Agricultura 4: 1-4 (2006)

# Results of acquiring didactic competence during teachers´ training courses

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Pedagogical practice is a part of study plan of graduates and students of the Czech University of Agriculture (CUA) in Prague who complete their pedagogical education at the Institute of Education and Communication of CUA. Attendance and successful completion of pedagogical practice accomplish their qualification of teachers of vocational subjects for secondary agricultural and forestry schools. We have been running an internal survey in which we observe a teaching performance of every student. The survey data are annually processed and they help to adjust and increase the quality of teacher training courses for the next year.

Key words: research, agricultural secondary schools, vocational subjects, teachers´ training, didactical competence

## INTRODUCTION

The data which are at one´ s disposal by various European institutions running training courses for teachers of vocational subjects are processed in variously detailed publications. Analysing the study materials and publications of the institutions, we can say that teachers´ training courses have more similarities than differences. Teachers for secondary vocational schools and secondary apprenticeship schools are prepared at universities, polytechnics or pedagogical faculties in so called complementary pedagogical study programmes. Without a pedagogical qualification, a teacher is not fully qualified. Teachers´ preparation is aimed at pedagogical, psychological and didactical qualification, which the teacher candidates acquire after graduating in engineer and master study programmes at university or in an inter-disciplinary study, i.e. students study simultaneously their branch of specialisation and a pedagogical course. Thus, there are two options: a simultaneous study of teaching specialisation and a complementary study for graduates of non-teaching specialisation. Nearly all the surveyed countries some kind of a complementary study programmes. It is mainly meant for secondary school teachers of vocational subjects who are already teaching at secondary vocational schools and they wish to complete their pedagogical qualification concurrently with their employment. The complementary pedagogical study is usually part of so called further teacher´ s education.

Study programmes of training courses for teachers of vocational subjects in the form of a complementary pedagogical study usually last between two and four terms in most countries of Europe. The main studied subjects are: pedagogy, psychology, special didactics, didactic technique and information technology. Some study programmes also include subjects such as ethics, rhetoric skills, aesthetics, school hygiene, sociology, logics, environmental studies and others.

An indispensable part of the study is a pedagogical practice, however it is organised in many different ways. Most often, the teacher candidates take part in pedagogical practice under the supervision of experienced teachers of secondary vocational schools, which cooperate with the particular university. The length of the pedagogical practice is various, however it is mostly organised at the end of the study.

The guided pedagogical practice of the complementary pedagogical study for teachers of vocational subjects at the Czech University of Agriculture (CUA) in Prague is an example of such a system. The complementary pedagogical study for teachers of vocational subjects for secondary agricultural and forestry schools is organised by the Institute of Education and Communication of CUA in Prague. This complementary pedagogical study takes three semesters. Apart from this, the Institute for Education and Communication runs a bachelor study programme – A teacher of vocational subject.

*The surveyed data*

A number of skills, which a teacher candidate must acquire, form the basis for pedagogical and didactic competence. They are the following, e.g. maintaining the discipline in a classroom, organising and guiding an educational process, the skill of teaching, i.e. the skill of transforming the methodology of the subject content into the way of students´ thinking, the skill of using efficient teaching methods, instructive tools and didactic techniques. Generally speaking – to master the strategy of teaching and education on both the theoretical and practical level with respect to social and psychological aspects which are part of education.

Acquiring pedagogical and general didactic competence is mainly realised during the guided pedagogical practice which is organised by the Institute of Education and Communication of CUA in Prague at 30 training secondary vocational schools all around the Czech Republic.

Students with no previous pedagogical experience take part in a three-week pedagogical practice, others complete

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two weeks of pedagogical practice. Every year, there are between 60 and 130 students who accomplish their pedagogical practice in two terms.

As it is important to monitor and evaluate the level of pedagogical and didactic skills of the teacher candidates, the teachers of the Institute of Education and Communication undergo numerous supervisions and diagnosis of teaching performances of the students.

At the end of the pedagogical practice, an evaluation of the range, content, state and organisation of the pedagogical practice and its possible changes is performed.

The results of a questionnaire which is regularly distributed during the pedagogical practice form the basis for the evaluation.

The aim of such a survey is evaluation of pedagogical competence of the teachers-to-be. The research is judging pedagogical and didactic skills of students and comparing them with previous years.

The following hypotheses have been set within the research:

- Incorporation of pedagogical practice in a study programme of teachers of vocational subjects is indispensable.
- Contemporary students can apply their pedagogical skills and knowledge during their pedagogical practice more effectively, compared to previous years.
- Students with previous pedagogical experience (categorised into a two-week pedagogical practice) have reached better results in the evaluation of their pedagogical practice.

## MATERIAL AND METHODS

The following methods of collecting and processing data have been used in the research:

- Observation during supervisions of teaching performances
- Discussion with a student, a trainee teacher and a headmaster
- Questionnaire for CUA students and supervisors of pedagogical competence, i.e. teachers of the Institute of Education and Communication of CUA.
- Analysis of answers and supervision notes
- Summary and Comparison of the results
- Quantity and Quality Evaluation.

We have used an EXEL programme to evaluate the data and a statistic evaluation of t-test for sets of uneven percent occurrence to compare the results.

Two groups of respondents, i.e. teacher candidates who have been divided into two groups according to the length of the guided pedagogical practice have been compared.

## RESULTS AND DISCUSSION

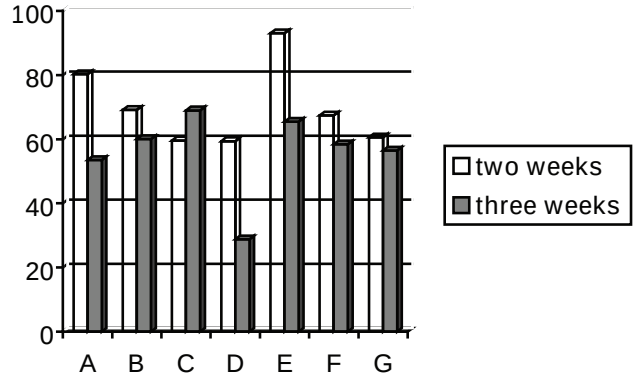
Research results – examples of the surveyed features

To illustrate the evaluation of the acquired pedagogical and basic didactic competence during the guided pedagogical practice at secondary agricultural schools in 2005, we are publishing the evaluation of the chosen features of a teacher:

- Choice of efficient teaching methods
- Suitable usage of instructive tools
- Suitable usage of technical teaching means
- Educational influence of a teacher candidate on students
- Adequate reactions in educational situations
- Adequate reactions in didactic situations
- Adequate reactions in organisation

Table 1: A total comparison of the chosen surveyed features in 2005 – two weeks and three weeks (stated in %):

| Feature | File (Group) Two weeks | File (Group) Three weeks |
|---|---|---|
| A / Choice of efficient teaching methods | 80.3 | 53.5 |
| B/ Suitable usage of instructive tools | 69.2 | 60.1 |
| C/ Suitable usage of technical teaching means | 59.6 | 69.0 |
| D/ Exploitation of concrete examples from practice | 58.2 | 28.8 |
| E/ Adequate reactions in educational situations | 93.1 | 65.5 |
| F/ Adequate reactions in didactic situations | 67.4 | 58.4 |
| G/ Adequate reactions in organisation | 60.6 | 60.6 |




Graph 1: Comparison of a two-weeks and three-weeks teaching practice in 2005 of the surveyed features (stated in %):

Teacher candidates with some teaching experience have reached higher scores in A, B, D, E, F and G features, while candidates undertaking a three-week pedagogical practice have scored better results in C feature, i.e. suitable usage of technical teaching means. The experienced teacher candidates have had far better results in educational sphere and in a choice of efficient teaching methods. Logically, the experienced candidates have named more practical examples, which is a result of their teaching experience.

The supervisors have also monitored the level of pedagogical communication. The verbal output of 39.8 % candidates has been evaluated as formal, distinct and fluent, while 51.3 % candidates have used formal language, distinct performance but minor defects. The most common errors in verbal communication have been the following: insufficient correction of students´ pronunciation mistakes, incorrect endings of adjectives, fault articulation and careless pronunciation, unsuitable pace of speech, using of slang and speech fillings, uncertainty of speech. 85.2 % teacher candidates have had their questions prepared and well formulated. 56.5 % candidates have reached an excellent level of verbal skills, 43.5 % have had a good level.

When monitoring non-verbal skills, we have found out that 56.8 % candidates make efficient movements around the classroom, 32.6 % rather stand in one place, the rest of candidates mostly sit or make inefficient movements. The most frequent mistakes have been the following: unintentional body movements, inadequate gesticulation, inappropriate eye contact with students and absence of movement among students. 71.5 % teacher candidates have reached an excellent level of non-verbal skills, 28.5 % candidates have been evaluated as having a good level. Most teacher candidates have created a supportive communication atmosphere in a classroom. Their reaction to the classroom situation has been mostly quick-witted and activating. 70.2 % of students´ reactions have been reactive, 27.9 % spontaneous, only 2.9 % students have held a passive attitude. Similar figures apply to the features of individual students.

The analysis of teacher candidates´ speech has revealed that the most often occurring mistakes have been the following: a poor formulation of questions, careless pronunciation of some words, using incorrect endings of adjectives, using redundant noises and words.

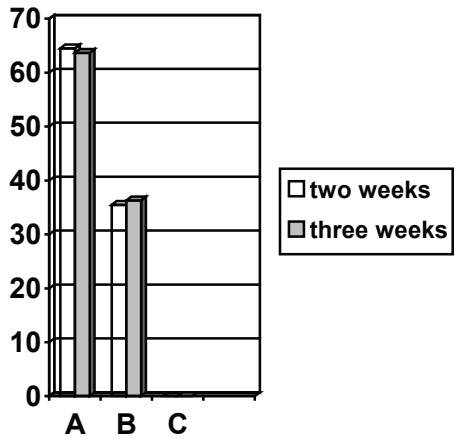



**Fig. 2: Total evaluation of the level of verbal skills of a teacher candidate (stated in %):**
**A/ excellent**
**B/ good**
**C/ failed**

There has not been any significant difference between the two groups. 64.5 % candidates of a two-week pedagogical practice and 63.7 % candidates of a three-week pedagogical practice have reached an excellent evaluation of verbal skills during their pedagogical practice. 35.5 % and 36.3% candidates of the two groups have reached a good level.

The supervisors have found out that the teacher candidates have asked students the following types of questions:

Question type A in 78.3% i.e. questions testing memory reproduction of the knowledge
B in 67.2% simple trains of thought
C in 24.9% complicated trains of thought
D in 8.7% presentation of results from an individual student's work
E in 36.7% questions inciting creative thinking

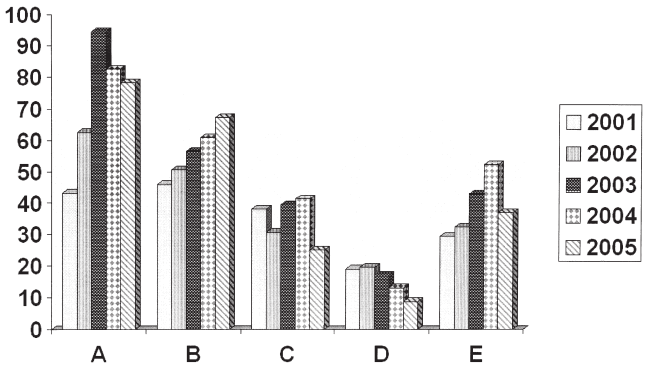
Our teachers-to-be have mostly asked question types A and B. Comparing the two groups of candidates, i.e. of a two-week and three-week pedagogical practice, there has not been any significant difference in asking questions (only a minor difference of 2%, which corresponds to a possible statistic error). There has been only evident difference in the question type E, i.e. questions inciting creative thinking. These questions have been asked more by candidates of a three-week pedagogical practice (of no teaching experience). A possible reason of this fact might be the length of previous teaching experience of the candidates. The candidates with a previous teaching experience are used to asking questions checking up the knowledge and its mere reproduction. It is a dialog detecting gaps in the student's knowledge rather than inciting creative thinking of students. Teacher-beginners have tendency to incite creative thinking by leading a dialog in a way that a student individually or by the support of a teacher finds the answer. Taking part in students´ acquisition of knowledge is for teacher-beginners a challenge and far more interesting. They might not feel the press of time, the worries of not completing the required amount of knowledge in an allocated time if they spend more time inciting students´ creative thinking. Of course, there might be also other reasons.

Results of this feature have been compared by the results from previous years – see Table 2.

**Table 2: Evaluation of the answers to the question: What types of questions did a teacher use in the classes?**

**Comparison of the surveyed features in the years 2001-2005 (stated in %):**

| Type of answer | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|
| A | 43.2 | 62.5 | 94.5 | 82.6 | 78.3 |
| B | 45.9 | 50.5 | 56.5 | 60,8 | 67.2 |
| C | 37.8 | 30.5 | 39.2 | 41.3 | 24.9 |
| D | 18.9 | 19.5 | 17.0 | 13.0 | 8.7 |
| E | 29.3 | 32.2 | 42.8 | 52.1 | 36.7 |




Graph 3: Comparison in the years 2001-2005, the surveyed feature: types of questions the teacher candidates used in the classes (stated in %):

The graph clearly shows that there is an increasing popularity of the question type B, i.e. questions inciting simple trains of thought, while the question type D manifests a completely opposite trend, i.e. the decrease of presentation of results of an individual student's work. Sadly, the results have proved that students´ activity in classes and preparation for it

is on decrease. Finally, there is a permanent popularity of the question type A, i.e. questions testing memory reproduction of the knowledge.

## CONCLUSION

The chosen and commented results of the questionnaire survey have shown that the guided pedagogical practice organised by the Institute of Education and Communication of CUA in Prague is an indispensable part of training courses for teachers of vocational subjects. The acquired results help to aim at those components of teachers´ qualification which are to be deeply practised during the pedagogical study.

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