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Modernizing the Police with Research, Development and Innovation Activities

The Transition of the Finnish Police Education into a Bachelor's Degree

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ABSTRACT

The social context and the operational environment of the police has changed considerably around the world. Recently, that change has necessitated a restructuring in the Finnish police education. This reform is based on the belief that a higher level of education and a greater focus on research will lead to better professional skills and an increased ability to perform in the workplace. In this article, we examine the views of the staff of the Finnish Police University College on research, development and innovation activities (RDI) in the light of a survey answered by the staff. We pay special attention to the connection between the teacher's level of different skill areas and the experienced usefulness of RDI activities from an educational point of view. On the basis of the results, RDI activities are broadly understood to concern the whole staff. The study also shows that both the teachers' experienced RDI skills and their pedagogical skills for higher education are positively connected to their views on the experienced benefit of RDI activities. Indeed, if RDI provide the means to develop the police profession, then it is important that the related skills and the ability to transfer them are strengthened.

Keywords
police education reform, Police University College (PUC), Research, development and innovation activities, teacher's skills

INTRODUCTION

Some police organisations have long-standing experience with higher education in the police, e.g. in the United States and Australia. Police work has diversified and become more complicated. Many current threats are cross-border in nature and demand new types of skills. The police has developed new strategies in order to respond to these demands. At the same time, due to the Bologna Process in Europe, educational requirements and the level of education have been raised: e.g. Bologna accredited courses have increased by 28 percent during the last five years (Konze, Kovacs, Cabaco, & Raggi, 2015). Indeed, higher education has been seen as a helpful tool to facilitate societal change in the public sector, including the police. Higher police education has been given a key role in promoting police response to the societal developments: intelligence-led policing, community policing, the police's ability to encounter minorities and new ways to do police work in general. Furthermore, the public perception and trust as well as professionalism in the police have been emphasised (Gardiner, 2015; Paterson, 2011.) In addition, international agreements (e.g. the Bologna process) and an increase in international cooperation have added pressure to renew police education by including elements of higher education in their curricula (Jaschke, 2010; Jaschke & Neidhardt, 2007). The recent European acts of terror indicate that police education needs to pay more attention to marginalisation and pluralism as well as to different forms of terrorism and the reasons behind it (Paterson, 2011). It seems that pedagogy based on the technical skills it produces is no longer sufficient in the modern-day society; however, no unanimous opinion exists on the benefits of higher education either. Often, the critique is directed towards academic skills; at times, the connection with daily police work has been difficult to discern. (Stanislas, 2014; White & Heslop, 2012.) Indeed, the manner in which teaching in higher education is carried out is of great importance. The Finnish case fits well within these developments and discourses.

The Finnish police education began an extensive development of its research activities in the 1990s. During the same period, 1988 in fact, the training for higher police ranks was transformed into a Bachelor's degree. Finally, in 2014 the basic training program also became a 180 ECTS credit point Bachelor level degree. At the end of the reform process, the structure of the police degree had been assimilated to the Bologna process and its two-cycle system, and the basic level of qualification now corresponded to level six in the European Qualification Framework (EQF). Furthermore, due to the restructuring, the training for higher ranks now consisted of 120 ECTS credit points corresponding to level seven in the same framework. Developments in other European countries have been similar; in Bulgaria, Ireland, Norway and Slovakia, basic police education granted its students a Bachelor's degree well before Finland (HE 64/2013).[1] Closer yet, Sweden and Iceland are also in the process of renewing their police education.

Currently, research, development and innovation activities are an essential part of every University of Applied Science's operations – even though those activities are still changing due to lack of tradition – as they try to ensure the quality of their education and establish their status as leaders in their fields (Rauhala, 2012). This requirement has in fact been included in the Finnish law.[2] The universities of applied sciences (UAS) are presumed to

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1. Government proposal for the Police University College Act, HE 64/2013 vp.
2. Polytechnics Act 932/2014.

produce research that is useful and applicable in the working life but also helpful in the development process. All this requires a change in the teacher's traditional job description. The teacher's role in the Police University College (PUC) is clearly being transformed from a that of distributor of information to that of a mentor, a researcher and a developer. The ability to promptly react to working life developments and fast-changing demands has been considered so significant, that it has been emphasized on the statute level.[3] A similar development has been perceived in other Nordic Countries. Many research projects have examined the connection between police education and working life, the pedagogical solutions in police education, education and police competence and the role of police education in fostering expertise (Aas, 2014; Bergman, 2016; Hove, 2012; Petersson, 2015; Phelps, Strype, Bellu, Lahlou, & Aandal, 2016; Sjöberg, 2016).

Following other universities of applied sciences, police education is expected to take advantage of the interplay between research and teaching; it is also expected to further develop its own field through research. However, the above-described change has not been completely without problems, as only a fraction of the PUC staff has prior experience with RDI activities. Furthermore, the new system has not only demanded further education but also a change in attitudes. Other countries have faced similar problems. While studying reports about the research–teaching nexus, Princeet al., (2007) noticed that merely increasing the amount of research does not lead to better learning results (and thus more favourable professional developments). Something else is needed, e.g. a different viewpoint towards teaching activities. Indeed, Prince, Felder, and Brent (2007) ended up suggesting "a research-oriented approach to teaching" so as to guarantee successful integration of research and education.

Already, at this stage of the police education reform, it seems that teacher's individual skills will significantly affect the role of the PUC as a central developer and a frontrunner in its own field. Transferring new skills into practice requires the ability to apply the new pedagogical solutions to working life (Raij, 2014). In short, it is a question of producing the necessary real-life qualifications and intellectual skills that should be afforded by the new Bachelor's degree (European Commission, 2008). This article examines RDI activities as part of the police education reform in Finland, and more generally, as an indication of a global trend. The research questions are more thoroughly deliberated in Chapter two.

1. RDI IN THE FINNISH UNIVERSITIES OF APPLIED SCIENCES

Finnish higher education underwent some structural changes in the mid-1990's, which is when the universities of applied sciences (UAS) came into being. Their main objective was to offer an alternative to traditional universities. This was commonly referred to as the dual model. At the same time, the Finnish system was being made commensurate especially with the European one; the new system was also meant to ease international comparison.[4] In practice, the reform meant that students were free to choose between upper secondary

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3. Finnish Government decree on the Police University College (282/2014), 23 §.
4. Government proposal to the parliament for the Polytechnics Act and Act about Professional Teacher Education, HE 206/2002 vp.

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school and vocational education after basic education, and then able to study further in a UAS or a university. Figure 1 represents the Finnish education system; the arrows indicate the most common way to advance in one's studies.
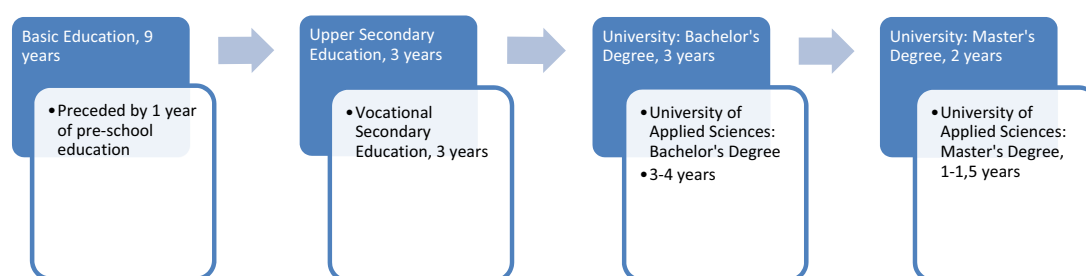

Figure 1. The Universities of Applied Sciences in the Finnish educational system[5]

Along with the reform, RDI activities gradually became a central, and in many ways an essential part of teachers' work. However, what those activities contained across different UASs wasn't clear at all. It became apparent at the end of the 1990s that there were great differences between the Finnish UASs in this respect. Even though RDI activities became more established, to this day there is a lot of variation in the way institutes practice them. In general, the RDI activities in the Finnish UASs vary from students' development projects to wide scale projects carried out by the schools themselves, which in turn presume quite a profound knowledge of the substance field. Some of the largest RDI projects that the UASs have carried out have offered the possibility for students to participate and educate themselves. These kinds of activities have usually been part of the final thesis, or they have been included in RDI-related study modules and have been carried out as projects. Thus, it is easy to understand the concern over UAS strategies, as RDI activities demand a lot of resources. When developing RDI activities, teachers' skills, their role in research activities and equal division of work should be taken into account. All in all, the staff's general commitment to the chosen directions and priorities is important. (Leinonen, 2006, p. 109; Lumme, 2012, p. 18; Suntio & Konkola, 2003; Surakka, 2008, p. 30.)

Usually, RDI activities in the UAS are either integrated into teaching, or a specific research unit oversees them. Researchers studying this subject have recently advocated for integrated RDI activities. According to them, this model is more profitable to teaching and enables students to learn in their natural environment. It also prevents differentiation between teaching and research. (Lumme, 2012, p. 16; Marttila, 2010, p. 9.) On the other hand, integration can be problematic too. Concerning the unification of RDI activities and teaching at Finnish UASs, Sotarauta, Myllykangas, and Varmola (2011, p. 49) state that:

To cross the line between RDI activities and teaching has proven to be more difficult than initially thought. It requires rather profound procedural changes as well as changes in thinking. The most problematic barriers stem from strong identities and rise from traditional viewpoints, not so much from concrete, clearly visible boundaries.

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5.   Ministry of Education and Culture webpage: http://www.minedu.fi/export/sites/default/OPM/Koulutus/koulutusjaerjestelmae/liitteet/koulutusjarjestelma.pdf)

At first, the Finnish PUC decided to treat RDI activities as a separate area of competence as well. Furthermore, the police education reform highlighted the need to bring research and teaching closer together. Whereas, the Finnish Education Evaluation Centre (FINEEC) notified the PUC of their need to increase interaction between teaching and research in 2012; this was taken as clear incentive from outside (Pekkarinen et al., 2012). Development has been similar elsewhere. The EDUPROF project's final report (2011, pp. 12–16) gives examples of several European UASs and their development projects. Their objective was to encourage teachers to tie teaching and research together even more closely than before.

In Finland, the UASs have a clear obligation to develop practice in the field that has been stated in law.[6] It is fair to say that RDI activities in the UASs cater well to the labour market. Research units and the business sector share a close geographical proximity along with mutual RDI-related interests, although this may not be true in all fields. Consequently, information from the UAS is transmitted to work and businesses in various ways such as in the form of official co-operation, but also through more informal networks. Moreover, international research suggests that more traditional ways such as reports, publications and conferences may play a big role in transmitting research information. (Abramovsky, Harrison, & Simpson, 2007; Cohen, Nelson, & Walsh, 2002, pp. 14–16; EDUPROF project final report, 2011, p. 14.) The PUC is still changing and finding its form after the educational reform. Its structure is, nonetheless, largely based on other Finnish universities of applied sciences.

1.1. The UAS teacher in an RDI: preparedness for change and further accumulation of skills

Recent research on professional teachers' skills has mainly been related to four entities, i.e. basic skills, teaching skills, professional skills and developmental skills; the last entity has usually included research skills (Guo & Zhan, 2013). This definition differs only slightly from the classification of Helakorpi (2006) made nearly a decade ago. According to him, the UAS teacher's four skill areas are:

- SUBSTANCE (professional skills, work skills);
- UAS PEDAGOGY (control over the teaching–learning process);
- RESEARCH AND DEVELOPMENT (knowledge base and development);
- WORK COMMUNITY SKILLS (organizational knowledge, teamwork and networks).

In addition to substance-related skills, the UAS teacher should be aware of new learning theories, actively pursue co-operation with the work community as well as practice developmental research. Versatile development in teaching and the professional field necessitates the ability to produce, transmit and apply scientific research in the UAS (Marttila (2010, p. 9). According to Vanhanen-Nuutinen, Laitinen-Väänänen, Majuri, and Weissmann (2008, pp. 15–16), research and development activities seem to have an effect on the teacher's job description and modes of action, especially via pedagogical practices that incorporate the work life, e.g. by using augmented realities (i.e. new technologies and simulations). How-

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6. Polytechnics Act 932/2014.

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ever, this is not enough. The teacher should, in addition to teaching and mentoring, be personally interested in researching and developing the work life. Teachers should act as information and co-operation creators, networking promoters as well as coordinators and mediators (Laitinen-Väänänen, Majuri, & Vanhanen-Nuutinen, 2008, p. 107).

In traditional universities, research has been an essential part of teachers' skills. Conversely, in the European universities of applied sciences, there is a lot of variation in how much they emphasize RDI activities as part of teachers' professional skills. Austria, Ireland, Norway and Switzerland seem to highlight them, whereas Finland seeks to integrate RDI activities into teaching (Maassen et al., 2012, p. 31). Overall, traditional universities have a firmer relationship between research and teaching compared to the UASs. In universities, RDI activities are believed to increase students' interest towards the field, assure the timeliness of information, offer illustrative examples for teaching purposes, illustrate the nature of scientific and analytical thinking, and help contextualize information and facilitate teaching difficult subject matter (Hua & Shore, 2014). This assessment is backed by recent studies according to which 78.5 % of university staff is research oriented, whereas 78.6 % of UAS staff would rather concentrate on teaching (Aarrevaara, Dobson, & Postareff, 2013, p. 151; see also EDUPROF project: Developing Indicators of Applied Research, Final Report, 2011, p. 4; Maassen et al., 2012).

1.2. The Problematic role of higher education

Fundamentally, educational organizations should aim at finding the right balance between education and RDI activities and combine them. Indeed, too much emphasis on RDI may also be detrimental, as internal emphasis placed on it is not unproblematic in the higher education sector and the tendency to emphasize research – at the expense of teaching – has received some criticism (Cretchley et al., 2014; Prince et al., 2007; see also Lagestad, 2014). Turner, Wuetherick, and Healey (2008) have investigated Canadian and British students. Depending on the university, 16–24 % of them thought that research activities had some negative impact: teachers' lack of time is one such adverse effect. All in all, students have had positive reactions to research as part of their studies. In general, learning has been most effective when students have been able to take part in research projects as early as possible. Numerous researchers have stressed the importance of students becoming active constructors and users of information (Robertson & Blackler, 2006; Turner et al., 2008; see also Brew, 2012, p. 110; Spronken-Smith, Mirosa, & Darrou, 2014).

It has been estimated that the benefits of higher education may be related to the context of learning instead of the subject matter. It seems that a liberal value system and the ability to reflect one's own behaviour are achievements or skills that are related to a higher level of education. (Marenin, 2004; Paterson, 2011.) In the modern society, reflecting on one's own actions, the ability to learn new skills, flexibility and adaptability in diverse situations is becoming more and more crucial; it is also important to be able to understand the core processes behind incidents (Bergman, 2016; Nikolou-Walker & Meaklim, 2007; Phelps et al., 2016; Roberts, Herrington, Jones, White, & Day, 2016; Sjöberg, 2016), which demands an orientation for research as well as ethical and democratic (Marenin 2004) values and the ability for lifelong learning. In the police, the connection between research and teaching is often seemingly problematic; usually, the goal is to tie academic subjects and police

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research into practical police work. In this process, pedagogy's role is highlighted. Otherwise, there is a chance that the academic approach may be perceived as something external and might consequently cause resistance within the police. It seems we are going in the right direction as long as we do not ignore the practical nature of the police profession (Shipton, 2011; White & Heslop, 2012, Winhurst & Ransley, 2007).

The UAS' core pedagogical choices appear to be based on subject matters that are currently assumed to be important in the field and, naturally, also for the students' professional growth. If we follow the educational discourse about the police profession, we can conclude that it has usually revolved around immediate work life benefits and police's professional status (Furuhagen, 2015; Rydberg & Terrill, 2010; Trofymowych, 2007). All in all, the changes in police's operational environment require new skills, to which a higher education degree, whether the emphasis is on research or teaching, is expected to be the answer.

2. THE AIM AND EXECUTION OF THE STUDY

In this article, we examine teachers' and researchers' views concerning RDI activities as well as the connection between teachers' conceptions of their skills and the experienced benefit from those activities. We base our findings on a survey that we conducted in the PUC. We aim to answer the following questions:

1. How do teachers and researchers in the PUC view RDI activities?
2. Do teachers with certain skills regard RDI related benefits differently than those who feel they do not possess those skills to the same degree?
3. Do teacher groups differ in this regard (Question 2)?

In order to examine Question 2, we have utilized Helakorpi's (2006) instrument measuring the skill level of the UAS teacher. RDI related teaching benefits are examined in relation to one's perceived skills. Although many studies have been conducted on UAS teachers (e.g. Auvinen, 2004), the connection between teachers' perceived self-assessed skills, and their views on RDI activities have not received that much attention.

2.1. Research data

There are roughly 200 employees in the PUC over half of which are teachers. The number of employees has been on a slight decline over the last few years. The research data was collected in the spring of 2014, just before the basic education reformation took place. It was decided that this questionnaire would be sent to all the teachers as well as the employees working in RDI activities. Part-time and former teachers also received the questionnaire. Based on these criteria, overall 130 recipients received the questionnaire and 100 of those answered it by the deadline, amounting to a 76.9% response rate. A total of 81% of the respondents said they were teachers, and all but one shared their main competence area. Twenty-five per cent of the respondents taught transferable skills (e.g. law, languages, psychology); 25 % special skills (use of force, police ICT tools), and 30% operative skills (tactical and technical crime investigation). Fifteen per cent of the respondents were involved

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in RDI activities and most of them defined themselves as researchers. Five per cent of the respondents stated that they belonged to some other group than teachers or researchers. However, many of them teach or have taught part-time. In this study, they are defined as "the other" (e.g. internship instructors or those responsible for material production in preventive police work/community policing).

Table 1. Respondent demographics

	Gender	Position	Educational background	Age	Employment (Years)
N= =	99	100	99	96	99
	%	%	%		
	Men 78.8	Teacher 81	Policemen/-sergeants 33.3	27–68 v.	1–37 v.
	Women 21.2	Research 12	UAS Bachelor's degree 21.2	*MS* = 49,5	*MS* = 10,8
		Others 7	UAS Master's degree 32.3		
			Pre-doctoral researchers 13.1		

Mainly, the PUC teaches subjects that promote learning of practical police skills. A total of 61% of the respondents had police background, and the rest, i.e. 39% were civilians. Sixty-seven per cent of the teachers taught vocational subjects, 31% general subjects and the remaining 2% reported teaching both types of subjects. Teachers that taught transferable skills were mainly civilians, whereas those teaching operative and special skills usually had police background.

2.2. Survey implementation and instruments

This research contains a full survey of the PUC's teaching and RDI staff and thus uses purposive sampling. Our aim was to compare the views in different respondent groups, and to investigate teachers' and researchers' views on RDI activities in the early stages of the reform. Furthermore, we compared our results to previous research projects concerning RDI activities in the UASs (Jokiranta & Ranki, 2004; Suntio & Konkola, 2003; Viitala & Lehtelä, 2006). We pretested the questionnaire with five respondents and made some changes based on the feedback. Finally, the questionnaire was built around five themes, the first of which measures the teacher's skills, the second the teacher's role in the current and the new degree (another article will be written on the teacher's role exclusively, Theme 2); third the different forms of research and development activities (statements were mainly derived from relevant literature, see e.g. Jokiranta & Ranki, 2004); the fourth looks at how an individual takes part in those activities and the fifth examines the experienced benefits or importance of RDI activities (Table 1). All in all, there are 57 statements and a few background questions in the questionnaire. In order to ensure reliability, the respondents had a chance to comment on each theme in an open-ended question.

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Table 2. Themes of the questionnaire

Theme	Abridged name	Full name	Number of statements
Theme 1	Teacher's skills	Teacher's skills around different areas. Own evaluation.	12
Theme 2	Teacher's role	Teacher's role in the current and the new degree	8 + 8
Theme 3	RDI in PUC	Different forms of research and development activities	9
Theme 4	RDI belongs to	How an individual takes part in RDI activities and to whom it belongs	9
Theme 5	Importance of RDI	Experienced benefits or importance of RDI activities	11

In order to improve accuracy, we used a seven-step scale instead of the more traditional five-step scale. In the analysis, we treated these scales as interval scales. This is a rather common procedure in a quantitative study. According to Vehkalahti (2008), the Likert scale for instance, is perceived as an interval scale where anomalies in the intervals are caused by errors in measurement. Frequently, the responses in the Likert scale are described verbally, so as to make sure that the respondents understand the options in the same way. However, in our estimation, it was sufficient to only describe the farthest points of the scale, as per the Osgood scale. We felt that including the extreme values would afford the respondents more discretion in their choice of answer. Furthermore, we noted in the instructions that the middle rank is the neutral option.

Upon entering the data into the statistical program, we discovered that four statements on RDI-related responsibility areas were understood in two different ways. These statements in Theme 4 gave us information about which groups were seen as the targets of RDI activities. Consequently, they were removed from the final analysis and the Cronbach's alpha for the remaining statements was good (α = .788). Otherwise, the questionnaire seemed to be reliable; all themes in this article had Cronbach's alphas between .792 and .921. The reliability of the sum variables was good which speaks to the reliability of the research (for Cronbach's alphas, see Table 4, and the regression analysis, p. 14). In addition, negative statements were consistent with the positive statements. The relatively small data set poses questions about the research ethics, therefore special attention was paid to anonymity, and analysis that could have jeopardized respondents' anonymity was avoided (results were analysed in larger groups and any detailed information about the respondents was removed). Furthermore, it requires precision in the normal distribution of the analyses. We used the SPSS statistical analysis software to analyse the results. We used skewness and kurtosis as well as the Kolmogorov-Smirnov and Shapiro-Wilk tests to determine normal distribution in the variables.

3. RESULTS

This chapter starts with Theme 3, where we analyse what type of activities the respondents viewed as RDI activities. Figure 2 functions as a basis for the following chapters. In Chapter

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3.1, we investigate how an individual takes part in RDI activities and to whom those activities belong. Chapter 3.2 is intended as a lead in to the second research question through Themes 1 (Teacher's skills around different areas) and 5 (Experienced significance or importance of RDI activities).

In order to discover which PUC activities are perceived as RDI activities, respondents were asked to rate nine different statements on a scale from 1–7 (1 = *fully disagree*, 7 = *fully agree*). Research in the police operational environment received the highest score, indicating that it is most strongly perceived as being related to RDI activities. Almost as many respondents understood RDI activities to refer to externally funded research. Students' developmental projects and theses received the lowest score. However, all suggested RDI practices received an average of five at the least. The teachers' teaching related research and development received the fourth highest average of 5.84 ($n = 98$); this average is very close to the other more highly estimated forms of RDI. This is an encouraging sign if we consider the future development of teaching and the timeliness of the related information. Also encouraging is the fact that 83.5% of all respondents indicated that they wanted to take part in RDI activities in the future.
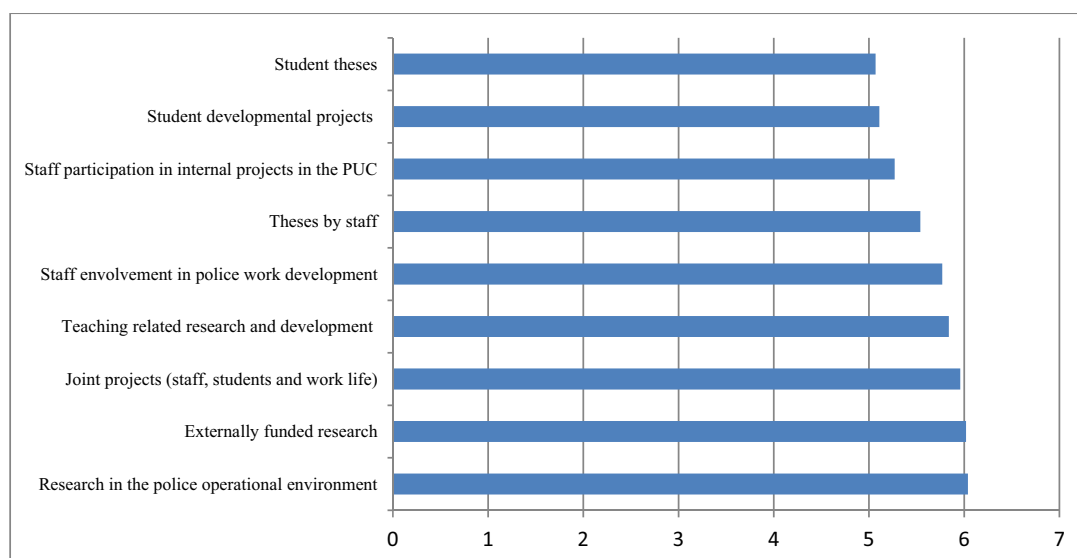

Figure 2. Different forms of research and development activities (Theme 3). All respondents.

When we divided the results by job description, it became clear that teachers', researchers' and *the others'* views differed most in relation to students' theses. The teachers ($n = 79$) thought that theses were clearly a part of RDI activities ($MS = 5.27$), whereas the researchers and *the others* ($n = 18$) rated them at 4.25. The difference may result from the fact that the respondents did not have the opportunity to form a clear idea of practical RDI activities at the initial stage of the higher education reform (comp. Pasma, Koivunen, Pihlajamaa, Korhonen, & Isohanni, 2009). On the other hand, inserting students' theses under RDI activities might be a novel idea for researchers with a university background.

3.1. Ownership in RDI activities

Next, respondents were asked to rate RDI ownership in the PUC with the help of eight statements on a scale from 1–7 (1= *completely disagree*, 7 = *completely agree*). The majority of the respondents thought that all PUC teachers should partake in RDI activities to a greater degree. RDI activities were also thought to be part of a teacher's job description and they should be carried out as shared projects (Table 3). In order to make cross tabulation, variables consisting originally of seven categories were reduced to three categories (*disagree* = 1–3, *neutral* = 4, *agree* = 5–7).

Table 3. The respondents' view on the execution of RDI activities in the police degree

	All teachers should be more involved in RDI	**RDI ownership belongs to all teachers**	**RDI activities should be organized as shared projects between education, the police and the RDI**
N=	99	98	99
	%	%	%
Agree (5–7)	67.7	72.4	72.7
Neutral (4)	19.2	12.2	17.2
Disagree (1–3)	13.1	15.3	10.1
Total	100	100	100

In addition, one statement inquired whether the respondent's own work relates to RDI activities. A vast majority, 74.1%, of teachers (*n* = 80) thought that in the new degree their work is going to be related to RDI activities regardless of their subject (*agree* = 5–7). Cross tabulation indicates that the percentages according to the *educational competence area* (*n* = 79) vary between 72% and 87.5% in the option "agree" when using the above-mentioned three categories. Furthermore, there was no statistically significant difference between these competence areas, $\chi^2(2) = 2.086$, $p = .352$ (in order to fulfil the conditions for the Chi-square test, the scale was divided into two categories: 1–4 = *don't agree*, 5–7 = *agree*).

3.2. Connection between RDI activities and teacher's skills

The objective of the following eleven statements illustrating RDI significance helped to estimate the perceived significance of RDI activities in the PUC. We also wanted to find out the degree to which full time teachers' (*n* = 80) and researchers' (*n* = 12) evaluations differed in RDI significance (Figure 3).
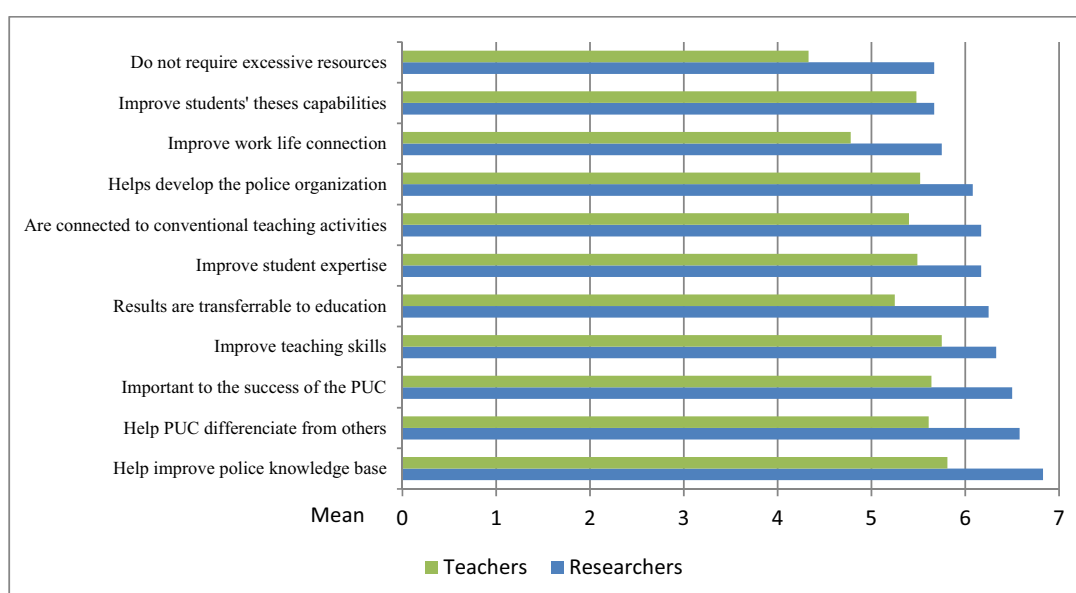
Figure 3. Experienced significance or importance of RDI activities (Theme 5). Significance of RDI activities as evaluated by teachers and researchers on a scale from 1–7 (1= completely disagree, 7 = completely agree).

RDI activities in the PUC were perceived to be significant in many ways. The average values stood above neutral (4) in all responses ($n = 99$), and over five in all but two statements. Respondents agreed most commonly with the statement "RDI activities improve police knowledge base" ($MS = 6.0$). Whereas, the statements "RDI improves work life connection" and "RDI does not require excessive resources" received an average of less than five. Naturally, the combined result from all statements (all groups) emphasized the largest respondent group (teachers) and their viewpoint. As Figure 2 indicates, researchers evaluated the significance of RDI activities higher than the teachers.

Higher education places a lot of emphasis on teachers' RDI proficiency: arguably even more so in the future. Although teachers' views on the significance of RDI activities were fairly positive, we also wanted to observe whether it is possible to influence those views by improving teachers' expertise.

Expertise in teachers and *the others* (many of whom have teaching experience) was measured by implementing Helakorpi's (2006) instrument for assessing UAS teachers' skill levels (own evaluation). On the whole, respondents assessed their overall skill level fairly high. In ten of the twelve statements respondents rated their overall skill level as above four (neutral); the response average was below four in only two statements. The statement "Command of core and basic skills" was evaluated as the highest area, whereas, the combined group *teachers and the others* evaluated "following foreign professional publications" and "awareness of the initiation process of RDI activities in the PUC" as the weakest areas. According to the instrument knowledge about RDI activities is on a fairly good level though it was rated as the third weakest area overall. The two statements that most clearly refer to RDI activities were amongst the three knowledge areas that received the lowest score (Figure 4).
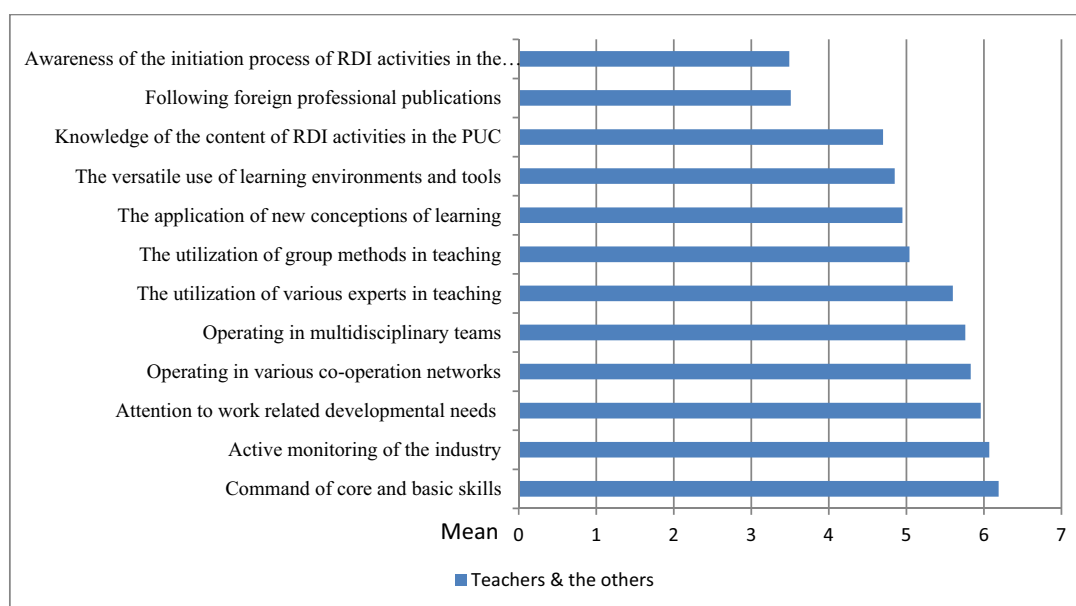
Figure 4. Management of work on a scale from 1 to 7 when 1 = completely disagree, 7 = completely agree. Researchers did not answer statements regarding skills.

There was no notable difference between the various knowledge areas in teaching, apart from following foreign professional publications. Cross tabulation indicates that when examining the statement about following foreign professional publications in relation to different knowledge areas (n = 79), experts in transferable skills (mainly civilian teachers) clearly follow foreign publications the most: 56% of the respondents told that monitoring foreign professional publications is on a good level (level 3 when categorizing the response alternatives as follows: 1 = 1–3, 2 = 4, 3 = 5–7). Whereas only 16.7% (special skills) and 23.3% (operative skills) of teachers in other knowledge areas (mainly police teachers) chose level 3 for following professional publications. Indeed, there is statistical difference between the teaching fields as indicated by the Chi-square test: $\chi^2(2)$ = 9.361, p = .009 (expertise is categorized into two classes. *Low*=1–3, *high*=4–7).

3.3. Skills and the experienced benefit from RDI activities

In this survey, we investigated how skills measured as four components representing skill areas previously found by Helakorpi (2006) could predict RDI significance. We used linear regression analysis to examine the results. In the analysis, we used the skills of the group "teachers and *the others*" –as the independent variable but first we categorized the knowledge areas with factor analysis and principal component analysis (Varimax rotation). The results supported Helakorpi's (2006) views concerning UAS teachers' skill areas. The factor analysis produced four main components. The coefficients of determination were 20.19 % (component 1), 18.86 % (Component 2), 15.05 % (Component 3) and 13.95 % (Component 4).

Statements in Component 1, i.e. "PUC pedagogical skills":

• The application of new conceptions of learning;
• The versatile use of learning environments and tools;

- The utilization of group methods in teaching;
- Following foreign professional publications.

Statements in Component 2, i.e. "substance skills":

– Active monitoring of the industry;
– Command of core and basic skills;
– The utilization of various experts in teaching;
– Attention to work related developmental needs.

Statements in Component 3, i.e. "work community skills":

– Operating in multidisciplinary teams;
– Operating in various co-operation networks.

Statements in Component 4, i.e. "RDI skills":

– Awareness of the initiation process of RDI activities in the PUC;
– Knowledge of the content of RDI activities in the PUC.

Table 4. Rotated component analysis: the teacher's skills and main areas of knowledge

	PUC peda-gogical skills	Substance skills	Work community skills	RDI skills	h^2
The application of new conceptions of learning	**.841**	.172	.181	.201	.811
The versatile use of learning environments and tools	**.822**	−.018	.205	−.056	.722
The utilization of group methods in teaching	**.743**	.041	.216	.213	.646
Following foreign professional publications	**.527**	.418	−.261	.203	.561
Active monitoring of the industry	.113	**.847**	.082	.119	.752
Command of core and basic skills	.001	**.714**	.142	−.127	.547
The utilization of various experts in teaching	.133	**.623**	.208	.124	.465
Attention to work-related developmental needs	.027	**.590**	.534	.157	.658
Operating in multidisciplinary teams	,165	.193	**.830**	.096	.762
Operating in various co-operation networks	.338	.217	**.751**	−.014	.725
Awareness of the initiation process of RDI acti-vities in the PUC	.118	.040	.037	**.860**	.757
Knowledge of the content of RDI activities in the PUC	.154	.086	.075	**.851**	.760
Eigenvalues	4.041	1.738	1.363	1.023	
Cumulative % of variance after rotation	20.194	39.056	54.097	68.042	
Cronbach's alpha	.724	.739	.803	.691	
KMO					.749
Bartlett, p					<.001

Note. h^2 = communality

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The factor loading for the statement "attention to work related developmental needs" was almost equally significant in the component "substance skills" and "work community skills". "Attention to work related developmental needs" is quite likely related to the nature of the teaching profession, i.e. the demand to stay on top of progress in one's own subject matter. It seems likely that the work-related developmental needs factored under the component "work community skills" for that same reason. Moreover, the statement "following foreign professional publications" loaded fairly strongly under the component "pedagogical skills" and "substance skills". The fact that following foreign professional publications was also factored into substance skills probably means that following professional publications is important for self-management purposes. However, it is understood to be part of a UAS teacher's job description slightly more strongly (Table 4).

The previously mentioned four components were used as descriptive variables in regression analysis (Table 5), the purpose of which was to examine the benefit of RDI to teaching and learning. Statements describing teaching and learning specifically (among the eleven questions describing the significance or importance of RDI, Figure 3) were added together to form a sum of all variables called "benefit of RDI in teaching". The sum variable was normally distributed and its reliability was good (α = .801); it consisted of the following statements. The statement "RDI improves teaching skills" was left out because it is essentially the same question as "Is there a connection between teachers' skills, and to what extent are RDI activities believed to benefit teaching and learning?"

- The results of RDI activities are transferable to education;
- Student expertise increases due to RDI activities;
- RDI improves students' thesis capabilities;
- RDI activities are connected to conventional teaching activities;
- RDI activities do not require excessive resources.

We used regression analysis to find out if there are some other skills, in addition to the ones that we would assume (i.e. RDI skills), that affect the experienced significance of RDI activities in teaching and learning (Table 5). In the light of the results, it seems there are other skills that are significant in this respect.

Table 5. The effect of teaching staff's (teachers and the others-group) RDI skills and pedagogical skills on the perceived importance and scope of RDI activities in statistical regression (stepwise multiple regression) N = 83

Perceived benefit of RDI activities in teaching and learning	B	SEB	β	F
Model 1				28.537***
RDI skills	1.965	.368	.510***	
Model 2				19.518***
RDI skills	1.597	.376	.415***	
Pedagogical skills	1.250	.441	.277**	

R^2 adj. = .251, model 1; R^2 adj. = .311, model 2. ΔR^2 = .261, model 1; ΔR^2 = .067, model 2. *p < .05; **p < .01; ***p < .001.

The predictors (models) explain the relationship between skills and the perceived significance of RDI activities in a statistically significant way ($p < .001$). The coefficient of determination (Model 1, $p = .000$; Model 2, $p = .006$) is at least moderate for both models. While estimating the relationship between skills and teaching, it was discovered that when respondents' knowledge of RDI activities and UAS pedagogical skills increases, the experienced importance of RDI activities to teaching and learning increases too. Both RDI and pedagogical skill areas are connected to the perceived significance of RDI activities in teaching and learning, either (statistically) significantly or very significantly. On the other hand, substance skills and work community skills do not have a similar connection to the perceived benefit of RDI activities. Thus, it seems that in addition to the teaching personnel's RDI skills, UAS pedagogical skills are important, when trying to increase positive attitudes towards RDI activities that help develop the police profession.

When we examined the staff's attitude toward RDI activities and their benefits to teaching and learning, it became apparent that there was no statistically significant difference between the different teaching staff areas (teaching staff in transferable skills, police special skills vs operative skills). However, according to the Mann-Whitney U-test, civilian teachers regard RDI activities to be more beneficial to teaching and learning than to police teachers ($U = 533$, $p = .01$).

4. DISCUSSION

4.1. Reliability and validity

On the whole, the questionnaire was fairly successful in exploring the subject matter. However, we believe the PUC represents a unique educational institute and therefore the results cannot be generalized to other UASs in any simple way. Also, with respect to the number of possible respondents within the PUC, the data is relatively comprehensive and therefore telling about overall attitudes toward RDI activities in the school. Nevertheless, the results can be of importance to other police institutes, which are planning to modernize their educational program to better adhere to the new standards of higher education established after the Bologna process.

Some facts should be taken into consideration when reading and interpreting the results of this study. The eagerness to take part in RDI activities, for instance, may have been caused not only by the willingness to develop one's own skills but also by a desire for change or variation: an interpretation that is supported by Schulz (2013, pp. 472–473); upon researching universities' working atmospheres, he came to the conclusion that the academic staff were relatively satisfied with their jobs. One cause for such satisfaction might have been the dual role in research and teaching. When interpreting the data, one should also keep in mind that the data was gathered only shortly before the UAS level basic education became effective in the PUC. Furthermore, it should be noted that the teaching staff's level of skills is based on self-evaluations/conceptions, and therefore one cannot make further conclusions about any connection between the significance of RDI and the staff's level of skills.

4.2. Synthesizing results

This research examined the way the PUC's teaching personnel and researchers view RDI activities. In addition, it examined the teaching personnel's evaluation of RDI activities in relation to the experienced benefit to teaching and learning and whether this evaluation is connected to their skills.

The results of the questionnaire indicate that RDI activities are thought to be part of the police's higher education and the responsibility of both the teaching personnel and researchers. The clear majority of the respondents (including teachers) considered RDI activities to be the responsibility of all teaching personnel. This result diverges from some previous findings concerning UAS teachers (e.g. Jokiranta & Ranki, 2004). Furthermore, the PUC teachers were eager to take part in RDI activities. The significance of RDI activities, in every form, was viewed as important. In addition, RDI activities were considered important for the expansion of knowledge in the police profession. Consequently, it was believed to develop teaching and learning in the PUC as well. The existence of RDI activities has an effect on the PUC profile within the UAS network: high-quality research in the field highlights the expertise and respect of that field. In this respect the results were convergent with earlier corresponding studies. (cf. Jokiranta & Ranki, 2004; Viitala & Lehtelä, 2006.) In the light of the research, RDI activities seem to be a noteworthy means to further develop police profession in a versatile way and to guarantee the development and timeliness of police education.

Teachers' skills were classified into four sectors in accordance with the previously mentioned division by Helakorpi (2006): (1) UAS pedagogical skills, (2) substance skills, (3) working community skills and (4) RDI skills. Teaching personnel considered themselves skilled in almost all of these areas of expertise. In general, skills related to RDI projects (initiation, content) were viewed as the weakest field; there was little variation between teachers in various competence areas. However, experts in transferable skills (mainly civilian teachers) viewed *following foreign professional publications* more favourably than teachers in other knowledge areas. Following foreign professional publications requires sufficient language skills. Indeed, the PUC is, in many respects, quite international and increasingly so. Language skills can be beneficial in such an environment. The full-scale utilization of the CEPOL (European Police College) network, international student and teacher exchanges, the increasing amount of English language education in the PUC and the various foreign publications in the police field (that may be used in thesis projects) all require language skills. Essentially, just as in other fields, a comprehensive development of the police profession that views police education holistically and takes international views and discussion into consideration, demands these requirements be taken seriously (see, e.g. Sanderson, 2011).

Research on the UAS teachers' skills and their relation to the experienced importance of RDI activities has been rare thus far, though teaching has been the object of many studies and it has been approached from various points of view (see, e.g. Devlin & Samarawickrema, 2010; Sanderson, 2011). As expected, development of RDI activities among teachers seems to increase the experienced importance of RDI activities in teaching and learning. This study made the significant observation that in addition to RDI skills, the development of UAS pedagogical skills seems to be connected to the experienced benefits of RDI activ-

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ities in teaching and learning. Furthermore, civilian teachers perceived the benefits of RDI activities to be higher than did their police colleagues. Implementing a research-oriented outlook to the philosophy of teaching is important, but it is also important to investigate how teachers transmit their views on students. Nonetheless, the results support the view that the development of teachers' professional skills should be all-inclusive, and contain all three capabilities, i.e. those related to research, teaching and development (however, in order to become a permanent employee, all teachers must complete a pedagogical degree course, 60 ECTS).

4.3. Significance of findings

In universities of applied science, the core of the research consists of the relevant skills, the profession and the area of expertise; it serves the obligation set on UASs to educate experts in the field. Research is a natural part of higher education in Finland, though some have expressed doubts about the direct benefits to teaching. Nonetheless, an increasing amount of evidence indicates that by taking part in different types of research (RDI) projects, students learn skills that are beneficial in the work environment. (Healey, 2005, p. 187.) Students' level of responsibility for their own learning is expected to change when they study on a higher level; consequently, their independent attitude towards studies and ownership of the learning process is expected to increase (Oolbekkink-Marchand, Van Driel, & Verloop, 2014).

The benefits of higher education depend on the circumstances. How police role and mission are perceived is reflected in the education (Paterson 2011). Similarly, values related to the profession guide the educational decision-making. For instance, cooperation between the police and the communities has been recognised as vital and there have long been efforts to improve this collaboration. However, due to financial requirements and to make police more effective, the general tendency has been to form more centralized police forces. Consequently, it is possible that the police becomes less visible to the citizens in their everyday lives (though there have been attempts to bridge this gap with the use of technical solutions). In Denmark, the level of community engagement lessened due to the establishment of larger police units. Indeed, specialization afforded by larger units may lead to community estrangement and to declining knowledge on neighborhoods and communities. (Chappel, 2014, Marenin, 2004; Mendel, Fyfe, & Heyer, 2017.)

Furthermore, the role of higher education is governed by whether the police profession is perceived as intelligence-led work, demanding expert knowledge, i.e. the police must possess so-called academic skills in addition to practical skills, not unlike doctors and teachers (Jaschke & Neidhardt, 2007). Even if we accept the idea that an academic police is better able to encounter and respond to the changes in his or her working environment, the mere inclusion of academic themes is not enough. It is essential for teaching to be connected to the police's work environment and the realities in it. For example, instead of mechanically learning about human rights, teaching should concentrate on practical application and learning through RDI projects e.g. the correct police behaviour from a human rights point of view when encountering asylum seekers, a topic that is hugely relevant at the moment (Marenin, 2004). Teachers involved in police education are in a key position as they are the ones communicating educational values and skills (Nikolou-Walker & Meak-

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lim, 2007; Shipton, 2011). RDI activities can aid in this process as long as they are tied to police practice.

One way to integrate RDI activities in teaching is to carry them out according to the Learning by Developing Model (LbD), where learning happens in different developing plans or projects (Raij, 2007, 2014). Making this type of research and development part of PUC teaching activities would help make sure that the very practical nature of police work would sufficiently be taken into consideration (Lagestad, 2014). Furthermore, combining teaching and research activities enables the development and innovation of police work in various ways; indeed, RDI activities, especially in applied research, are often based on fundamental research knowledge, which has been noted to facilitate the adoption of new information and innovations (Cohen & Levinthal, 1989, p. 569, p. 594).

This study (in accordance with previous ones) indicates that RDI activities are far too often perceived to be competing with teaching activities and thus not viewed as part of them. In Finnish UASs, the main focus is still on professional qualifications. However, RDI activities that are tied to the working life can help develop teaching (Koivula et al., 2009, p. 9). Pedagogical skills play a big role when striving to move on from teaching that aims to merely transfer information (Meriläinen, 2015). In addition, RDI activities offer an excellent context for learning by allowing students and teachers to collaborate in development projects. They also improve teachers' research skills and help renew pedagogy. In this light, it is only natural that the amount of RDI activities in UASs is increasing and spreading into new areas. In the light of this study, investing in teachers' professional skills in different ways seems profitable. As Schultz (2013) has noted, this could potentially lead to better job satisfaction as job descriptions become more diverse. Furthermore, it is important to offer everyone the chance to partake in RDI activities.

Focus on RDI skills may be important as the police try to respond to changing societal demands and expectations. It is important to pay attention to teachers' skills so as to make sure that the police profession develops and becomes more international in nature. The Finnish results can be of value to other countries contemplating or undergoing a similar process in their police education.

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