

**Learning opportunities in 'student assistantships'**

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**Learning opportunities in 'student assistantships'**

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## Summary

## Background

In order to gain experience of the skills required when they begin practice, all final year medical students in the UK undertake a 'student assistantship', working alongside first year postgraduate doctors. In this study, we examined the learning opportunities open to students in one locality during two periods of assistantship: one in medicine, one in surgery.

## Methods

Final year students and their supervisors completed online questionnaires. The students' questionnaire explored general perceptions of the placement, and whether potential learning opportunities (identified as 'desk' or 'patient-oriented') had been 'taken', 'missed' or were 'not available'.

The supervisors' questionnaire explored their perceptions of students' learning during the assistantship.

## Results

Overall, 86 student questionnaires and 17 supervisor questionnaires were returned (response rates 57% and 63%).

Students reported more desk-based learning opportunities, more of which were taken up, than patient-oriented ones. Surgical placements were associated with more 'missed' opportunities than medical placements. Across all tasks, many students felt that some learning opportunities were not present in their assistantship. By contrast, supervisors felt students 'made the most' of assistantships.

Students' overall perceptions of the assistantship were positively related to the amount of experience they had attained ( $r=0.40-0.54$ ).

**Discussion**

The assistantship fulfils its aims for many students, but individual experience gained varies considerably. Some opportunities are not being taken, with 'patient-oriented' opportunities more likely to be missed, while others are not available during placements. Supervisors may overestimate the educational value of the assistantship, with implications for its management and delivery.

(245 words)

"For review"

## Background

All medical students must have experience of their future working environment and responsibilities, in order to be prepared for practice. While systems vary internationally, the need to be prepared, whether for Foundation Programme, clerkship<sup>1</sup> or internship,<sup>2</sup> is constant.

Studies in the UK have found that newly qualified doctors (F1s) feel least prepared for acute care and prescribing.<sup>3,4</sup> In order to provide on-the-job experience in these areas, the General Medical Council (GMC) requires a 'student assistantship' in the final undergraduate year<sup>5</sup> during which a student "undertakes most of the duties of an F1 doctor". This is distinct from 'shadowing', also specified by the GMC, where a new doctor spends a short period "working with the F1 who is in the post they will take up".

As yet, no evaluations of the assistantship have been published, and so we sought to examine the learning experiences it provides. We present data collected at one UK location where the assistantship comprises two 4-week placements – one on each of a medical and surgical ward. Identifying how learning opportunities vary between clinical areas may inform curriculum delivery to ensure parity of experience.

The study aimed to identify the extent to which the student assistantship achieved its objectives. Specific research questions were:

- What learning opportunities are taken in medical and surgical assistantships?
- Is there any relationship between experience gained and student perceptions of the assistantship?
- How do student and supervisor perceptions of the assistantship compare?

## Methods

We developed a questionnaire, after Tallentire et al,<sup>6</sup> to assess student and supervisor views of learning opportunities in the assistantship. Questions included reported experience of 15 specific tasks, of which five were coded as 'desk' tasks and 10 'patient-oriented'. 'Desk' tasks are administrative, and though involve important skills, are not 'hands on'. 'Patient-oriented' tasks are those involving interactions with patients or relatives, or which directly influence patient care. Other questions addressed general perceptions of the assistantship.

### *Participants and setting*

We surveyed final year medical students (n=102) based in one training locality and their consultant supervisors (n=26). The assistantship was implemented as two placements of 4 weeks on each of a surgical and medical ward, during a 16-week rotation.

### *Questionnaire distribution*

Questionnaires were hosted online ([www.surveymonkey.com](http://www.surveymonkey.com)), and distributed by an email containing a link to the questionnaire.

We distributed the student questionnaire twice. At the first time point (week 4 of the 16 week rotation) half of the student group had completed one assistantship. By the second point (week 16) all students had completed both assistantships. The supervisor questionnaire was distributed once, at the end of the 16-week rotation.

Responses were analysed using the R statistical programming language ([www.r-project.org](http://www.r-project.org)).

## Results

### *Response rates*

Table 1 summarises response rates [RR] and demographics. For comparison between medical and surgical placements, we analysed all 86 returned student questionnaires (RR=57%). Seventeen responses were returned from consultant supervisors (RR=65%).

[Table 1 here]

### *Student views*

#### *Type of learning opportunities gained*

Table 2 summarises reported frequencies relating to the 15 tasks, after medical and surgical placements. Student responses indicated whether opportunities to perform each were 'taken', 'missed' (available, but not taken up) or 'not available' (not identified). The majority of students after both medical and surgical assistantships reported having direct experience of most outcomes (opportunities 'taken').

[Table 2 here]

Amongst 'desk' tasks, students most commonly 'reviewed investigations and planned appropriate action' (65/86, 76%) and reported least experience of 'observing death certification' (38/86; 44%). Of 'patient-oriented' outcomes, students gained most experience of 'relevant procedures' (58/86, 67%) and ward round case presentation (55/86; 64%). Conversely, few opportunities were taken relating to 'handover patients to the 'out-of-hours' team' and 'update relatives' (17/86; 20% and 23/86, 27%).

Notably, there were 215 instances of there being 'no opportunity' to perform an individual task. Fifteen individual placements had at least three of the 15 tasks

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4 unavailable; three of these reported 10 not being available, and one reported 12 not  
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6 being available.  
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#### 8 9 *Type of learning opportunities gained*

10 Table 3 summarises the mean number of all 'desk' and 'patient-oriented' opportunities  
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12 students identified and the proportion 'taken' or 'missed' in surgical and medical  
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14 placements.  
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18 [Table 3 here]  
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20 In both clinical areas, students reported more 'desk' opportunities were available than  
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22 'patient-oriented' ones. Proportionately, students also took up more 'desk' opportunities  
23  
24 (69% vs. 60%; chi-square=7.90,  $p<0.01$ ). Surgical placements recorded proportionately  
25  
26 more 'missed opportunities' than medical ones for both 'desk' (38% vs. 24%; chi-  
27  
28 square=8.12,  $p<0.01$ ) and 'patient-oriented' tasks (45% vs. 34%; chi-square=8.93,  
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30  $p<0.01$ ).  
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#### 33 34 ***Relationship between experience and student perceptions of the assistantship***

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36 We considered the total number of 'opportunities taken' by each participant to be an  
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38 indicator of the extent of their learning experience. This ranged between 0 and 14  
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40 (mode and median=9, mean=8). This was compared with perceptions of the  
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42 assistantship.  
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44  
45 Table 4 presents items measuring perceptions of the assistantship, and their  
46  
47 correlations with total experience. Students were generally positive about the overall  
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49 effectiveness of the assistantship and feeling part of the team, but more neutral in their  
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51 perceptions of receiving feedback. Moderate correlations between experience and all  
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53 of these measures suggest that students who have had more experience are more  
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55 positive about the placement.  
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4 [Table 4 here]  
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### 7 **Supervisor views**

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9 Supervisors perceived the learning opportunities and educational value of the  
10 assistantship positively (table 5). Specific questions regarding student opportunities to  
11 *'understand and practice tasks'* and *'make the most of'* clinical opportunities were rated  
12 highly - only one respondent disagreed with the first statement, and none with the  
13 second. This contrasts with 40 per cent of students who reported 'missed' opportunities  
14 in 'patient-oriented' tasks (table 2).  
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22 [Table 5 here]  
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25 It may be inferred that supervisors over-estimate students' engagement with 'hands-on'  
26 practice and do not appreciate their role in encouraging active student participation in  
27 learning activities.  
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### 32 **Discussion**

33 The student assistantship appears to be delivering its aims for many students.  
34 However, they did not benefit equally. Some did not take advantage of learning  
35 opportunities, despite feeling they were present, while others felt that some  
36 opportunities were not available. Fewer opportunities were taken up in surgical  
37 placements, and overall the opportunities that were taken up tended to be 'desk-based'  
38 rather than 'hands-on' patient-oriented ones. Those who had gained more experience  
39 tended to be more positive about the placement, echoing findings elsewhere<sup>7</sup>.  
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49 Workplace learning may vary with both the individual learner's agency, and the learning  
50 opportunities afforded by the environment<sup>8</sup>. Learning opportunities 'missed' or 'not  
51 available' could be due to either or both factors. The former, representing up to 40 per  
52 cent of responses across all tasks, may relate to students' motivation to take  
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4 advantage of learning opportunities. However, it seems counter-intuitive that students  
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6 would be more motivated to take up 'desk-based' learning opportunities, and the  
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8 findings may indicate structural or cultural barriers to more active 'hands-on'  
9  
10 experiences. 'Not available' opportunities are more likely to be explicitly structural, but  
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12 conversely they could indicate a simple failure to *recognise* the opportunity.  
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15 Some barriers to experience may stem from legitimate patient safety concerns, but  
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17 others might be safely surmounted and perhaps represent unnecessary organisational  
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19 caution. The duration of a placement has been found to lead to more direct patient care  
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21 experience in clerkships<sup>9</sup>, suggesting it takes time to 'bed in' to a workplace.  
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24 Differences between medical and surgical placements may arise from different  
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26 affordances in the nature of care in those areas. The core practice of surgical  
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28 departments takes place in theatre, meaning fewer senior doctors on wards to support  
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30 students, which could contribute to the higher proportion of 'missed opportunities' in  
31  
32 surgery. Further work will be necessary to tease out the contribution of personal and  
33  
34 structural barriers to learning.  
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37 Finally, there is evidence that supervisors may over-estimate students' learning  
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39 opportunities. This could arise from their distance from student experiences, but  
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41 conversely it could be that supervisors perception is accurate and that students' *under-*  
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43 *estimate* exposure. This question requires further examination, but highlights a need to  
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45 consider supervision in placement design, and ensure supervisor and student views  
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47 are well-calibrated.  
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### 49 50 **Limitations**

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52 This was a small-scale study of a single location. The low response rate to the second  
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54 questionnaire may be due to it being distributed closer to finals, when students had  
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56 more competing demands on their time. However, the findings are grounded in medical  
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4 students' experiences, and indicate general points for clinical placements in the UK and  
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6 worldwide.  
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### 8 9 **Conclusions**

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11 The student assistantship offers a range of learning experiences, but does not  
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13 guarantee these for all students. Variability may be due to student engagement and  
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15 behaviour as well as the organisation and delivery of the placement, but such  
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17 placements should strive to ensure a comparable experience for all students.  
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20 A mixture of clinical environments can improve access to learning opportunities and  
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22 support curriculum delivery alongside health service delivery. However, provision and  
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24 student participation do not necessarily overlap. We cannot assume the existence of a  
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26 placement means that learning opportunities are taken up, and positive action may be  
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28 necessary to improve engagement. Educators developing such placements may need  
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30 to consider how to be more prescriptive about their content, and the need for specific  
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32 faculty development (including of the junior doctors being 'assisted') to provide the  
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34 necessary 'supported participation'<sup>10</sup>.  
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37 Any expansion of pre-registration students' role will need to consider the limits imposed  
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39 on that role by statute and current indemnity arrangements, but those limits should not  
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41 be shied away from. Further research is needed into how best to improve student  
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43 engagement if such placements are to achieve their full educational potential.  
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**Table 1. Response rate and sample profile**

|               | RR           | Male | Female | Surgical | Medical |
|---------------|--------------|------|--------|----------|---------|
| Time 1*       | 43/50 (86%)  | 30   | 12     | 23       | 20      |
| Time 2**      | 43/102 (42%) | 25   | 18     | 21       | 22      |
| Total student | 86/152 (57%) | 55   | 30     | 44       | 42      |
| Consultant    | 17/26 (65%)  | 13   | 4      | 7        | 10      |

\* Distributed to students who had completed one student assistantship after 4 weeks

\*\* Distributed to all students who had completed both assistantship periods.

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**Table 2. Learning opportunities in medical and surgical placements.**

| Learning opportunity   |         | Medical (n=42) |           |                  | Surgical (n=44) |           |                  |
|--|---------|----------------|-----------|------------------|-----------------|-----------|------------------|
|  |         | Taken*         | Missed *  | No opportunity * | Taken*          | Missed *  | No opportunity * |
| Review investigation results and decide on appropriate action?                 | Desk    | 36             | 3         | 2                | 29              | 10        | 3                |
| Complete discharge scripts and be part of the team planning safe discharges?   | Desk    | 32             | 7         | 2                | 26              | 12        | 4                |
| Create job lists and prioritise ward tasks?                                    | Desk    | 29             | 8         | 4                | 22              | 16        | 4                |
| Request investigation (e.g. CT scan)?  | Desk    | 23             | 13        | 5                | 20              | 17        | 5                |
| Observe the certification of a death and completion of the relevant paperwork? | Desk    | 23             | 13        | 5                | 15              | 13        | 14               |
| <b>Total</b>   |         | <b>143</b>     | <b>44</b> | <b>18</b>        | <b>112</b>      | <b>68</b> | <b>30</b>        |
| Present patients on ward rounds?   | Patient | 34             | 7         | 0                | 21              | 16        | 5                |
| Carry out relevant procedures?   | Patient | 32             | 7         | 2                | 26              | 5         | 1                |
| Clerk a new patient - as first respondent?                                     | Patient | 30             | 8         | 3                | 18              | 5         | 2                |
| Administer drugs?  | Patient | 24             | 10        | 7                | 14              | 23        | 5                |
| Provide immediate care to acutely unwell patients?                             | Patient | 24             | 6         | 11               | 23              | 11        | 8                |
| Recommend and prescribe drug treatment?  | Patient | 23             | 13        | 5                | 25              | 12        | 5                |
| Recommend and prescribe intravenous fluids?                                    | Patient | 23             | 14        | 4                | 26              | 13        | 3                |
| Update relatives on patient care?  | Patient | 19             | 15        | 7                | 4               | 28        | 10               |

| Learning opportunity                                    |         | Medical (n=42) |            |                  | Surgical (n=44) |            |                  |
|---|---------|----------------|------------|------------------|-----------------|------------|------------------|
|   |         | Taken*         | Missed *   | No opportunity * | Taken*          | Missed *   | No opportunity * |
| Handover patients to the 'out of hours' team?           | Patient | 11             | 24         | 6                | 6               | 29         | 7                |
| Conduct pre-admission assessments of surgical patients? | Patient | 6              | 11         | 24               | 25              | 13         | 4                |
| <b>Total</b>  | Patient | <b>226</b>     | <b>115</b> | <b>69</b>        | <b>188</b>      | <b>155</b> | <b>50</b>        |
| <b>Grand total</b>                                      |         | <b>369</b>     | <b>159</b> | <b>87</b>        | <b>300</b>      | <b>223</b> | <b>80</b>        |

\*'Taken' indicates that the student reported they had had the learning opportunity; 'Missed' indicates that the opportunity had been available, but they had not taken advantage of it; 'No opportunity' indicates that they felt that it was not available in the placement.



**Table 3. Learning opportunities 'taken' and 'missed' as proportions of opportunities available**

|         | Medical – number; %           |              |              | Surgical – number; %          |              |              | All – number; %               |              |              |
|---------|-------------------------------|--------------|--------------|-------------------------------|--------------|--------------|-------------------------------|--------------|--------------|
|         | Mean opportunities available* | 'taken'      | 'missed'     | Mean opportunities available* | 'taken'      | 'missed'     | Total opportunities available | 'taken'      | 'missed'     |
| Desk    | 37.4<br>(187/5)               | 76%<br>(143) | 24%<br>(44)  | 36<br>(180/5)                 | 62%<br>(112) | 38%<br>(68)  | 367                           | 69%<br>(255) | 31%<br>(112) |
| Patient | 34.1<br>(341/10)              | 66%<br>(226) | 34%<br>(115) | 34.3<br>(343/10)              | 55%<br>(188) | 45%<br>(155) | 684                           | 60%<br>(414) | 40%<br>(270) |
| Total   | 528                           | 70%<br>(369) | 30%<br>(159) | 523                           | 57%<br>(300) | 43%<br>(223) |                               |              |              |

\*'Mean opportunities available' is calculated as the sum of 'opportunities taken' and 'opportunities missed' divided by the number of items in each category (5 - desk, 10 - patient). Percentages in other columns are based on this sum as the denominator.

**Table 4. Descriptive statistics for perceptions of assistantship and relationship with experience**

| Question for students   | n  | Mean (SD)   | Median | Spearman's R with total experience |
|---|----|-------------|--------|------------------------------------|
| Total experience (opportunities 'taken')  | 86 | 8.09 (3.33) | 9      |                                    |
| 7. Overall, how would you rate the assistantship?   | 85 | 3.69 (0.99) | 4      | 0.51                               |
| 8. Overall, as a result of the assistantship do you understand better what your role will entail as a Foundation Year 1 doctor? | 85 | 3.98 (0.98) | 4      | 0.54                               |
| 12. Did you feel part of the clinical team during the assistantship?  | 85 | 3.58 (1.26) | 4      | 0.50                               |
| 13. Did you receive feedback during the assistantship on aspects of your performance?   | 85 | 3.42 (1.12) | 3      | 0.40                               |

**Table 5. Median responses to items on supervisor questionnaire**

| Questions for Supervisors, N=16  | Mean<br>(SD)   | Disagree<br>(1 or 2<br>on<br>scale) | Neutral | Agree<br>(4 or 5<br>on<br>scale) |
|--|----------------|-------------------------------------|---------|----------------------------------|
| 5. Students made the most of clinical opportunities during the assistantship.  | 4.00<br>(0.82) | 1                                   | 2       | 13                               |
| 6. During the assistantship the students integrated well into the ward team  | 4.12<br>(0.72) | 0                                   | 3       | 13                               |
| 7. The student assistant had plenty of opportunity to understand and practice the tasks required of an FY1.  | 4.38<br>(0.62) | 0                                   | 1       | 15                               |
| 9. In general, during the assistantships you have supervised improved their clinical skills to the level expected of a NEW FY1.                      | 3.81<br>(0.66) | 0                                   | 5       | 11                               |
| 10. In general, during the assistantships you have supervised, the student(s) improved their practical skills to the level expected of a NEW FY1.    | 3.75<br>(0.68) | 0                                   | 6       | 10                               |
| 11. In general, during the assistantships you have supervised, the student(s) improved their team-working skills to the level expected of a NEW FY1. | 3.69<br>(0.70) | 0                                   | 7       | 9                                |