

The knowledges of students

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The abstract

The aim of this contribution should give the view of "exterior" on a level of the students' proficiencies in common work with PC The Faculty of Electrical TheUniversity of West Bohemia. There is performed a brief analysis of a level knowledges in course of several last years there. There are indicated the requirements, which are filed of entry knowledges of students, necessary for the chair of electrical machines The Faculty of Electrical. Further on is exhibited an interest of students about PC problems at least - the working aids.

Introduction

We executed very energetic process together with our chair of electrical machines from as it were zero using of computers for class' to essentially higher settlement at class and for class in several last years. The process consisted in gradual stepping from IQ 151, EC 1026 to region of PC. And there as a matter of course began the problems at this moment, which can be divided roughly to three regions.

1 Hardware

Hardware, which once mostly put largest problem, "roughly" ceased to be a problem suddenly, if we omit inseparable question of financial covering. We found out with a wonder then, we have more modern PC in the average than at the corresponding chairs in that time on the west (because 100% our PC was 286 bits and 57% of them had coprocessor, and on the

west they had XT yet, it seemed quite otherwise at absolute numbers, when there was 7 bits of a piece by us, of that number had 4 bits coprocessor).

1.1 Hardware today

If we compare today's condition then we already see the problem of differentiation. It is provided by requirements of using software, HW where for example very well running Windows is in disposal in amount of 2 bits. Where it is possible to install ACAD r.12 again 2 bits (compatible with preceding ones). There is the second matter, that for example software for Final elements method (FEM) is better feeling by rules of workstations.

2 Software

It was already more complicated with a software by many reasons. The one of them was our insufficient view in offer of software too. And the price again. Our chair joined to a majority others in the end and we use classical set of software: Norton Commander, text's editor T602 (Chiwriter), spreadsheet Quattro Pro, Turbo Pascal and for our view typical AutoCad, special Czech software Roger & Magic for FEM in the electromagnetical problems, Dynast for modelling of electrical machines in preceding régimes.

2.1 Software today

The shift of software was as matter of fact simple - negligible one. It was added the text's editor Ami Pro and finding more executive software for FEM, (but with the problems around hardware).

3 Knowledges

3.1 The knowledges of teachers

Essentially larger problems hid in itself the region of teacher's knowledges against the regions HW and SW. It both is connected age's constitution of the chair and with the last "accessible" of computing technology. The gaining of knowledges is very individual by single teachers, but it can be said, that text's editor all control, in the various level. Norton Commander can use everybody one. The knowledge of the next programme's equipment is individual too. It means 2 teachers can use Dynast, 5 ones - AutoCad, 5 ones - Turbo Pascal, 3 ones -

Quattro Pro, 2 ones Magic&Roger. The problem of next education by teachers is time, place and ever taste too.

3.2 The knowledges of students

Our chair moves, by its view and the subjects of instruction, in the higher forms of study. It means semesters 6 - 10. And we meet the students, who have various level of knowledges work with PC in this time (what has an analogy in others subjects). But there is the difference, that when we as the teachers are already able to use PC by class on some level, there complications originate with a level knowledges on the second side. Side, which receives the informations - the students.

Because it relatively alludes me very hard shall the contacts with students by class, so with teachers, I already several years try to have for one's object and value the level of students's knowledges by this view too, though irrelevant of the view my own subjects. There is again my interest of more comfortable and more eventful work by class in background.

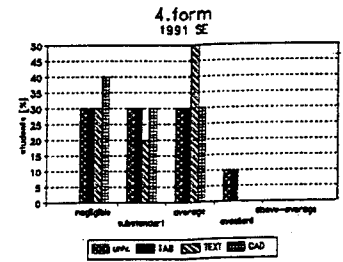
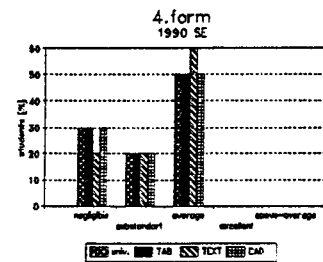
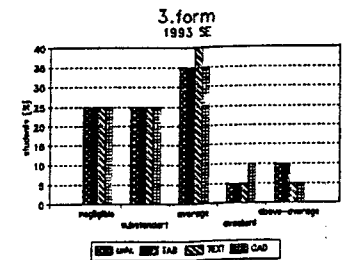
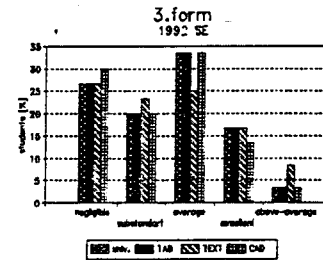
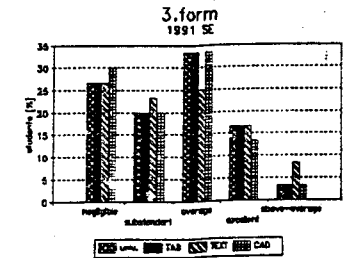
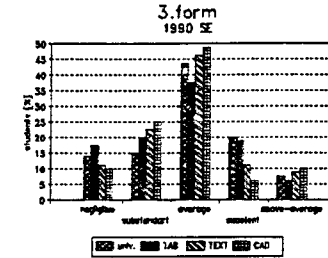
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1 990	80	10	5
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1 992	60	30	0
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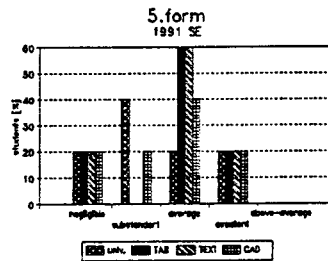
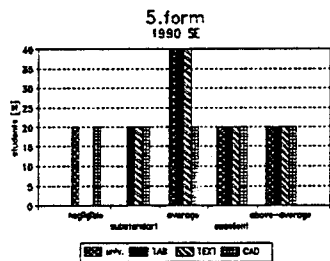
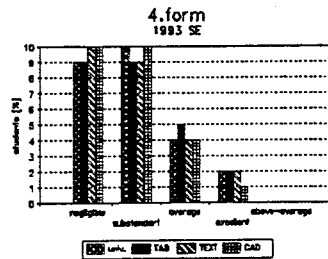
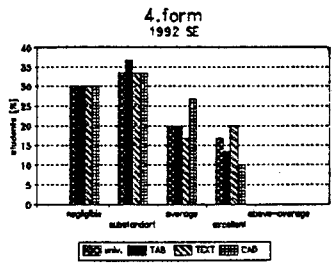
I chose four circles of knowledges for own result

- the universal knowledges : it covers up usual wor withDOS, Norton Commander, the copying, the wiping out, the transferring of sets, the change of topical directory, "the idea" about Turbo Pascal for example and "universal" culture of work with PC actually.
- the text's editor : basic work with the text's editor (T602).
- the table's processor : basic work with the table's editor (Q Pro), the graphs, the calculations and the penetrating to philosophy of table's processors.
- CAD : only the most basicest work in AutoCAD, again rather philosophy than knowledge of single orders.

I didn't engage databases - the next important region - because it doesn't display their using neither by class nor by other work at our chair in the horizon from three to five years.

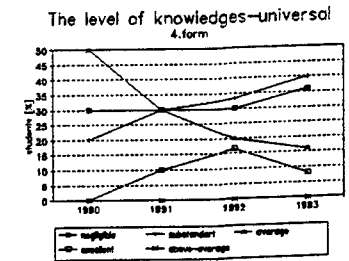
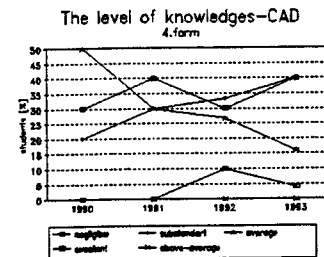
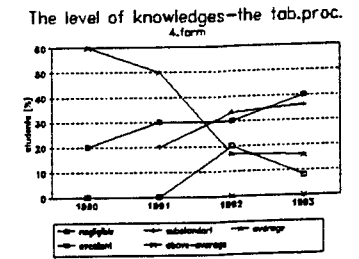
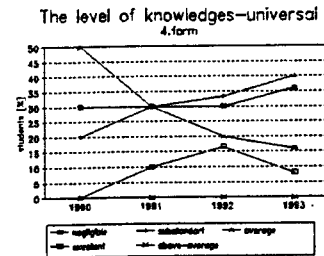
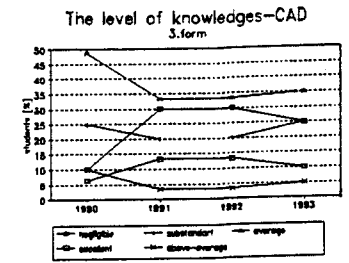
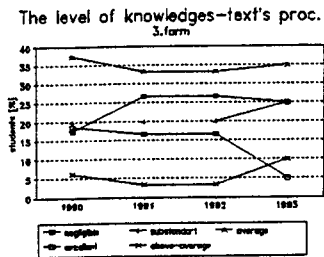
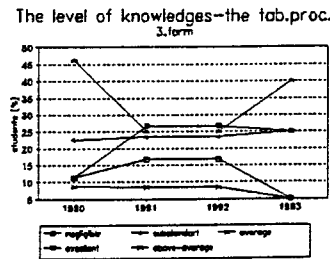
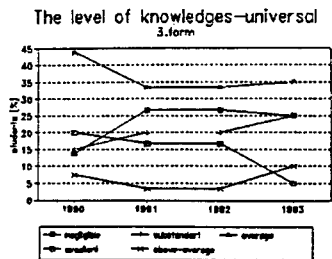
I processed the result to single tables by circles of knowledges and by single years and forms, because it should be interesting for us to watch development after single years. From





the reason of possibility of comparing I work with % values only and then in the contribution I show the graphs only for savings of place.

The set of first ten graphs puts pictures of 3. and 4. form in years 1990 - 1993 and 5. form in years 1990 - 1991.



It follows eight graphs, which preceding dates figure in time's dependence from year 1990 to year 1993. There are missing fifth forms, there which had large shortage of date (they were watched in small number only in years 1990 an 1991).

4 The finish

If we look at these graphs now in entire view we see, that the problem of us and our chair as a "user" students seems relatively cheerless - entire knowledges are shifted slowly, but certainly from average to substandard region. It is mainly perceptible in the region of universal knowledges. The knowledges of fourth forms are approximately copied by third forms with a delay of one year. But it is surprise rising number of students with the excellent knowledges. The interpretation is not very cheering up - the knowledges do not get stuck to the majority of students, ledges probably elsewhere. It is necessary to point out, that only now would more expressive display the influences of change instructional plans in 3. forms. But neither more nor less I think, that over the offer of 17 subjects (declaratory in the offer of subjects at the UWB), which have to cover up this region, we do not prove on the face of it ti hit students so much to use PC as a working implement in higher forms and they were self-sufficient. It is necessary to realize, that the offer of subjects cover up almost whole region. But it is at disposal a little time or an interest of students is small, or it can be reason too, are these knowledges covered up by deposit of next piece of information in result unusing.

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