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Assessing the Link between Qualifications & Occupations

Identifying if certain types of qualification have led to certain types of employment, during the NOMS CFO programme in the North East

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Overview

This is the first in a series of short statistical reports aimed at better understanding the nature of the participants worked with on the NOMS Co-financing programme, and the mechanisms that help move them towards employment and reduce reoffending. For more information on this report, please contact the Research & Statistics team via the CFO Helpdesk.

Data presented in this report is taken from CATS (Case Assessment & Tracking System), for the second round of the CFO programme through to October 2013. Analysis is restricted to those participants that started on the programme in the North East, attaining at least one qualification (including education/training hard outcomes) and went on to gain employment with a known occupation.

The aim of this report is to identify links between the subject nature of qualifications achieved and the occupations that have been entered. For example, we may expect that those who gained qualifications relating to health & safety to go into higher risk occupations such as construction. In contrast, we may not expect a participant who has achieved qualifications in hair & beauty to go on to gain employment in engineering. Here we use statistical analysis to identify '*clusters*' of qualifications and occupations. The qualifications in a given *cluster* are likely to lead to the occupations also assigned to that *cluster*, and less likely to lead to the occupations found in other *clusters*. This report highlights such *clusters* and describes in more detail the most prevalent *clusters*.

By studying the identified clusters of qualifications and occupations, we gain insight into how certain qualifications lead to particular occupations. We are also able to identify qualifications that may be seen as irrelevant to the type of employment gained. This judgement however is subjective and left to the reader to determine.

Results

On the next page can be found an interactive high-resolution map of the links between qualifications and occupations. This map has been made 'zoomable', so that the detail can be seen as you zoom in while capturing the entire map on a single page. Each labelled marker represents either a qualification or occupation as entered on CATS. The thicker the link between them, the more participants have achieved both that qualification and occupation. Finally, the map is colour-coded to show the different clusters found. All of the qualifications and occupations with the same colour marker have been statistically determined to have a relationship between them.

*Qualifications are presented as they are entered on CATS. As such, several spelling variations of the same qualification may be seen in the map overleaf. The decision not to 'merge' the same or similar qualifications into a standardised 'label' was both a practical and analytical one, ensuring we capture as much information about the mechanisms as possible.



Identified qualification/occupation clusters

Below are the five most prevalent qualification/occupation clusters identified in this analysis. Each table relates to a specific cluster, detailing the occupations and qualifications it contains. For brevity, these tables are limited to the top 10 most commonly claimed outcomes where applicable. Please note that the figures in these tables are the number of participants that have achieved that qualification/occupation, and is limited to those participants who have been included in this analysis - participants who have gained both at least one qualification and employment with a known occupation. Percentages in each table will not necessarily sum to 100%.

Finally, consideration should be given to the limitations of the data below. Many occupations and qualifications are only achieved by a very small number of participants (often only a single individual). For example, looking at the first cluster (Construction, Building & Engineering) only four participants gained training in Confined Spaces. Although we can be confident that these individuals belong to this cluster in this instance, it should not be inferred that Confined Spaces Training always leads to the types of occupations in this cluster. As the number of participants gaining an occupation/qualification increases, the more confident we can be that the occupation/qualification belongs to the cluster.

Cluster Description:			A: Construction, Building & Engineering*		
Occupations (Top 10)	No.	%	Qualifications (Top 10)	No.	%
Construction and Building Trades	161	78%	CSCS	137	46%
Engineering Professionals	38	18%	Site Safety Passport	40	13%
Sports and Fitness Occupations	5	2%	Scaffolding	19	6%
Managers and Proprietors	3	1%	Applying For A Job	18	6%
			Construction	16	5%
			Asbestos Awareness	15	5%
			Rope Access	6	2%
			FLT	5	2%
			First Aid	4	1%
			Confined Spaces	4	1%

Cluster Description:			B: Process Operatives		
Occupations (Top 10)	No.	%	Qualifications (Top 10)	No.	%
Process Operatives	124	83%	Site Safety Passport	28	17%
Plant and Machine Operatives	16	11%	FLT	28	17%
Mobile Machine Drivers and Operatives	5	3%	Construction	23	14%
Agricultural and Related Trades	3	2%	Food Hygiene/Safety	21	12%
Health Associate Professionals	1	1%	Scaffolding	7	4%
			Asbestos Awareness	7	4%
			Customer Service	7	4%
			Employability Skills	5	3%
			Applying For A Job	5	3%
			Warehousing	5	3%

Cluster Description:			C: Construction (ii)*				
Occupations (Top 10)		No.	%	Qualifications (Top 10)		No.	%
Construction and Building Trades	36	30%	Site Safety Passport	21	16%		
Construction Operatives	36	30%	MIST	12	9%		
Other Skilled Trades	35	29%	Asbestos Awareness	12	9%		
Electrical and Electronic Trades	7	6%	BOSIET	10	8%		
Protective Service Occupations	3	3%	Food Safety/Hygiene	10	8%		
Metal Forming, Welding and Related	2	2%	Rope Access	8	6%		
			Offshore Safety/Survival	6	5%		
			360 Degree Digger/Dumper	5	4%		
			Scaffolding	5	4%		
			Rigger Training	4	3%		

Cluster Description:			D: Elementary Services & Cleaning				
Occupations (Top 10)		No.	%	Qualifications (Top 10)		No.	%
Elementary Services Occupations	57	45%	Construction	20	16%		
Elementary Cleaning Occupations	39	31%	Food Safety/Hygiene	16	13%		
Sales Assistants and Retail Cashiers	16	13%	IT	11	9%		
Housekeeping and Related Services	7	6%	Adult Literacy/Numeracy	10	8%		
Elementary Process Plant	4	3%	PASMA	8	7%		
Hairdressers and Related Services	2	2%	Scaffolding	7	6%		
Elementary Security Occupations	1	1%	Core Skills for Volunteers	7	6%		
			Confined Spaces	7	6%		
			Warehousing & Distribution	6	5%		
			Applying For A Job	5	4%		

Cluster Description:			E: Food & Hospitality				
Occupations (Top 10)		No.	%	Qualifications (Top 10)		No.	%
Food Preparation and Hospitality	42	61%	Food Safety/Hygiene	30	39%		
Sales Related Occupations	15	22%	Core Skills For Volunteers	8	10%		
Building Finishing Trades	8	12%	Adult Literacy/Numeracy	7	9%		
Other Administrative Occupations	4	6%	Warehousing & Storage	4	5%		
			CAD	3	4%		
			Hospitality & Catering	3	4%		
			Applying For A Job	3	4%		
			Hairdressing	2	3%		
			FLT	2	3%		
			Access Certificate in HE	2	3%		

*There are two clusters here that appear to lead to construction and building trade type occupations. These two clusters have been determined as distinct from each other statistically, and we can see subtle variation between.

Describing the nature of participants found within each qualification/occupation cluster

The table below details the demographic and assessment characteristics of the participants found in each of the five qualification/occupation clusters presented previously.

Factor	Construction, Building & Engineering	Process Operatives	Construction (ii)	Elementary Services & Cleaning	Food & Hospitality
Demo: % Aged 50 or over	2.5%	6.1%	1.3%	3.8%	6.3%
Demo: % Aged Under 21	10.7%	7.3%	7.4%	5.2%	5.6%
Demo: % BAME	0.9%	2.2%	0.0%	0.5%	4.9%
Demo: % Custody Starts	14.5%	17.2%	13.9%	14.8%	16.0%
Demo: % Female	0.2%	1.3%	0.0%	11.4%	22.9%
Assess: % Alcohol Need	20.5%	25.2%	20.0%	51.4%	37.5%
Assess: % Attitude & Life Skills Need	74.1%	71.0%	62.2%	71.9%	85.4%
Assess: % Drugs Need	22.8%	23.6%	10.4%	25.2%	26.4%
Assess: % Education Need	92.4%	84.4%	94.3%	83.3%	84.7%
Assess: % Financial Status Need	29.0%	33.1%	34.3%	31.9%	35.4%
Assess: % Health Need	4.5%	15.0%	2.6%	32.9%	24.3%
Assess: % Housing Need	19.2%	16.6%	21.7%	40.0%	34.7%
Assess: % Relationships Need	11.6%	12.7%	0.9%	12.9%	11.8%
Assess: % Low Motivation on Starting	37.3%	36.9%	34.8%	31.0%	29.9%
Total Participants in Cluster	448	314	230	210	144

Here we can see that the profile of the participants within each cluster varies somewhat. For example, those participants in the 'Construction (ii)' cluster are less likely to have issues with both drugs and relationships, while the 'Food & Hospitality' cluster contains a higher proportion of women than the other clusters.