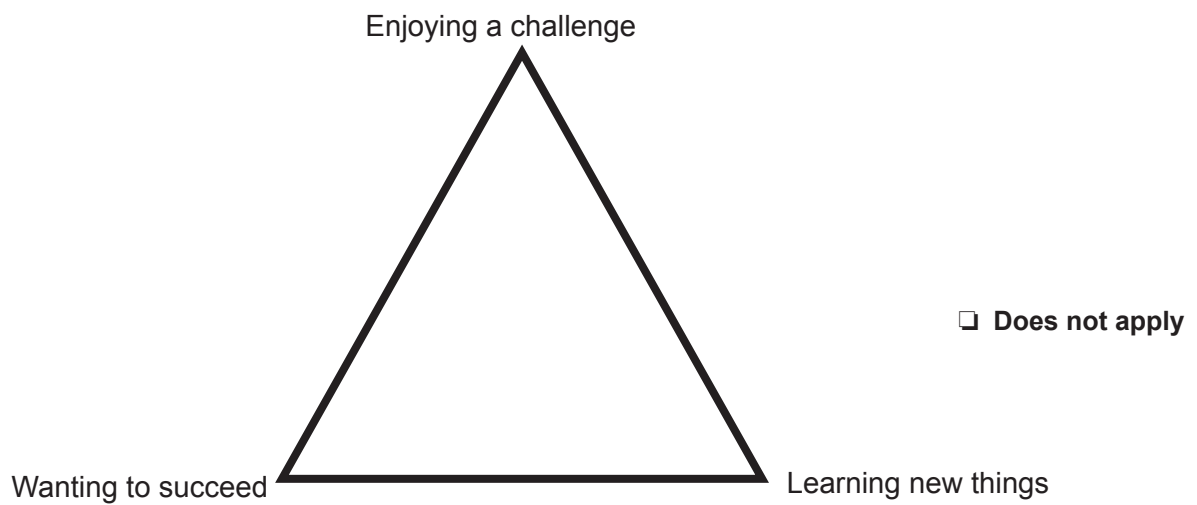


Does not apply

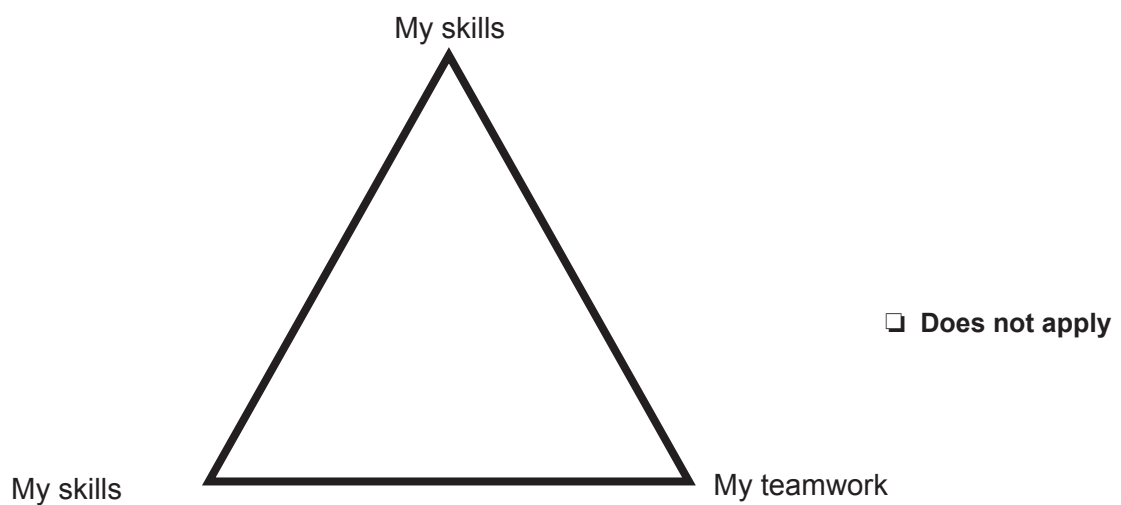
My experience involved..



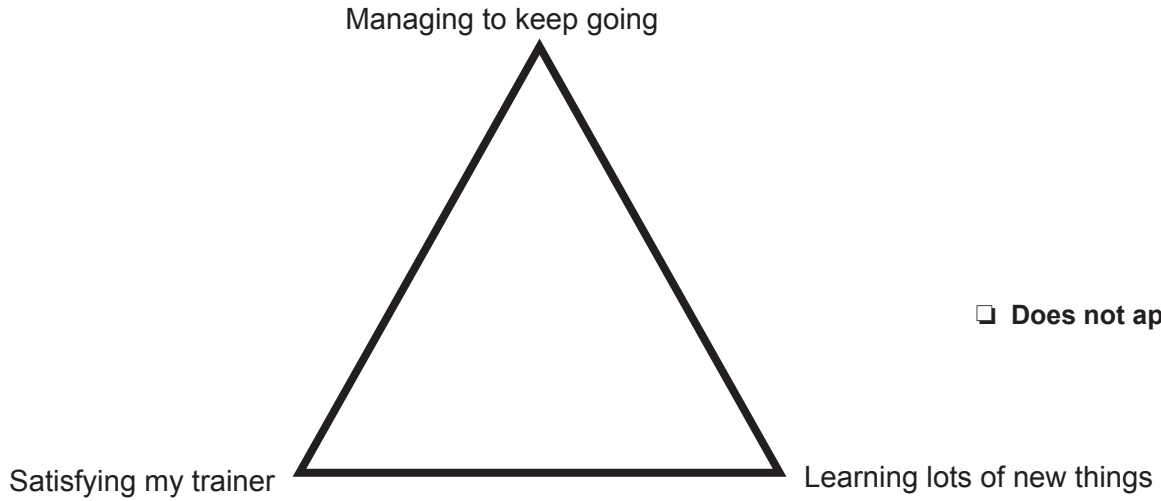
In this experience I was motivated by



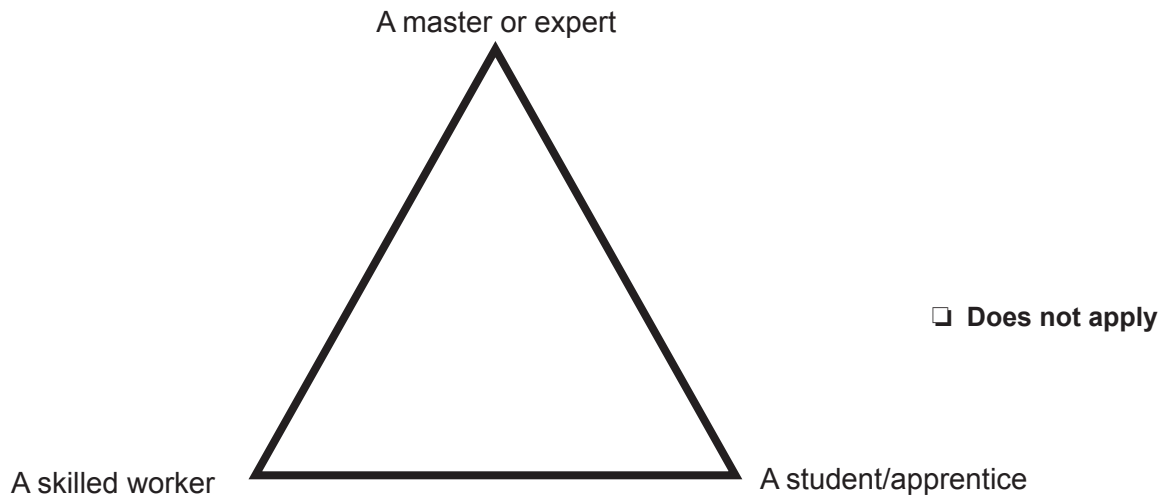
The following things changed for me during the experience I wrote about:



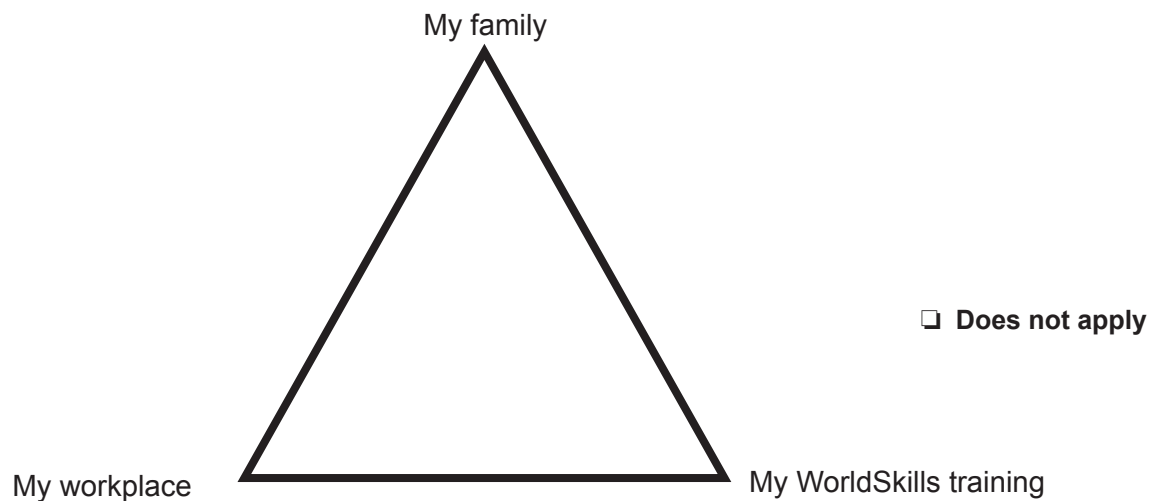
What was sometimes difficult in my experience was



As a result of this experience I see myself as



The really important thing about this experience was



Think back over your WorldSkills experience and say whether you agree with the following statements by ticking on a number from 1 – 5. (1= **totally disagree** and 5 = **totally agree**.)

Since I have been involved in WorldSkills competitions:

Becoming a master in my trade/profession has become very important for me

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I think more seriously about where my career will lead

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I feel like I have become a professional in my trade/profession

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I have become more aware of the challenges of a career in my chosen trade/profession

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I am confident that I help my peers solve a work problem

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I am ready to accept a broad range of responsibilities at work

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I like to be engaged in new technical challenges at work.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I am able to plan what I need to learn to develop my career.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I am able to learn new things by myself

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I am asked more and more often by my boss and others at work to help solve work problems

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

I am asked more and more often more by others for technical advice

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

When you think about your World Skills journey, which of the following is MOST important to you. **Please tick ONE only**

- Seeing how my skills compare with national and international standards
- Getting feedback on how well I am doing
- Knowing where I stand in relation to my peers
- Being stretched to learn more skills
- Building friendships and networks

How important will WorldSkills be to the next stage of your career? **Please tick ONE only**

- Essential
- Significant
- Of minimal importance
- Of no importance
- Do not know

How would you rate your overall involvement in WorldSkills? **Please tick ONE only**

- Much better than I expected it would be
- A little better than I expected it would be
- As I expected
- A little disappointing
- Very disappointing

Thinking back over your training and work career, which of the following have strengthened your sense of belonging to your trade/profession? **(Tick as many as relevant to you):**

- My trade/professional training institution
- My workplace
- Being involved in WorldSkills training and competitions
- Knowing that there are opportunities for promotion in my chosen trade/profession
- My enjoyment of the work

What attracted you to your chosen skill? **(Tick as many as relevant to you):**

- Producing useful things
- Being of service to others
- I just love my skill area
- Good job and career prospects
- I enjoy a job with a variety of tasks
- I enjoy a job where there is a lot to learn
- Being able to get a job overseas
- Being able to work with new technologies

Think about how you see yourself and how others see you. Then look at the sentences below. Complete the sentences by drawing a ball at any point along the bar. There is no right or wrong answer.

I see myself as ...

A student/ apprentice

A member of my trade/profession

Does not apply

I see myself as ...

A student/ apprentice

A member of my trade/profession

Does not apply

My family see me as ...

A student/ apprentice

A member of my trade/profession

Does not apply

My trainer sees me as ...

A student/ apprentice

A member of my trade/profession

Does not apply

My employer sees me as ...

A student/ apprentice

A member of my trade/profession

Does not apply

Now we need to collect some information about you and the WorldSkills competitions you have competed in.

Circle your appropriate skill category for the WorldSkills London 2011:

01	Polymechanics/Automation
02	Information Network Cabling
03	Manufacturing Team Challenge
04	Mechatronics
05	Mechanical Engineering Design - CAD
06	CNC Turning
07	CNC Milling
08	Mould Making
09	IT Software Solutions for Business
10	Welding
11	Offset Printing
12	Wall and Floor Tiling
13	Autobody Repair
14	Aircraft Maintenance
15	Plumbing and Heating
16	Electronics
17	Web Design
18	Electrical Installations
19	Industrial Control
20	Bricklaying
21	Plastering and Drywall Systems
22	Painting and Decorating
23	Mobile Robotics
24	Cabinetmaking
25	Joinery
26	Carpentry
27	Jewellery
28	Floristry
29	Ladies'/Men's Hairdressing
30	Beauty Therapy
31	Fashion Technology
32	Confectioner/Pastry Cook
33	Automobile Technology
34	Cooking
35	Restaurant Service
36	Car Painting
37	Landscape Gardening
38	Refrigeration and Air Conditioning
39	IT Network Systems Administration
40	Graphic Design Technology
41	Caring
42	Construction Metal Work
43	Sheet Metal Technology
D1	Visual Merchandising
D2	Creative Modelling
HM1	Stonemasonry

Tick the number of **national skills competitions** you have participated in (including also national competitions in other countries such as Finland, UK, etc.)

1 2 3 4 5 6 7 8 9 10 or more

Tick the number of **international skills competitions** you have participated in before the WorldSkills London 2011 (such as EuroSkills):

1 2 3 4 5 6 7 8 9 10 or more

List two of the most important skills competitions that you have participated before the WorldSkills London 2011:

First competition Year: _____

Name of competition: _____

Competition type:

Local; regional; national; international

Skill area: _____

Rank: 1 = First

2 = Second

3 = Third

4 = Fourth

5 = Fifth

6 = Sixth

7 = Seventh

8 = Positions from 8 to 11

9 = Positions from 12. ->

Second competition Year: _____

Name of competition: _____

Competition type:

Local; regional; national; international

Skill area: _____

Rank: 1 = First

2 = Second

3 = Third

4 = Fourth

5 = Fifth

6 = Sixth

7 = Seventh

8 = Positions from 8 to 11

9 = Positions from 12. ->

You're almost there!

Not much longer to go and you will be finished!!

This next section is all about you and what you think about yourself.

Read the statements below and then say whether you agree with them by circling a number from 1 – 5.

(1= totally disagree and 5 = totally agree)

	totally disagree					totally agree		Does not apply
	1	2	3	4	5			<input type="checkbox"/>
Writing is a natural way for me to express myself.	1	2	3	4	5			<input type="checkbox"/>
At school, I was good at mathematics, physics or chemistry.	1	2	3	4	5			<input type="checkbox"/>
It is easy for me to conceptualize complex and multidimensional patterns (e.g. after you have been taught something, you are able to work out an easy to follow way for the next time you need to do the task).	1	2	3	4	5			<input type="checkbox"/>
I can easily do something practical with my hands (e.g. knitting and woodwork).	1	2	3	4	5			<input type="checkbox"/>
When listening to music, I am able to pick out individual instruments and recognize melodies.	1	2	3	4	5			<input type="checkbox"/>
I connect easily with other people.	1	2	3	4	5			<input type="checkbox"/>
I am able to analyze my own motives and ways of action.	1	2	3	4	5			<input type="checkbox"/>
In my busy everyday life I find it important to take time to think and reflect.	1	2	3	4	5			<input type="checkbox"/>
Protecting the environment is important to me.	1	2	3	4	5			<input type="checkbox"/>

	totally disagree					totally agree		Does not apply
	1	2	3	4	5			<input type="checkbox"/>
I notice if someone working with me is offended by me.	1	2	3	4	5			<input type="checkbox"/>
I feel responsible for other people's well-being.	1	2	3	4	5			<input type="checkbox"/>
I get along with people who think in different ways than me.	1	2	3	4	5			<input type="checkbox"/>
I take other peoples' viewpoints into account before making important decisions in my life.	1	2	3	4	5			<input type="checkbox"/>
I think about the consequences of my actions when making ethical decisions.	1	2	3	4	5			<input type="checkbox"/>
I notice when I am facing an ethical issue at school, WorldSkills training or work.	1	2	3	4	5			<input type="checkbox"/>



**How important are the following issues in your decision to take part in WorldSkills training?
Circle a number from 1 – 5 (1 = not at all important 5 = very important)**

	totally disagree					totally agree		Does not apply
	1	2	3	4	5		<input type="checkbox"/>	
An encouraging home atmosphere.	1	2	3	4	5		<input type="checkbox"/>	
Influence of a particular friend.	1	2	3	4	5		<input type="checkbox"/>	
Influence of a teacher or trainer.	1	2	3	4	5		<input type="checkbox"/>	
Seeing impressive demonstrations of skill (e.g., furniture design, hair-styling, cabinet making).	1	2	3	4	5		<input type="checkbox"/>	
My own interest in the field.	1	2	3	4	5		<input type="checkbox"/>	
My desire to learn new things.	1	2	3	4	5		<input type="checkbox"/>	
Interest in competing with others in vocational skills.	1	2	3	4	5		<input type="checkbox"/>	
My desire to succeed in vocational competitions.	1	2	3	4	5		<input type="checkbox"/>	
Employment opportunities in the future.	1	2	3	4	5		<input type="checkbox"/>	
Team spirit amongst my own country's WorldSkills team.	1	2	3	4	5		<input type="checkbox"/>	
The company of people sharing similar interests.	1	2	3	4	5		<input type="checkbox"/>	

I am able to ... (Circle a number, which best describes you.

1 = totally disagree 5 = totally agree)

	totally disagree					totally agree		Does not apply
	1	2	3	4	5		<input type="checkbox"/>	
Do team work.	1	2	3	4	5		<input type="checkbox"/>	
Manage conflict situations.	1	2	3	4	5		<input type="checkbox"/>	
Improve existing work methods.	1	2	3	4	5		<input type="checkbox"/>	
Create new work methods.	1	2	3	4	5		<input type="checkbox"/>	
Take responsibility and controlled risks.	1	2	3	4	5		<input type="checkbox"/>	
See problematic work tasks as positive challenges.	1	2	3	4	5		<input type="checkbox"/>	

I am ... (Circle a number, which best describes you.

1 = totally disagree 5 = totally agree)

	totally disagree					totally agree		Does not apply
	1	2	3	4	5		<input type="checkbox"/>	
Stress tolerant.	1	2	3	4	5		<input type="checkbox"/>	
Focused.	1	2	3	4	5		<input type="checkbox"/>	
Handy (practical).	1	2	3	4	5		<input type="checkbox"/>	
Spatial (able to imagine or visualize things in three dimensions).	1	2	3	4	5		<input type="checkbox"/>	
A problem solver.	1	2	3	4	5		<input type="checkbox"/>	
Ambitious.	1	2	3	4	5		<input type="checkbox"/>	
Competitive.	1	2	3	4	5		<input type="checkbox"/>	
Interested.	1	2	3	4	5		<input type="checkbox"/>	
Motivated.	1	2	3	4	5		<input type="checkbox"/>	
Social.	1	2	3	4	5		<input type="checkbox"/>	

Think about your past WorldSkills training when considering the following statements .

(Circle a number, which best describes you. 1 = totally disagree 5 = totally agree)

	totally disagree					totally agree	Does not apply
I want to learn as many new things as I can.	1	2	3	4	5		<input type="checkbox"/>
I want to be as good as possible in my own skill area.	1	2	3	4	5		<input type="checkbox"/>
I would like others (family, friends, teachers, trainers, trainees) to respect my craftsmanship.	1	2	3	4	5		<input type="checkbox"/>
My aim is to show others that I am in the top level in my skill area.	1	2	3	4	5		<input type="checkbox"/>
I don't want to embarrass myself in front of the others.	1	2	3	4	5		<input type="checkbox"/>
It is important to me that my teacher/trainer thinks I am a smart person.	1	2	3	4	5		<input type="checkbox"/>

Think about your past WorldSkills training when considering the following statements.

(Circle one number in each row, where 1 = totally disagree 5 = totally agree)

	totally disagree					totally agree	Does not apply
I prefer to try challenging work methods from which I can learn something new.	1	2	3	4	5		<input type="checkbox"/>
I am able to learn even the most difficult work methods if I practise hard enough.	1	2	3	4	5		<input type="checkbox"/>
I expect to do extremely well in my WorldSkills 2011 Competition.	1	2	3	4	5		<input type="checkbox"/>
I am confident that I will master even the most difficult work methods in my training.	1	2	3	4	5		<input type="checkbox"/>
I want to be number one in my skill area in WorldSkills 2011 Competition.	1	2	3	4	5		<input type="checkbox"/>
While I was doing a routine task in WorldSkills training, I was also thinking about the really challenging tasks to come.	1	2	3	4	5		<input type="checkbox"/>
I find it most rewarding when I can research a new work method as thoroughly as possible.	1	2	3	4	5		<input type="checkbox"/>
If I failed in an extremely demanding work task during WorldSkills training, it was mainly because I was not trying hard enough.	1	2	3	4	5		<input type="checkbox"/>
It is important for me to do well in WorldSkills Competition and show others (family, friends, teachers, trainers, trainees) what I am capable of.	1	2	3	4	5		<input type="checkbox"/>
I set clear goals for my learning.	1	2	3	4	5		<input type="checkbox"/>
I worked hard in WorldSkills training, even if I did not like all the exercises.	1	2	3	4	5		<input type="checkbox"/>

Thank you for completing the survey.

3.2 Expert survey

Information about the data collection method and structure of the survey instruments is provided in sections 3.1 and 3.2 of the main report.

move

Modelling Vocational Excellence

International

Experts Survey



world **skills**
foundation



Modelling Vocational Excellence

International

This Survey is part of a WorldSkills member research project called Modelling Vocational Excellence (MoVE).
The project is sponsored by WorldSkills Foundation and WorldSkills International.

Why should you fill in this Survey?

By sharing your experiences as an international Expert we will know more about:

- the important role played by Experts within WorldSkills;
- how young people experience the journey towards vocational excellence;
- the characteristics of vocational excellence; and
- how WorldSkills contributes to lifelong learning.

Wouldn't it be good if we knew more?

How to fill in this Survey?

It's a little bit different from the usual Survey. We start by asking about you; you'll write a short narrative or story about your experiences and then answer some questions about it. Then we will ask you to think about the Competitors you have known and answer specific questions about them.

This is not a test, there are no right or wrong answers!

Concerned about privacy?

Your responses are confidential; only the MoVE Research Team will have access to the raw survey data. Your personal information will not be revealed or published in any MoVE Research reports. We ask for your name so we can link Survey data.

Your Participation

The Move Survey is voluntary and we hope you will share your experiences with us. The Survey takes 30 minutes at most to fill out.

Thanks for your time and sharing your expertise!!

The MoVE Research Team - University of Tampere, Finland; SKOPE Oxford University, United Kingdom; and RMIT University, Australia

Want to know more?

Petri Nokelainen petri.nokelainen@uta.fi +358 40 557 4994



First we'd like to know something about you.

This information will help us to analyse the survey, and we will not share it with anyone outside the research team.

First Name: _____ Surname: _____

Email: _____

Age: _____ Gender: Male Female Country: **(Please tick one box from below)**

- | | | | | | |
|--|---|---|--|---|---|
| <input type="checkbox"/> Argentina | <input type="checkbox"/> Croatia | <input type="checkbox"/> India | <input type="checkbox"/> Principality of Liechtenstein | <input type="checkbox"/> Portugal | <input type="checkbox"/> United Arab Emirates |
| <input type="checkbox"/> Australia | <input type="checkbox"/> Denmark | <input type="checkbox"/> Indonesia | <input type="checkbox"/> Macao, China | <input type="checkbox"/> Saudi Arabia | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Austria | <input type="checkbox"/> Ecuador | <input type="checkbox"/> Iran | <input type="checkbox"/> Malaysia | <input type="checkbox"/> Singapore | <input type="checkbox"/> South Africa |
| <input type="checkbox"/> Barbados | <input type="checkbox"/> Estonia | <input type="checkbox"/> Ireland | <input type="checkbox"/> Mexico | <input type="checkbox"/> Sweden | <input type="checkbox"/> United States of America |
| <input type="checkbox"/> Belgium | <input type="checkbox"/> Finland | <input type="checkbox"/> South Tyrol, Italy | <input type="checkbox"/> Morocco | <input type="checkbox"/> Spain | <input type="checkbox"/> Venezuela |
| <input type="checkbox"/> Brazil | <input type="checkbox"/> France | <input type="checkbox"/> Jamaica | <input type="checkbox"/> Namibia | <input type="checkbox"/> Switzerland | <input type="checkbox"/> Vietnam |
| <input type="checkbox"/> Brunei Darussalam | <input type="checkbox"/> Germany | <input type="checkbox"/> Japan | <input type="checkbox"/> New Zealand | <input type="checkbox"/> Chinese Taipei | |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Hong Kong, China | <input type="checkbox"/> Korea | <input type="checkbox"/> Oman | <input type="checkbox"/> Thailand | |
| <input type="checkbox"/> China | <input type="checkbox"/> Hungary | <input type="checkbox"/> Latvia | <input type="checkbox"/> Paraguay | <input type="checkbox"/> Tunisia | |
| <input type="checkbox"/> Colombia | <input type="checkbox"/> Iceland | | <input type="checkbox"/> Philippines | <input type="checkbox"/> Turkey | |

You've been asked to talk to a group of members of your trade/profession about what it means to be involved in WorldSkills as a skills Expert. What would you tell them based on your own WorldSkills experience?

Please use the space below to write what you would tell them

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

What title would you give to the experience you have just written about?

.....

Which of the following statements reflect what your experience was about?
(Select as many of the statements as applicable)

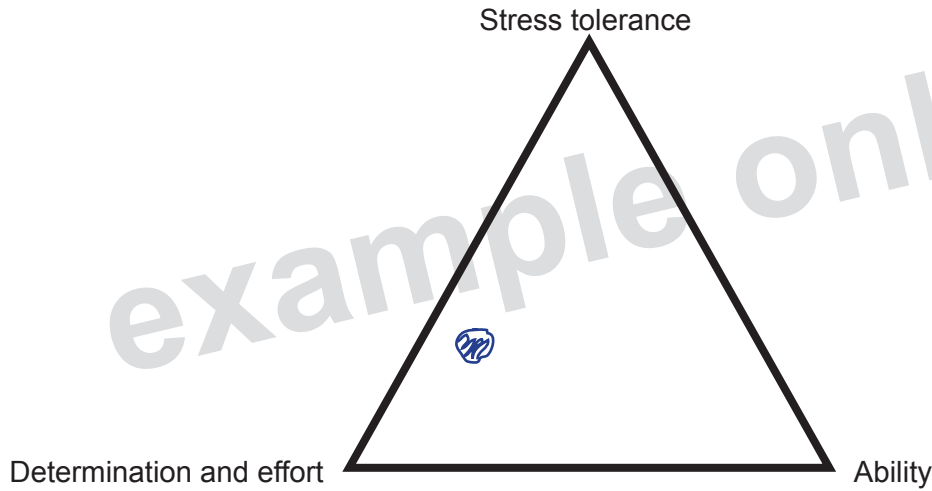
My experience was about:

- Networking with colleagues from other WorldSkills teams
- Keeping up to date with international developments in my trade/profession
- Seeing new possibilities in my career
- Seeing young people perform at their best
- Benchmarking national skill levels against international standards
- Developing my skills as an expert
- Other

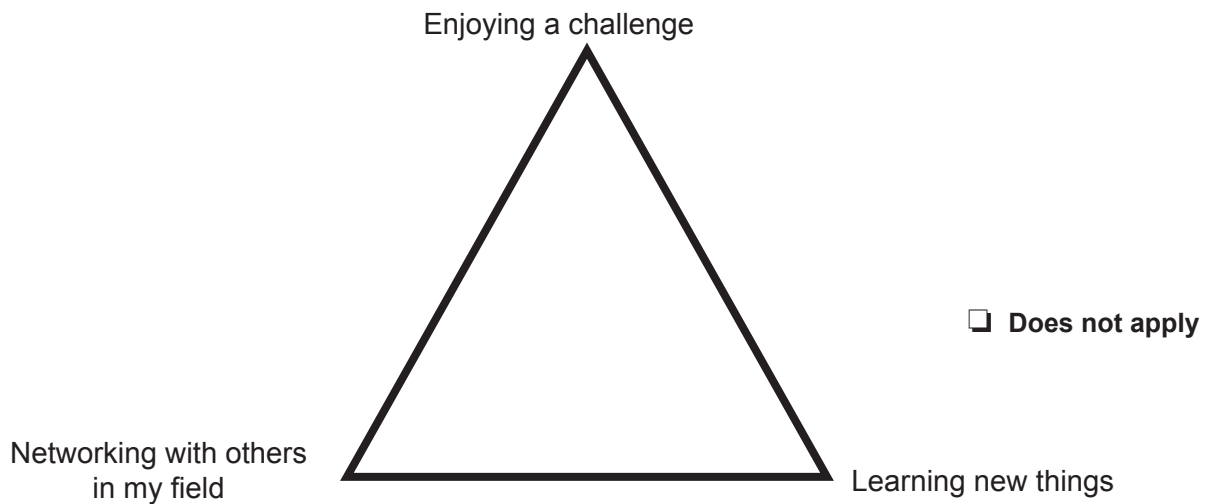
Please look at the triangles following.

- Draw a dot to the place inside the triangle which best applies to the experience you have just written about.
- If any triangle is not relevant to your experience, just tick “Does not apply”.
- There are no right or wrong answers.

What mattered in this experience was...



In this experience I was motivated by...



The really important thing about this experience was...



Think about your involvement with WorldSkills both in your own country and internationally.
Say whether you agree with the following statements TICKING a number from 1 – 5.

By being involved in WorldSkills:

I am better able to plan my professional learning.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have developed high level technical skills.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have developed high level planning skills.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have developed leadership skills.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have progressed in my career.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Since becoming involved in WorldSkills:

I have become more connected to my trade/profession.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have developed strong professional networks.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have developed strong friendships.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

My commitment to my trade/profession has increased.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

My commitment to the WorldSkills vision has increased.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I feel more confident about working in my trade/profession.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I am able to benchmark my skills against national and international standards

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I have become more determined to keep my professional knowledge and skills up to date

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

I feel stretched to learn new skills

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Sometimes my involvement in WorldSkills is made difficult by:

Family commitments

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Work/business commitments

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Sometimes my involvement in WorldSkills is made difficult by:

The complexity of the tasks and duties of a WorldSkills expert

(totally disagree) 1 2 3 4 5 (totally agree)

Other, please enter it here:

How important will WorldSkills be to the next stage of your career? (Tick one option only)

- Essential
- Significant
- Of minimal importance
- Of no importance
- Do not know

How would you rate your overall involvement in WorldSkills?(Tick one option only)

- Much better than I expected it would be
- A little better than I expected it would be
- As I expected
- A little disappointing
- Very disappointing

Thinking back over your training and work career, what has influenced your sense of belonging to your chosen trade/profession? (TICK as many options as apply to you)

- Being a member of your trade/professional association
- The culture and standards of your workplace
- Being involved in WorldSkills
- Knowing that there are opportunities for promotion in my chosen trade/profession
- My enjoyment of the work

What attracted you to your chosen skill? (TICK as many options as apply to you):

- Producing useful things
- Being of service to others
- A passionate interest in the skill area
- Good job and career prospects
- Enjoying a job with a variety of tasks
- Enjoying a job where there is a lot to learn
- Being able to get a job overseas
- Being able to work with new technologies

Please say whether you agree with the following statements about the WorldSkills Competitors in your Team by TICKING a number from 1 – 5.

1= totally disagree and 5 = totally agree. Does not apply = not applicable.

Overall the members of my WorldSkills Competitor Team:

are developing as professionals in their field.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

are able to plan their learning to develop their career.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

have developed a higher level of confidence.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

are regarded as reliable technical problem solvers.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

report that they are able to do their work tasks faster than an ordinary workforce.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Thinking about the international WorldSkills Competitors you know, complete the sentence below by **DRAWING A BALL** at any point along the bar.

I see myself as ...



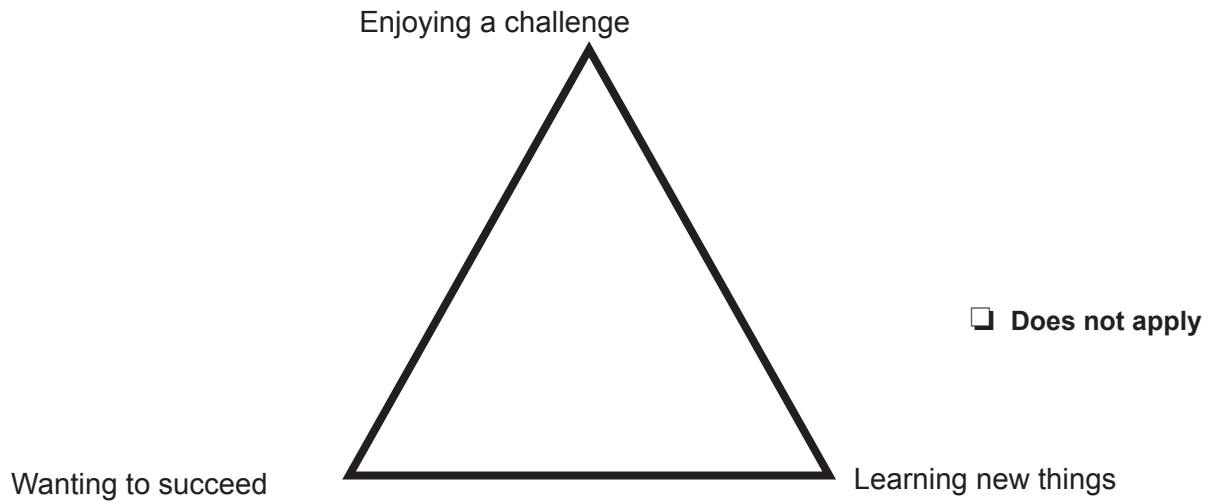
student/ apprentice Members of their trade/profession

I see the international WorldSkills competitors I know as ...

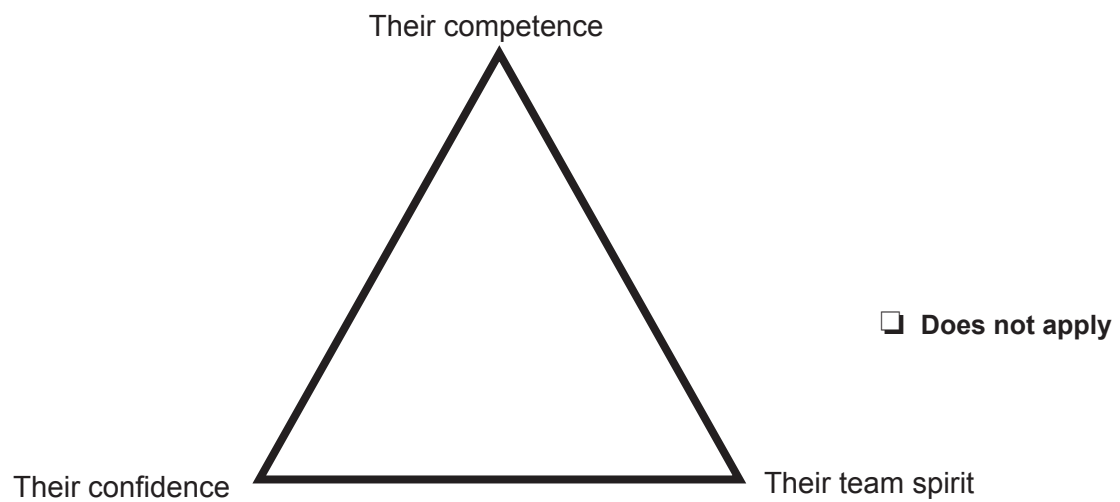


Student/ apprentice Members of their trade/profession

The WorldSkills competitors I know are motivated by...



The following things change when young people participate in WorldSkills competitions...



Thanks for completing the first part of the survey

Now we need to collect some information about you and the WorldSkills competitions you have competed in.

Circle your appropriate skill category for the WorldSkills London 2011:

01	Polymechnics/Automation
02	Information Network Cabling
03	Manufacturing Team Challenge
04	Mechatronics
05	Mechanical Engineering Design - CAD
06	CNC Turning
07	CNC Milling
08	Mould Making
09	IT Software Solutions for Business
10	Welding
11	Offset Printing
12	Wall and Floor Tiling
13	Autobody Repair
14	Aircraft Maintenance
15	Plumbing and Heating
16	Electronics
17	Web Design
18	Electrical Installations
19	Industrial Control
20	Bricklaying
21	Plastering and Drywall Systems
22	Painting and Decorating
23	Mobile Robotics
24	Cabinetmaking
25	Joinery
26	Carpentry
27	Jewellery
28	Floristry
29	Ladies'/Men's Hairdressing
30	Beauty Therapy
31	Fashion Technology
32	Confectioner/Pastry Cook
33	Automobile Technology
34	Cooking
35	Restaurant Service
36	Car Painting
37	Landscape Gardening
38	Refrigeration and Air Conditioning
39	IT Network Systems Administration
40	Graphic Design Technology
41	Caring
42	Construction Metal Work
43	Sheet Metal Technology
D1	Visual Merchandising
D2	Creative Modelling
HM1	Stonemasonry

Indicate the number of **national skills competitions** you have participated in as an **Expert** (including national level competitions in other countries):

0 1 2 3 4 5 6 7
 8 9 10 or more

Indicate the number of **national skills competitions** you have participated in as a **Expert** (including national level competitions in other countries):

0 1 2 3 4 5 6 7
 8 9 10 or more

Indicate the number of **international skills competitions** you have participated in as a **Expert** (including national level competitions in other countries):

0 1 2 3 4 5 6 7
 8 9 10 or more

Indicate the number of **international skills competitions** you have participated in as a **Expert** (including national level competitions in other countries):

0 1 2 3 4 5 6 7
 8 9 10 or more



List two of the most important skills competitions that you have participated in before the WorldSkills London 2011: (Skip answer if not relevant)

First competition Year: _____

Name of competition: _____

Competition type:

local; regional; national; international

Skill area: _____

Rank: 1 = First

2 = Second

3 = Third

4 = Fourth

5 = Fifth

6 = Sixth

7 = Seventh

8 = Positions from 8 to 11

9 = Positions from 12. ->

Second competition Year: _____

Name of competition: _____

Competition type:

local; regional; national; international

Skill area: _____

Rank: 1 = First

2 = Second

3 = Third

4 = Fourth

5 = Fifth

6 = Sixth

7 = Seventh

8 = Positions from 8 to 11

9 = Positions from 12. ->

Think about WorldSkills Competitors and consider how important the following issues are in their decision to take part in WorldSkills training. TICK a number from 1 – 5.

(1= totally disagree and 5 = totally agree)

An encouraging home atmosphere.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Influence of a particular friend.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Influence of a teacher or trainer.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Seeing impressive demonstrations of skill (e.g., furniture design, hairstyling, cabinet making).

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Interest in the field.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Desire to learn new things.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Interest in competing with others in vocational skills.

(totally disagree) 1 2 3 4 5 (totally agree)

Does not apply

Desire to succeed in vocational competitions.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Employment opportunities in the future.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Team spirit in their WorldSkills team.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

The company of people sharing similar interests.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

A person competing in WorldSkills should be able to ...

(TICK a number in each row, where 1 = not at all important 5 = very important)

Bounce back from failures or injustices.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

Work in a team.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

Manage conflict situations.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

Apply new work methods when taught them.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

Improve existing work methods.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

Create new work methods.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

Take responsibility and controlled risks.

(not at all important) 1 2 3 4 5 **(very important)**
 Does not apply

See problematic work tasks as positive challenges.

(not at all important) 1 2 3 4 5 (very important)
 Does not apply

Identify work tasks that cannot be successfully completed.

(not at all important) 1 2 3 4 5 (very important)
 Does not apply

A person competing in WorldSkills should be.....

TICK a number from 1 – 5. 1= totally disagree and 5 = totally agree.

Stress tolerant.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Relaxed.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Calm.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Accurate.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Persistent.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Focused.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Determined.

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Handy (practical).

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

Spatial (able to visualize things in 3D).

(totally disagree) 1 2 3 4 5 (totally agree)
 Does not apply

A problem solver.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Quick learner.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Ambitious.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Competitive.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Interested.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Motivated.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Social.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Methodical.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Efficient (time management skills).

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Think about WorldSkills Competitors you know and consider how important the following issues are in their decision to take part in WorldSkills training.

TICK a number in each row where 1 = totally disagree 5 = totally agree)

To learn as many new things as they can.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

To be as good as possible in their own skill area.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

To have their craftsmanship respected by others (family, friends, teachers, trainers, trainees).

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

To show others that they are in the top level in their skill area.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

To avoid embarrassment in front of others.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

To have their teacher/trainer think that they are smart people.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Think about WorldSkills Competitors you know and consider the following statements

Tick a number in each row, where 1 = totally disagree 5 = totally agree

They prefer to try challenging work methods from which they can learn something new.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They think they are able to learn even the most difficult work methods if they practise hard enough.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They expect to do extremely well in WorldSkills training.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They are confident that they will master even the most difficult work methods in their training.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They aim to be number one in their skill category in WorldSkills competition.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They seem to be thinking about the challenging tasks ahead whilst doing routine tasks within a WorldSkills competition.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They find it most rewarding when they can research a new work method as thoroughly as possible.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

If they fail in an extremely demanding work task during WorldSkills training or competition, it is mainly because they are not trying hard enough.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

It is important for them to do well in WorldSkills training and competition to show others (family, friends, teachers, trainers, trainees) what they are capable of.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They set clear goals for learning.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

They work hard even if they do not like all the exercises relating to their WorldSkills training.

(totally disagree) 1 2 3 4 5 **(totally agree)**
 Does not apply

Thank you...

We really appreciate you sharing your experiences. You, and others, are helping us to understand how WorldSkills impacts on skills and excellence.

