

THE ARTIFICER APPRENTICE IN H.M.S. 'FISGARD'

SOME COMMON QUESTIONS

BY

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Lieutenant-Commander Zeal's excellent article 'The Training of Artificer Apprentices at H.M.S. *Fisgard* (*J.N.E.*, Vol. 21, No. 3, June 1974) provided most useful reading before I assumed command of H.M.S. *Fisgard* and, on joining, I invited the 'staff answer' to the many questions which it provoked. Over the past two years, I have found myself answering much the same range of questions posed by serving officers, headmasters, career masters and officers, and apprentices' parents. The apprentices themselves also ask related questions of their divisional officers and the instructional staff. Research, to establish factual and authoritative answers to some of the questions, revealed that there were some common misconceptions and areas where the factors were less than fully appreciated.

In the belief that some of the misconceptions may be more widespread and that some of the factors revealed may be of wider interest, I offer some of the 'hardy annuals', along with *Fisgard's* current comments. In doing this, I would remind readers that *Fisgard* covers the first year only of the four-year apprenticeship and the comments are therefore written from a *Fisgard* point of view. I am also aware that some of the comments could provoke wider and deeper questions than those initially posed. However, I would not judge this to be adverse, rather it could be stimulating.

The New Entry and Entry Standards

Nationally recognized standards, e.g. GCEs, are now widely used to specify academic entry qualifications for most courses and careers. Why then a special MOD examination for entry as an artificer apprentice?

Are the MOD examination exemption levels specified for September 1977 onwards (maths., physics, and English 'O' levels—as recommended in the Engineering Branch Study) the necessary minimum standard for the course?

Will the entry numbers be achieved at the entry standards specified for September 1977 onwards?

What is the actual academic level of entrants in relation to that specified?

Comments

Entries into *Fisgard* are, with few exceptions, responsible, intelligent, well motivated both towards their curricular training and extra-mural activities, loyal, well mannered, and from secure homes.

In recent entries, some 35–40 per cent. have entered via the MOD examination, with the balance claiming exemption by holding the specified GCEs. Of those entering through the MOD examination, some 50 per cent. subsequently acquired the exemption GCEs before entering *Fisgard*. Thus, on actual entry, only some 20 per cent. did not possess the specified exemption qualifications. The continuance of the traditional MOD examination might therefore be questioned. Present thoughts are that it would be imprudent to take any action until changes in trend which might result from the recent changes in entry standard and a changing economic climate have been established.

Initial analysis of the training performance of a large number of entrants showed that apprentices, entering with MOD examination marks just above the

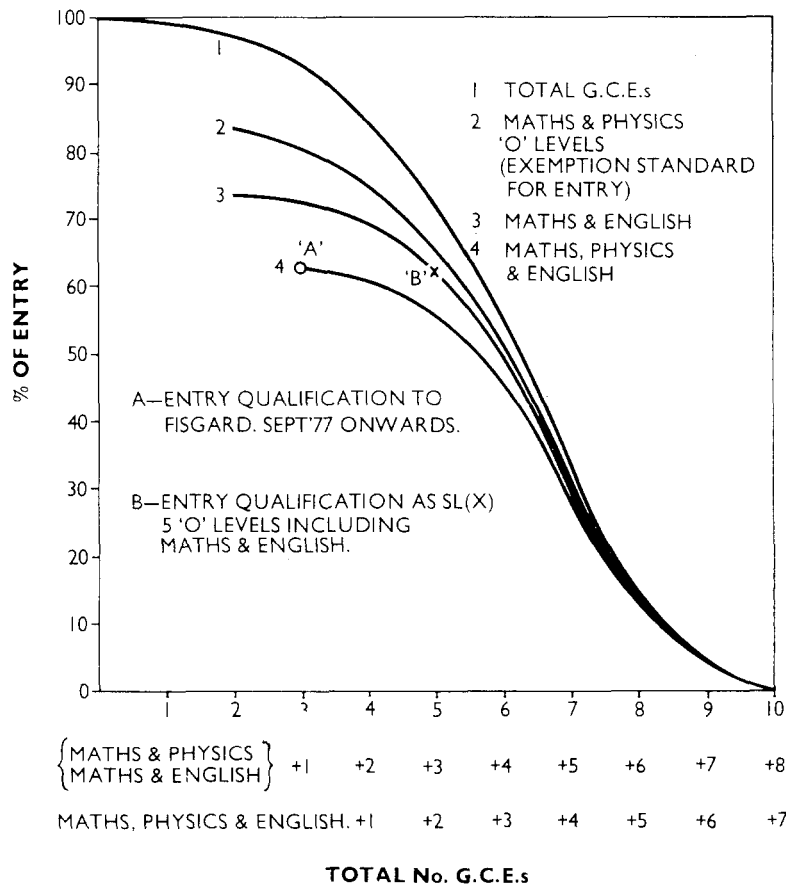


FIG. 1—ACADEMIC QUALIFICATIONS ON ENTRY (SEPT. 1976 ENTRY)

pass level, and those entering with exemptions of lower than 'O'-level maths. and physics presented a high training risk; the wastage within these categories being up to three times the across-the-board wastage. Subsequent, more-detailed analysis has led to the conclusion that the three 'O'-level entry standard, as recommended by the Engineering Branch Study, presents a sensible training risk level for the course, and raising of the entry level has been progressive through 1976 and will be at the recommended level from September 1977 onwards.

Consequent upon the raising of academic entry qualifications, we can reasonably expect enhanced overall standards, both in technical education and naval general training, and a continuing decline in the academic wastage rate.

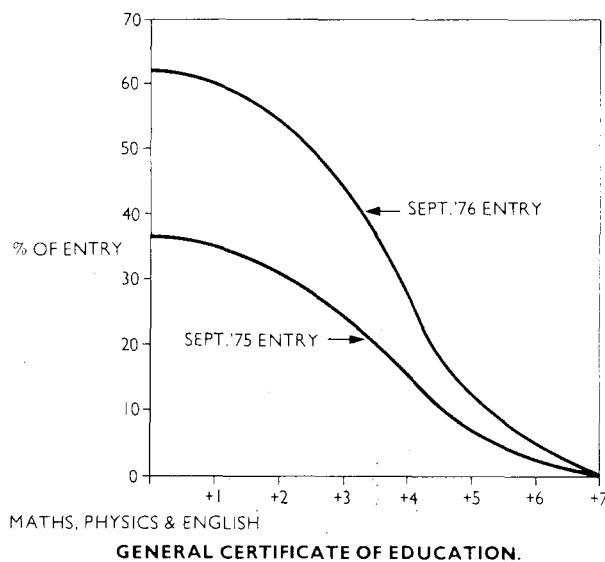


FIG. 2—ACADEMIC QUALIFICATIONS ON ENTRY
BASED ON G.C.E. C.S.E.1. MATHS., PHYSICS, & ENGLISH

was 'with recruiting' in 1976 and the real test may not come until, hopefully, there is an upturn in the economic situation. It is pertinent that, in the absence of change to extant standards, from now onwards the Navy will be fishing in the same 'academic pond' for artificer apprentices to enter *Fisgard* as for SL(X) officers to enter B.R.N.C. Dartmouth. In the September 1976 entry, the same percentage (62 per cent.) were academically qualified for entry into *Fisgard* in September 1977 as were academically qualified for entry as SL(X) officers.

Indentures

Who raises the indentures for the apprentices and where are they kept?

Comment

Investigations revealed that indentures have never been raised on naval artificer apprentices.

The Artificer in the Navy

Where does the artificer fit into the general structure of the Navy?

What are my career prospects, Chief?

Why the great increase in naval general training in recent years?

Comment

The hierarchical structure of the general list branches of the Navy (1977) is as in FIG. 3. From this figure and perhaps more clearly illustrated by FIG. 4, it is

The academic qualifications of a typical entry (September 1976) are shown in FIG. 1. Of particular note is the fact that, whilst 84 per cent. held the MOD examination exemption qualifications for that entry ('O'-level maths. and physics), only 62 per cent. held the exemption qualifications for the September 1977 entry onwards. In looking at the probability of achieving the required entry numbers from September 1977 onwards, there are many who believe that 'you get what you ask for', and FIG. 2 lends some support to this argument—the higher academic level of the September 1976 entry over the September 1975 entry being in line with the standards specified for those entries.

However, the economic situation

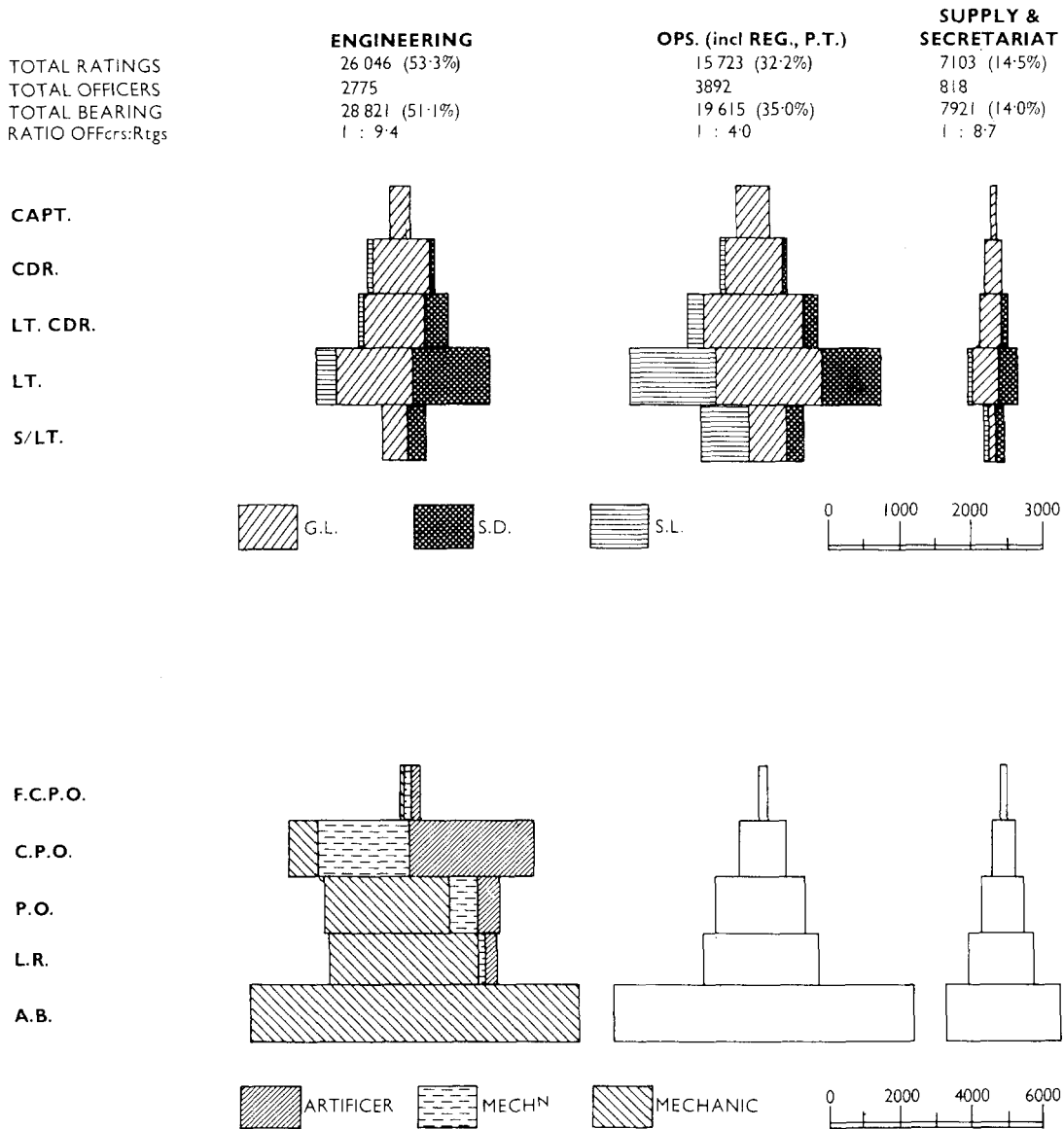


FIG. 3—NAVY TRAINED MANPOWER

evident that artificers and SD(E) officers of artificer extraction provide a very significant proportion of the mid-management level of the engineering branch and a not insignificant slice of the mid-management level of the total uniformed Navy. (In FIG. 4, 70 per cent. of SD(E) officers are of artificer extraction and 30 per cent. of mechanician extraction.)

FIG. 4 suggests that the current career prospects of artificer apprentices are reasonable, if not attractive, particularly when one adds the openings to GL(E), SL(X), and Instructor officer, which are not illustrated therein. Turning to actual numbers, all apprentices are rated chief petty officer within three years of completion of apprenticeship and, in recent years, some 15 per cent. of those chief petty officers have been promoted to fleet chief petty officer and a further 8 per cent. to SD(E) officer. The total officer extraction from artificer apprentices has been running at 9–10 per cent. and a recognizable number have also attained flag rank.

The foregoing is the situation as of today: but what of the future, if only the more immediate future up to the mid-career point of current entries to *Fisgard* (1990)? One would, of course, be unwise to attempt a forecast of the precise structure of the Navy and the career prospects that will obtain for apprentices in

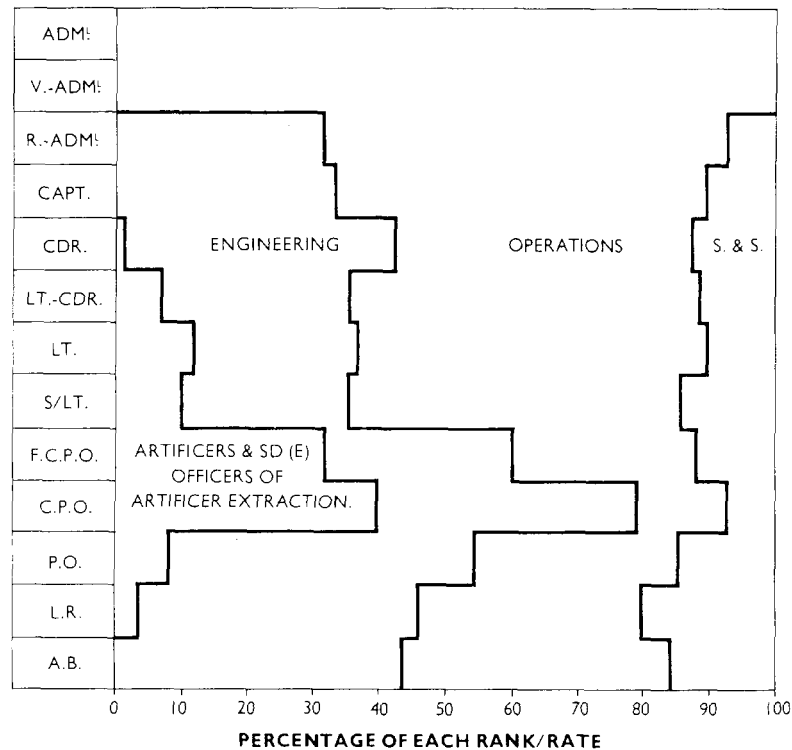


FIG. 4—THE STRUCTURE OF THE GENERAL LIST BRANCHES

1990. But, equally well, an assumption, however broad, that they will remain static would be to ignore all trends in social, political, educational, and technological development and is, therefore, likely to be more wrong than no forecast at all. In looking ahead, the Navy is unlikely to become larger and will inevitably become more technical; the words of a recent United States Assistant Secretary of Defence might provide a pointer—'Technology really drives the world. A careful look at what has happened, and is happening, makes a good case that it is more the march of technology, than it is political decisions, which largely drives the nature and structure of our societies, our strategy, the nature of our military forces, their structure and the doctrines which they develop.'

Any training, aimed at providing the extent of mid-management level illustrated by FIGS. 3 and 4, must contain a good element of naval general training, and it is generally believed that, within the *Fisgard* course, around 37 per cent. (Ref. p. 433) provides a proper balance with technical education and craft training. Many remark that this 37 per cent. is significantly more than 'in their days'. But this is a misconception, for examination of the curricula of 'those days' reveals that parade-ground training, divisional periods, religious instruction, games afternoons, and so on accounted for about one-third of the curriculum. The change has been the bringing together of these individual activities under the common heading of Naval General Training and giving cohesive direction to this aspect of training. Social, economic, and other trends in recent years have naturally given rise to many changes in the detail and emphasis of naval general training—e.g. resource, initiative, and adventure training is now balanced with the more traditional team games; divisional lectures now cover the 'drug problem', advice on banking and other means of saving, and so on.

Scope and Standard of Training

Is, as it would appear, increasing emphasis being placed on technical education attainments at the expense of craft and naval general training performance?

Has any relationship been found between apprentices' aptitude in craft, or performance in naval general training, and his academic performance?

Comment

The scope of apprentice training, particularly craft and technical education, has been the subject of numerous articles (including the reference) and I would not intend to repeat them. In respect of standards, I can give full assurance that equal emphasis is placed upon achieving and maintaining the prescribed standards in all facets of training and that the same ground rules are applied, namely:

- (a) remedial instruction is given as soon as an apprentice is noted as falling behind;
- (b) to pass out of *Fisgard*, the prescribed minimum standards must be achieved;
- (c) the procedures for Captain's Warning, Commander-in-Chief's or Flag Officer's Warning, and Discharge SHORE as unfit for further training as an apprentice, are equally applicable.

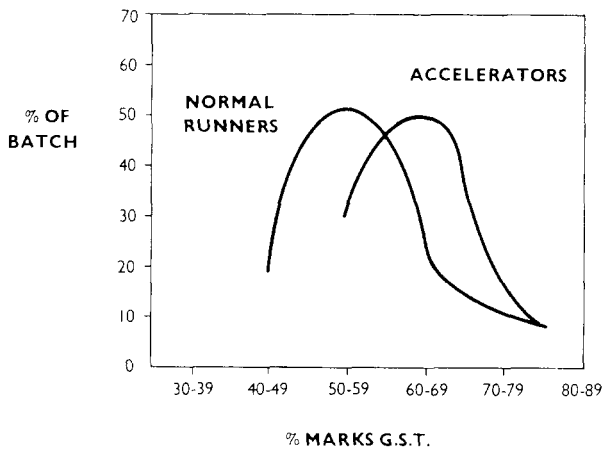


FIG. 5—DISTRIBUTION OF G.S.T. MARKS NORMAL RUNNERS AND ACCELERATORS (SEPT. 1975 ENTRY)

The craft results of a number of entries have been studied in relation to academic standard on entry and the general picture is random, though there is a suggestion, and it is little more, that the craft performance of the 'accelerators' (Ref. p. 432) is marginally ahead of the normal runners.

Unlike the generally random nature of craft performance, analysis of naval general training performance shows that the 'accelerators' are constantly ahead of the normal runners, FIG. 5 being typical. Since the naval general training marks contain elements for such groupings as quickness of

mind, response, and initiative, this relationship could be reasonably expected. To summarize, the probability is that an apprentice's across-the board performance, in training at *Fisgard*, is more closely related to his academic ability than to any other single factor.

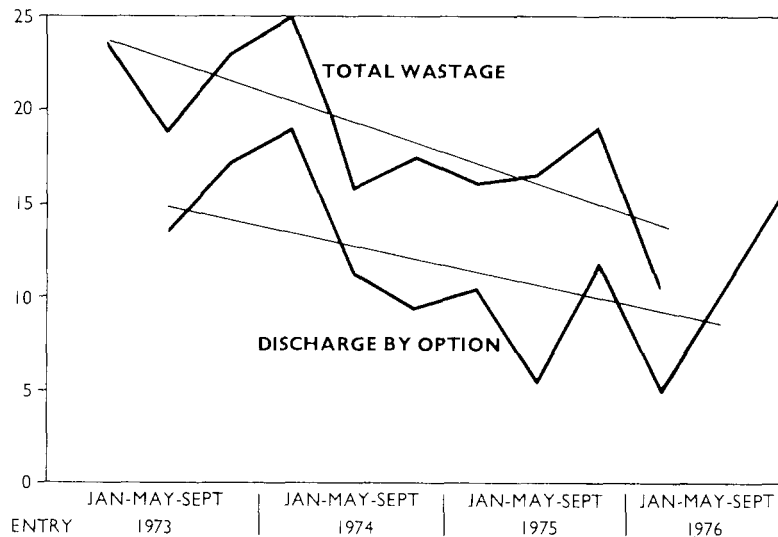


FIG. 6—TOTAL AND DISCHARGE BY OPTION WASTAGE RATES

Wastage

What are the wastage rates during the course at 'Fisgard'?

Comment

The trends in total wastage rate and 'discharge by option' over the last four years are shown in FIG. 6. It is rare for an apprentice to take his 'discharge by option' because of 'Service discipline' and seldom does one leave with any animosity towards either the Navy or *Fisgard*. Almost without exception, 'discharge by option' (under the Donaldson Rules) is taken because the new entry concludes that the Navy and/or being a technician is 'not for him'.

Though the general trend over recent years has been one of a steadily falling percentage taking 'discharge by option', there are indications that a reversal in this trend is taking place. The present economic climate is attracting not only the more well-qualified academically but also more of those who are 'giving it a trial'. Many in the latter category cannot face up to the rigours of a four-year apprenticeship and a commitment to twelve years service from the age of eighteen, and leave within the first term.

The difference between the total wastage and discharge-by-option wastage is, essentially, academic wastage and this shows a steady decline over the past four years. Consequent upon the higher academic entry qualifications now being introduced, it is also reasonable to expect this wastage to continue to fall, at least in the immediate future.

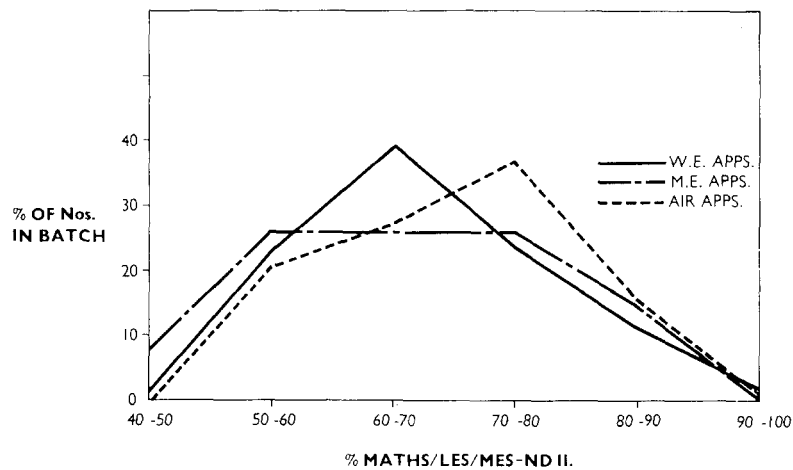


FIG. 7—NAVY DEPARTMENT PART II (SEPT. 1974 ENTRY) EXAMINATION RESULTS

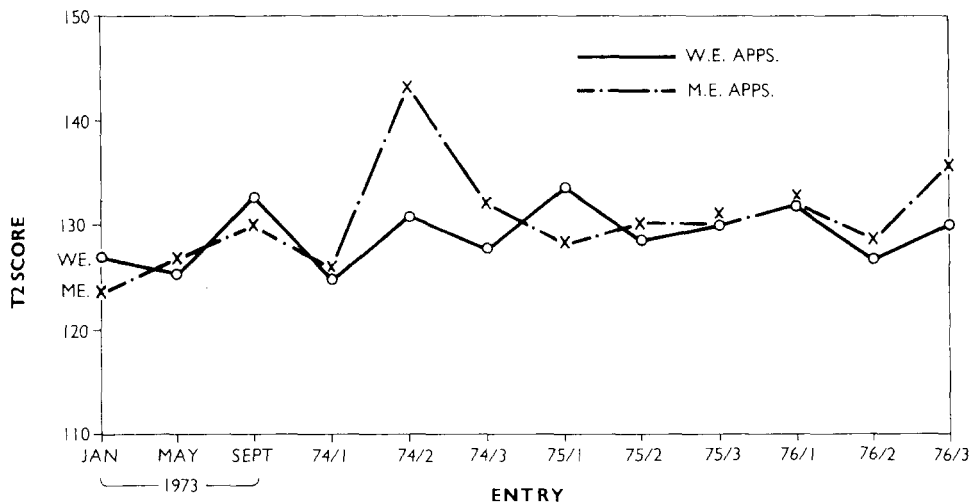


FIG. 8—T2 SCORES (WE/ME APPRENTICES)

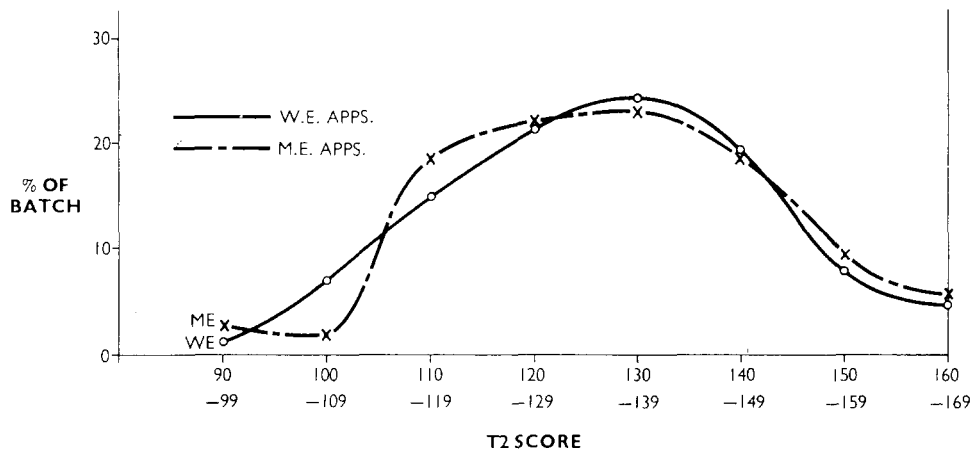


FIG. 9—DISTRIBUTION OF T2 SCORES (SEPT. 1973 ENTRY)

Sub-specialization

Why is it that the more-talented apprentices migrate into the WE sub-branch?

Comment

There is no evidence to support this widely-held misconception. Indeed analysis of examination results, T2 scores, and other predictors, etc. consistently demonstrates that there is no significant difference between the talent levels in each sub-branch. For example, FIG. 7 shows the distribution of Navy Department Part II examination results in maths., electrical engineering science, and mechanical engineering science; FIG. 8 shows the trend in average T2 scores; and FIG. 9 shows a typical distribution of T2 scores. (In FIGS. 8 and 9, the Air streams have been omitted as sample size is small and the plot, in isolation, could be misleading.)

Reference:

Zeal, Lt.-Cdr. W. R., R.N., 'The Training of Artificer Apprentices at H.M.S. *Fisgard*', *Journal of Naval Engineering*, Vol. 21, No. 3.