BRANCH DIDACTICS AND ITS PERSPECTIVES OF DEVELOPEMENT WITHIN THE CZECH REPUBLIC

Pavel Doulík, Jiří Škoda
Jan Evangelista Purkyně University in Ústí nad Labem, Czech Republic
E-mail: pavel.doulik@ujep.cz; jiri.skoda@ujep.cz

Abstract

The article deals with branch didactics (subject methodology) current issues related to its gradual establishment within the fields of scientific disciplines. Branch didactics is analyzed with reference to its variable aspects of development and its gradual determination based on the original branch of science it evolved from. The article is also focusing on staffing as well as the consequences of the individual role of staffing within the development and directing of branch didactics. Such topics as pedagogues´ competencies together with their optimum qualifications are brought up. The article is concluded by frame definitions of main branch didactics activities, concentrating on its aspects of irreplaceable and individual fields of science.
Key words: *branch didactics, pedagogy, didactic transformation, pre-gradual teachers´ training, competency, conduction of the learning processes*

Introduction

It is not easy to find any other discipline going through such a turmoil and periods of diversities as was the case of branch didactics. It is rather obvious that launching new fields of science is just experiencing its boom these years, especially if we speak of sciences existing in between well-respected and long-lived branches, and also fighting for their survival in there. Branch didactics have managed to avoid getting anywhere near the expansive boom by many a foot of polite (or is it rather scornful?) distance. It is because – and principally – branch didactics are not able to add magic prefixes such as "nano" (with sciences), or "socio" (with social studies) to their name, and they are little words easily turning well-settled branches into new, dynamic and progressive ones, as if they were magic spells at Hogwarth. Even though the role of branch didactics as an individual discipline is gradually improving in the Czech Republic, it is not a clear-cut trend which could not be displaced. We do find the state of matters this saddening, as we analysed the background as well as all developmental opportunities branch didactics are provided with within the Czech high schools and universities. The opportunities are determined by the fact that branch didactics can exist as a viable field in places training teachers-to-be. The number of such colleges is not low, but as the parameters are not mainly of quantity but of quality, the chances of branch didactics lower reasonably. And it is this fact making us believe there is low viability to branch didactics as a specific field of science, limited by its opportunities or rather the lack of opportunities.

Mysterious Ways of Branch Didactics

As it has been mentioned above, the development in branch didactics is strictly bound to teacher training colleges. Speaking of the Czech Republic, it used to be Faculties of Education (or also called Pedagogical Faculties) in the past. Logically, as there are fewer students interested in studying Sciences along with technical subjects, the number of colleges offering studies in education-oriented fields has risen remarkably. We may notice a prevailing trend of the last ten years at Faculties of Education, where there a large number of non-teaching and non-pedagogy branches have been founded and accredited, but such branches do no principally belong to teacher training colleges. What we may see as a result of such a tendency is the fact that strong and sustainable as well as traditional Faculties of Education split into weak, unripe branch faculties, where there often are only a few departments in existence and which often depend on the opportunities of teaching courses. As far as branch didactics are mentioned, such tendency may be of immense danger. Traditional Faculties of Education have developed branch didactics together with didactic research and specialists of various fields cooperated. Within the new state of things at new teacher training colleges, the situation seems to be vastly different. Branch methodology instructors are either a part of specialists groups of their own field of science, and that is also where they direct their publication and research, or, they seem to be isolated in ghettos of academic workers, formally accepted, but generally overlooked.

The development of branch didactics is also made rather troublesome as the development of individual branch didactics was so uneven. There are branch didactics with accredited doctoral study fields, but there also are branch didactics of no doctorates within their own positions (and branches). This is a fact also making the situation more complicated and unclear for the "mother" branches together with general methodology (Bilek, 2002).

Some branch didactics exist or/and have existed as a sub-part of traditional fields of science or as specialisation in methodology. Such bonds are still existing, even though they are not as obvious, within branch didactics which have been through their process of separation and should now exist as fields of science of their own right.

The analysis of science boards for doctorate study programmes has shown there still only are specialists in individual sciences and pedagogy, or psychology.

We also believe this diversity in individual branch didactics development has been the cause of their diversity or even non-compatibility. Although speaking on a theoretical level, branch didactic are to solve problems of the same kind. Principles of the new curriculum reformation in the Czech Republic also help with the progress in branch didactics.

The new curricula allow teaching several subjects integrated into a subject complex. This idea helps branch didactics find topics and research fields to share and in which to cooperate. However, that does not often work in reality, although it sounds great if suggested. The reason is that it is yet unclear what the main aims of branch didactics should be. There also appears to be the problem of uncertainty within the theory paradigms supporting the actual research.

Branch didactics seem to oscillate between two edges. The first edge is formed by strictly practical approach to methodology, which reduces branch didactics to an amount of empirical or semi-empirical knowledge on specific organizational teaching forms, specific teaching methods and individual subject-teaching tools.

Branch didactics is a discipline strongly personalized and that is why we can clearly see such an approach on the pedagogues´ side. The other edge there is is the psycho-didactic approach based on theory-based paradigms in neurophysiology, pedagogic psychology and developmental psychology. Such a way of understanding branch didactics can be found too unifying, so branch didactics as such shows no difference from general didactics, which in itself is also conceived as sister to pedagogic psychology. Then subject teaching theory cannot appear to be a target, but a mere means of forming general conclusions and phrasing general theoretical paradigms, which unfortunately do not enrich branch didactics.

The main problem seems to be the issue of who really a branch didactics instructor is, what their competences are and what their required qualification should be. These essential problems co-exist within the scientific understanding of branch didactics. Nowadays, university undergraduate teacher traine-

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es belong to structured bachelor´s and following master´s study programmes. This structure has left out teaching branch didactics up to the level of follow-up study at its standard length of two years, and such studies are filled with pedagogic and psychological disciplines, pedagogic training (continuous practical teaching included), and other specialized subjects in branch disciplines, diploma thesis preparation and state exams – that is four terms of follow-up master´s teacher training, with at least two terms notably shortened. Taking the above mentioned findings as a fact, we see there is nearly no time for branch didactics, and even less time than there was dedicated to branch didactics within non-structured master´s studies. With the lessening number of branch didactics classes as well as teacher trainees, there is also a certain fall in the number of lectures given by branch didactics instructors. Branch didactics lectures then happen to be supervised by one or very few specialists within a department, and they are to direct the future of branch didactics in their workplace. For this reason the competence of a branch didactics instructor is of key importance within the whole development of branch didactics as a scientific field in its own right.

Staffing of Branch Didactics

Let us now see what the the situation with personnel management of branch didactics is like. There are three options (models) used in the Czech Republic.

A model

Teaching branch didactics is provided by a practising teacher of the particular subject, either having tought in the past or currently giving classes to pupils. Their only qualification to teaching branch didactics is their undergraduate study of basic branch didactics at their teacher training college (university). The advantage in their attitude is they have had vast experience with teaching reality within their subject and they know their "workplace". Nevertheless, their point of view to the subject is – and there is no avoidance to this – strictly practical, methodology-based. This model of approach to branch didactics mostly lacks adequate theoretical background and is often based on an idividual´s real-life experience, which obviously cannot be transferred to the students as such. Branch didactics in this case will only teach the teachers-to-be ready-made patterns of how to teach certain topics or topic-based areas of their subject. Such patterns do not respect a teacher´s individual teaching style and therefore can only be used with a limited group of teachers who tend to share the same style of teaching with their instructor. Another disadvantage of the above mentioned approach to be noted is the obvious lack of flexibility to react to changing conditions of the educational process or curricula, no matter if the changes are in the pupils´ own personalities or the content of the curriculum. To give a shiny example of various teaching styles, let us look at the large range of contrary opinions to the curriculum reform we currently have in progress. Different levels of being conservative on one side and being creative on the other side, which both happen to be the far ends of creating school curriculum, are also strongly dependant on the level of "algorithm-approach" within the educational process of individual teachers.

B model

The teaching of branch didactics is provided by specialists of very different subjects, as if by the way. They often accept the untrue idea that teaching branch didactics is easy for everyone specialized in the particular discipline. To support such an attitude means not to accept branch didactics as an individual discipline. Students then cannot be led to acquiring competences to teach, but rather to explain the simplest of topics in as complicated way as possible. They are not motivated to transfer the knowledge of their own subject onto the pupils by the simplest of means, which should be the target of any teaching process as well as research in branch didactics. It has been proved by several international surveys mapping students literacy in mathematics, science and reading (e.g. PISA) , that Czech pupils stand further back towards the end on the scoring scale, with their (in)ability to apply their knowledge in practical life and creatively use their knowledge in real life (Palečková et al, 2006; OECD. 2006). It would be of highest in-

terest to carry out such a survey for the teachers themselves. We can hardly expect a teacher giving their students competences if the teacher lacks them, too. If we cannot see the competences in the teachers, we have to re-consider the role of teaching branch didactics at colleges. This – ever so common – model of teaching branch didactics is ideal for logotropic teachers and it uses didactic reduction in a very limited way or not at all. Many a research and theoretical works in branch didactics of the last twenty years, in Anglo-American literature especially, has been devoted to the issue of Pedagogical Content Knowledge (PCK), see Loughran, Mulhall, Beery, 2004, to name but one source. We trust PCK is where the base of branch didactics is laid. Researching activities of branch didactics should be focused on the most effective methods of PCK, that is psycho-didactic knowledge – based approach, neurophysical approach etc.. The above described model takes no interest in these fundamental areas of branch didactics. The reason we see is that a specialist in the discipline, e.g. organic chemistry, is not automatically a professional in branch didactics. They lack essential knowledge in pedagogy, psychology, neurosciences and also philosophy and history of education. Now we are hitting rather a "surprising" conclusion, that a specialist in branch didactics (and a practising instructor) should be a person primarily specialised in branch didactics. Paradoxically, to a large number of academics in the CR, this conclusion may appear less obvious than we find it to be.

C model

Teaching didactics in this case is provided by a real specialist in branch didactics, so they have adequate qualification, e.g. their interest in branch didactics is also a topic of thie doctoral study and they also are active in the scientific area of the problem and actively publish their research and findings (Bilek, 2003). To become a specialist in branch didactics , there is no need to be a specialist of detailed knowledge of the mother science. The science (original discipline on which branch didactics is based) is the means only here. What is greatly valued with these professionals is their wider knowledge of the discipline, though possibly "more shallow", but larger general knowledge. Branch didactics as it is, solving problems connected to PCK (see Kansanen, 2002, European countries prefer to speak of didactic transformation), also create their own domain of work and their own science. The "newly created science" is different to what the mother discipline (specialization) was, and is also different to the general conception of pedagogy and psychology for teachers. It is vital to understand branch didactics as an individual discipline and only professionals in branch didactics should be able to transfer their knowledge onto teacher trainees. Branch didactics demand different competences and via these they reach their targets, which are different to the targets of original disciplines. The survey results show that teachers-beginners especially face the problem of very low competences in PCK (compare Ma, 1999; Van Drier, Veal, Janssen, 2001), which shows (and not only) their poor branch didactics knowledge and training in competence formation, and they need about ten years of practical teaching to get their adequate competences.

Where to Go Next?

PCK does not offer creating simple algorithms with their universal validity. PCK ought to remain active in the area of pupils´ learning strategies and also should use the mechanisms of their development. The focus of branch didactics should move from "knowledge transferring approach" to "knowledge development approach". It is essential to seek for such structures of acquiring knowledge, and dealing with such structures so that we can be sure they are more natural for the children´s way of learning new things. So called didactic reduction cannot be limited to reducing the amount of information and facts to study, but it ought to be directed to re-structuralize its content. The lower the level of education according to ISCED, the more possible it is to see the knowledge structuring as a model, which would not be valid within the field of science it reflects, but would perfectly fit everyday needs of a learning child. Here we see the irreplaceable role of branch didactics – to find such models, to verify them and to sustain them within the learning process. The thought of teaching a subject through a functional model should not be oriented on mere *learning by doing*, but should lead to gradual abstracting and theorizing of the models. Zankov theoretical conception of developmental teaching/learning reflects the world as it exists in its

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social role and can be seen as a whole complex of connections, not a complex of scattered pieces of information (Zankov, 1975). To search for effective processes of reaching this goal is another aim of branch didactics. The principle of educational process should be gradual identification of a child´s inner learning system, based on their empirical experience with the learning system (within disciplines growing from theory), and which is transferred over to the pupil by their teacher. We have not had systematic controlling of educational process as it has just been described. So here we see a brand new and opening area to the research of branch didactics – their surveys, theoretical findings and their practical implementation into teaching reality.

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Adviced by Martin Bilek, Hradec Kralove University, Czech Republic

Pavel Doulík Vice-dean for Study, Faculty of Education J. E. Purkyne University in Usti nad Labem, Ceske mladeze 8, 400 96 Usti nad Labem, Czech Republic.
E-mail: Pavel.Doulik@ujep.cz
Phone: +420475283121.
Website: http://www.pf.ujep.cz

Jiří Škoda Vice-dean for Science and Foreign Relations, Faculty of Education J. E. Purkyne University in Usti nad Labem, Ceske mladeze 8, 400 96 Usti nad Labem, Czech Republic
E-mail: Jiri.Skoda@ujep.cz
Phone: +420475283122.
Website: http://www.pf.ujep.cz