

# What contributes to vocational excellence?

## Research Brief

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### The National Apprenticeship Service

The National Apprenticeship Service (NAS) champions apprenticeships throughout England. It works to develop partnerships with industry and education organisations to identify, develop and train, and support vocational talent through skills competitions. WorldSkills UK, housed within NAS, manages the local, regional and national competitions and selects and trains competitors for Team UK in preparation for the World Skills Competitions.

### DuVE

NAS commissioned a suite of projects, carried out by SKOPE, under the banner *Developing and Understanding Vocational Excellence (DUVE)*. The purpose of these projects is to better understand how participation in the WSC, through WorldSkills UK, contributes to NAS's aim of promoting skills development and improving the skills base in the UK. This research brief describes work documented in *Understanding and Developing Vocational Excellence: A study of the WorldSkills UK Squad 2013*, a report to the National Apprenticeship Service. Further information on the DUVE projects can be found at: <http://vocationalexcellence.education.ox.ac.uk>

### Developing vocational excellence

International skills competitions started in post-WWII Europe. In 1950, the first *Skill Olympics* were held between Portugal and Spain. In 1953, five other European countries, including the UK, joined this competition. It has evolved into a global contest known as the World Skills Competition (WSC). Currently, the WSC involves young contestants from 53 countries, who gather every two years to compete publicly and demonstrate excellence in 46 skill areas.

The WSC is organised by WorldSkills International (WSI) and is recognised by many as the pinnacle of excellence in vocational education and training (VET). These competitions provide both a benchmark for high-performance and an objective way to assess vocational excellence. Young people, mostly aged 18-22, can participate. They undergo a selection process that begins with numerous regional and national skill competitions held throughout the UK. Some candidates are recommended by third parties (e.g. Sector Skills Councils). A shortlist of potential squad members is identified, and these candidates participate in an induction programme where three to four competition events may be held over a few months. Advancement from the shortlist to the squad involves two weeks training, a 'pressure test' on a project (often from a previous WSC)

### Key findings

Motivational factors, an aspect of intrinsic characteristics, were more important for medal winners than perceptions of natural abilities or external conditions. In particular, WSC Leipzig 2013 medal winners were motivated by a strong interest in their field, a drive to compete and confidence in their own ability. Motivation also stood out as important for developing vocational excellence in a prior study on WSC London 2011 competitors.

benchmarked to the WSI standards, followed by a training programme of approximately six months (including further competitions) after which Team UK is selected. Team selection is a four-day competition event, *The Skills Show*, which replicates as much as possible the conditions of the WSC. After team selection the competitors continue with intensive skill development and training to build their skills to world-class standard and prepare for the WSC.



## Approach and methods

The research approach is adapted from earlier studies of WorldSkills competitors in Finland, which relied on a multidimensional model of vocational excellence comprising three main explanatory factors (see Figure 1). Natural abilities include intellectual, affective abilities and body-kinesthetic abilities (expressed as Multiple Intelligences domains). Intrinsic characteristics include volition (perseverance, time management), motivation (intrinsic and extrinsic factors) and self-reflection (attributions of performance to effort or ability). Extrinsic conditions include the influence of home and family, as well as trainers and teachers, work experiences and peers. These are measured through self-report surveys.

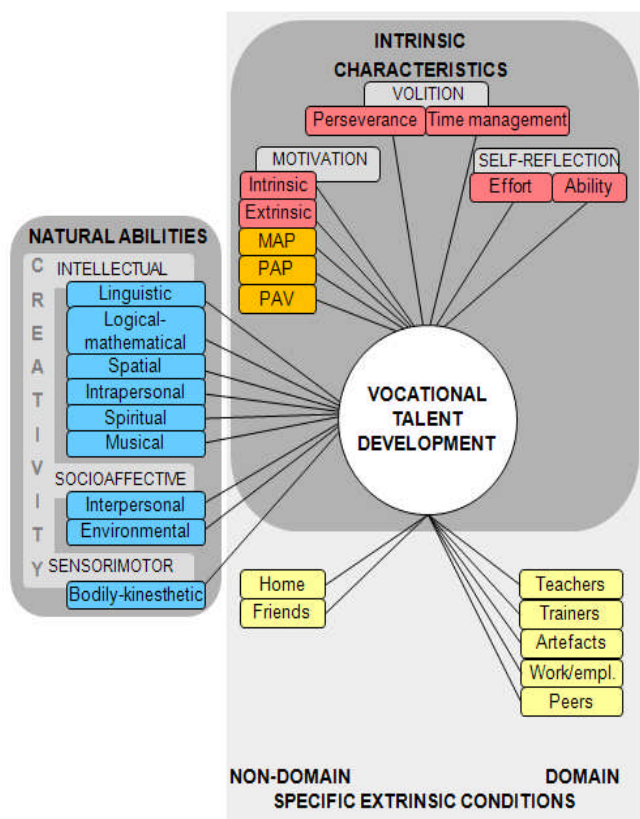


Figure 1: Developmental Model of Vocational Talent

This study was carried out in the run up to WorldSkills Leipzig 2013 and includes survey data from 112 young people, selected by WorldSkills UK to further train and compete for places on Team UK. Using statistical methods suited to small sample sizes, the research compares survey results for three groups: males versus females; Team UK members versus others; and medal winners versus non-medal winners at WSC Leipzig 2013. The research is limited in its reliance on self-report data and on small

samples sizes, which make it more difficult to identify statistically significant relationships.

## Summary of Findings

The main findings from this study were also compared with those from an earlier pilot study conducted with the WSC London 2011 squad.

- Grades in school and past competition success were positively, but not significantly related to performance at WSC Leipzig 2013. Similarly positive, but non-significant results regarding **background characteristics** were found for the 2011 competitors.
- Overall, participants most highly rated having three **natural abilities**: body-kinaesthetic (handiness), mathematical-logical and interpersonal. Linguistic ability received the lowest rating. The highest and lowest rated abilities were the same as those reported by the WSC London 2011 competitors. Comparing by gender, girls rated their linguistic, interpersonal and intrapersonal abilities significantly higher, while boys rated mathematical-logical abilities higher. Estimates of natural ability, however, were not a determining factor in team selection. Four factors appeared to be *unrelated* to winning a medal at WSC Leipzig 2013: linguistic, interpersonal, intrapersonal and spiritual.
- Young competitors have a high degree of **ethical sensitivity**. Girls rated themselves higher than boys, especially with regard to 'working with interpersonal and group differences'. This finding is opposite to the 2011 respondents, where boys' ratings were significantly higher than girls' on this indicator. WSC medal winners reported being less ethically sensitive on three indicators: 'reading and expressing emotions'; 'taking perspectives of others'; and 'identifying the consequences of actions and options'.



- Like the 2011 participants, those in training for WSC Leipzig 2013 rated all four factors as important for **talent development** (domain- and non-domain specific conditions and intrinsic and extrinsic motivation). Unlike 2011, the 2013 participants showed strong gender differences: girls rated all four factors as significantly more important for vocational talent development. However, these views did not differ significantly for team members versus others or for medal winners versus others. However, medal winners in 2013 had the highest 'drive to compete' in comparison to others, in contrast to 2011 medal winners who had significantly lower scores than non-medal winners on this dimension. 2013 medal winners also reported the strongest influence of intrinsic motivation on their talent development, suggesting that the source of their motivation was both internal (interest in their field) and external (drive to compete).
- **Adaptive learning** concerns ones goal orientation. As would be expected for competitors in skills competitions, their goals are oriented toward achieving mastery of their chosen field and high performance. They are least concerned about showing incompetence or failure to others. Goal orientation is not different for any of the groups studied, perhaps not surprising as reaching even the squad stage would require a focus on skill mastery to a high standard.
- Considering **learning motivation**, both the 2011 and 2013 participants rated ability over effort as an explanation for success in skills competitions. Motivational factors did not differ significantly for medal winners versus others. However, medal and medallion winners reported a stronger belief in their ability than did those earning certificates of participation. Conversely, in comparison to medal winners, medallion and certificate competitors rated effort higher. Taken together these findings suggest that belief or confidence in one's own abilities may be instrumental to success at WSC.

Overall, these findings suggest that the most important contributors to vocational excellence are motivational in nature. In 2011, medal winners were driven by a desire to be 'number one' in their field

and by not wanting to appear incompetent to others. The 2013 medal winners were motivated by other factors, especially by strong interest in their field, a drive to compete and confidence in their own ability. While the specific dimensions of motivation differ for medal winners in the comparison years, the results so far indicate that perceptions of intrinsic characteristics may outweigh perceptions of ability and external characteristics in developing vocational excellence. Further research will carry on to WSC San Paulo 2015 and include a control group of young people who are pursuing vocational fields but do not participate in WorldSkills UK training or competitions.

