Thomas-Gabriel Rüdiger, Criminologist M.A.

Mario Rogus, Police Chief Superintendent

E-Learning Module Pilot Implementation in Germany

Results of the pilot implementation of part two of the SOMEP e-learning module

Authors:

Thomas-Gabriel Rüdiger, Criminologist M.A.

University of Applied Sciences of the Police of Brandenburg, Germany

Bernauer Strasse 146, 16151 Oranienburg

Website: **http://www.fhpolbb.de/thomas-gabriel-r%C3%BCdiger**

E-Mail: **thomas.ruediger@fhpolbb.de**

Phone: **+49 3301 850 2538**

Twitter: **@TGRuediger**

Mario Rogus, Police Chief Superintendent

University of Applied Sciences of the Police of Brandenburg, Germany

Bernauer Strasse 146, 16151 Oranienburg

Website: **http://www.fhpolbb.de**

E-Mail: **mario.rogus@fhpolbb.de**

Phone: **+49 3301 850 2555**

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Table of Content

Abstract

The following detailed analysis describes the main findings of the pilot implementation of the second part of the e-learning module which is the last and practical outcome of the SOMEP project. Besides being part of the work package for the University of Applied Sciences of the State Police of Brandenburg (FHPol BB) the pilot implementation (test phase) was necessary to evaluate the learning progress and improvement of knowledge amongst the test candidates. Furthermore, the SOMEP team wanted to get feedback from the test persons regarding design, contents, logical order, interactivity, level of difficulty and the final examination. The results were overwhelmingly positive. The feedback helped to identify some shortcomings, inconsistencies and grammar as well as spelling mistakes which were corrected during the pilot implementations phase.

This report builds on the already published SOMEP "Country Report on the Use of Social Media by Police Organisations" [1] and "German Survey on the Use of Social Media by the German Police" [2].

[1] Rogus, Rüdiger (2014)
[2] Rüdiger, Rogus (2014)

1. Introduction

1.1 About SOMEP

The project "Solving Crime through Social Media" (SOMEP)[3] was already described in detail in the “Country Report on the Use of Social Media by Police Organisations”[4] and ”German Survey on the Use of Social Media by the German Police”[5].

Besides the FHPol BB, the project consortium consists of the Erciyes University Kayseri (Turkey), the Kayseri Directorate of Security and the Centre for Social Innovation – ZSI – (Austria). The main objectives of the 18 month project go in three directions. Firstly, research on the current situation regarding the utilization of social media by police. Secondly, conduction of a survey amongst police officers to determine if, to what extent, and for which purposes social media is currently used and their opinion about the future in this regard, and thirdly, the creation of an e-learning application for police officers. The research on the current situation of utilization of social media by police and the survey are the foundations for the last phase of the project. The e-learning application is so to say the practical outcome of the project. The task of creating an e-learning module was divided between the Erciyes University Kayseri and the FHPol BB, whereas the Erciyes University was responsible for the first part of the module which covers fundamental information about social media and communication. The FHPol BB was tasked to prepare the second part of the module which is about how social media can effectively be used by police for their purposes as well as related the risks and problems. The last step was the so called pilot implementation. This was a test phase in order to evaluate the content of the module and learning progress achieved by working through the e-learning application and to get an honest feedback from the test users. Determining if and to what extent the knowledge of the pilot implementation participants was enhanced is critical for the success of the module itself but also a requirement of the EU institutions. The project ends on 30 April 2015 which means that all tasks have to be finished by this date.

[3] SOMEP (2014)
[4] Rogus, Rüdiger (2014)
[5] Ibid.

1.2 About the e-learning module

The e-learning module developed by the FHPol BB is the second part of a web-based learning application which addresses the issue of utilization of social media by police officers and police services. The module covers all fields of policing which can be supported by reasonable social media usage. Police officers can learn how and for what purposes social media can be used to support police activities and to make them more effective. At the same time, however, inhibitions regarding the usage of social media as a means for presenting the police should be reduced. Therefore, the module contains information for the procedures to setup official accounts and various problems which might occur when communicating with the public or when confronted with critical situations and comments. Furthermore, common terms and abbreviations as well as typical phenomena are discussed. This e-learning module deliberately does not aim at cybercrime and training officers who investigate them. The module is about fighting and solving crime by getting in contact with the public, providing and requesting information, improving the reputation of the police as well as looking for perpetrators and warning of citizens. At the end of the module officers can determine their knowledge by taking part in a test.

2. Evaluation phase

In the following section the preparation, methodology and results of the e-learning module pilot implementation are shown and described.

2.1 Methodology

The FHPol BB as creator of the second part of the SOMEP e-learning module was required to evaluate the module by means of a pilot implementation phase. A total of 75 persons had to take part in the pilot implementation to meet the requirements of the project. The target group consisted not only of officers from the state police of Brandenburg but also of state police officers from North Rhine-Westphalia, Lower Saxony, Saxony as well as Federal Police and the German Federal Criminal Police Office (BKA). The pilot implementation

did not require a representative sample of test persons nor a representative evaluation method. The FHPol BB project team decided to follow a two-fold approach.

Firstly, police officers were invited to take part in classroom sessions. This setup was used in order to provide supervision by SOMEP project members during the test run. Before the test started and the questionnaires were filled in, a present project member described the module in general and the reasons for the pilot implementation. Furthermore, they provided support in solving technical problems and gave further explanations when needed. Another advantage was the opportunity for the project team to monitor how the pilot implementation participants got along with the e-learning module in terms of handling and understanding the various types of information provided by the module. The monitoring supervisor also got an insight on how much time the participants needed or invested and whether they went through the whole module in great detail or not.

Secondly, police officers from other state police offices as well as the Federal Police were also given the opportunity to take part in the pilot implementation in order to get a wider test audience.

However, the problem here was that the evaluation system EvSys which is used by FHPol BB is not web-based yet. That means that access information for the test accounts and the two questionnaires had to be mailed to the participants. The questionnaires then had to be printed, filled in and sent back in paper. The module itself could be accessed and worked through online. Another challenge was that project team members could not personally guide the test persons through the trail.

Finally, all submitted questionnaires were fed into and processed by the computer-based evaluation system EvSys.

2.2 Preparation

At the beginning of the evaluation phase the project team had to decide on how to pursue the two objectives of the pilot implementation. Firstly, the pilot implementation should verify a learning progress by using the comprehensive e-learning module. Secondly, the project team was interested in getting feedback from the participants about necessary or useful amendments, corrections and additions.

In order to achieve both objectives two survey forms were developed. The first one with questions on the personal knowledge about social media and the importance of a police presence in the digital arena had to be filled in before working through the module. The second one which also contained a few additional questions regarding design, content, operability etc. was to measure the learning progress and to help adapting the module to the needs of future users and to correct faults and flaws.

From November to December 2014 the FHPol BB project team developed various questionnaire drafts for the pre and post-test. The questionnaire drafts then were tested by a pre-trail group consisting of five police officers. The resulting remarks and proposed changes, if reasonable, were implemented in the final questionnaire versions. Finally, the forms were created by EvSys. As mentioned before EvSys is not web-based. That means the forms could not be filled in online but had to be printed and then scanned to feed the results into the system. Only then EvSys could automatically process the data and provide results.

In the same time it was vital to ensure that the pilot implementation was carried out anonymously. Firstly, that meant that the questionnaires permitted no conclusion on individual persons. Secondly, it had to be ensured that logging into one of the test accounts did not lead to the identification of the users. In order to ensure compliance with these requirements, demographic questions were very general in nature. Age was classified in categories instead of the accurate age[6]. Customisable data like names or places of employment were not collected[7].

Each of the participants who took part in the classroom sessions got access to one of 125 test accounts. The account numbers were distributed randomly to make sure that participants could not be identified by the account they used. There is also no participant list existing.

The situation regarding the participation of police officers from other police services was a bit more complicated. These persons got the questionnaires and test account login information via e-Mail. They were asked to send back the filled in questionnaires without providing any personal information. Furthermore, they got login information for several of the test accounts to make sure that the identity of the users could not be determined.

[6] See number 2.1 et seq. questionnaire
[7] Ibid.

Besides the technical execution of the pilot implementation, another hurdle had to be cleared. Since the test persons were supposed to take part in the pilot implementation on a voluntary basis, 75 German police officers had to be found who were willing to invest some of their duty or leisure time for testing the e-learning module. In order to do that, project team members did a lot of talking with Brandenburg state police officers and published articles in the internal network (Intranet). Due to these efforts approximately 40 police officers volunteered to take part in testing the module.

In a parallel move, e-Mails were sent to a number of national contacts amongst the German police community with the request of forwarding these mails to suitable participants. These e-Mails also contained a description of the project and the module, the objectives of the pilot implementation as well as the questionnaires and login information for a number of test accounts. This approach resulted in further 40 participants.

The lack of identification resulted in another problem. It could not be guaranteed that all participants who finished the pre-test also provided the post-test questionnaires to the project team. It must have happened that some of the participants in the classroom sessions filled in the pre-test but did not provide the post-test questionnaire. The present project team member did not check this. The participants were only asked to put the questionnaires in a cardboard box. The same applies to questionnaires which were mailed back. They were just added to the others.

Among other things, this is one of the reasons why the received number of pre-tests does not match the number of post-test questionnaires[8].

2.3 Execution

As described before, the pilot implementation was executed in a two-fold approach. Roughly 50 per cent of the participants did the test in a classroom setup with supervision. The remaining 50 per cent did the test from their homes or offices.

[8] Another reason might be the fact that some of the questionnaires were illegible or invalid.

Classroom sessions:

With the support of the FHPol BB the project team was able to organise four test sessions in a classroom environment. Computer cabinets were used since a certain number of personal computers with Internet access was necessary to test the web-based e-learning module. There was no time limit set in order to give the participants the chance to work through the module with no time pressure at all. At least one project team member was present in every session to explain, help and guide through the module if necessary. At the beginning, the test persons were required to fill in the pre-test questionnaire. Then they got randomly distributed login data to access the test version of the module via test accounts. After the participants finished the e-learning application, they were requested to fill in the post-test questionnaire. The latter also contained a "further comments" section where the participants could put in hints, remarks and proposals for changes and improvements. It was also possible to directly address the present project members.

The advantage of this approach was the possibility to monitor the participants during the sessions, to see their reactions and to notice any difficulties they might have in handling the application or understanding the content. Furthermore, a direct feedback from the test persons was possible.

A disadvantage of this setup, though, was that some of the participants obviously felt the urge to finish the test as fast as possible. Most participants finished the test within two hours or less which was not intended. Later, when the application will be available to the public, users will have the option to work through the module in several steps taking as much time as they deem necessary.

Online participation:

Since the project team not only wanted to invite police officers from Brandenburg, a mechanism had to be developed to allow participation of police officers from other states and the Federal Police. Furthermore, finding persons outside of Brandenburg was an opportunity to test the web-based module under close to real conditions.

To do this, contact points from various police services were approached by e-mail in order to forward our requests to suitable pilot implementation participants. The participants were also asked to fill in the pre-test and after the test the post-test questionnaires and to send

them back anonymously. The e-mails also contained a number of test account login information which could be picked by the participants.

Besides testing the application under real conditions, there were further advantages to this approach. The test persons could take as much time as they needed to finish the module without any time pressure. Furthermore, it could be determined that the module can be completed without any supervision.
The disadvantages were that reactions to certain content could not be monitored and advice could not be given if any was needed. Furthermore, some of the printed and mailed or printed, scanned and e-mailed questionnaires could not be processed by EvSys due to the poor quality or incompatible print format. Those questionnaires had to be transferred in the original forms. This was done on the basis of the "four eye principle" by at least two project members.

3. Results of the pilot implementation

3.1 Demographic data

Pre-test:

The pre-test questionnaire was filled in by all in all 81 participants (n=81). Demographic information were provided by 77 of these 81 participants. The biggest groups of participants were at the age from 31 to 40 (37.7 %) and from 41 to 50 years (29.9 %). Only 22 percent of the persons who filled in the pre-tests (up to 30 years) can be associated with the term "digital natives" [9].

Post-test:

Only 77 pilot implementation participants provided filled in post-test questionnaires and significantly less persons (only 57) supplied demographic data. The evaluation of the data shows that the age group 41-50 was proportionally higher than in the pre-test.

[9] Rüdiger, Rogus (2014)

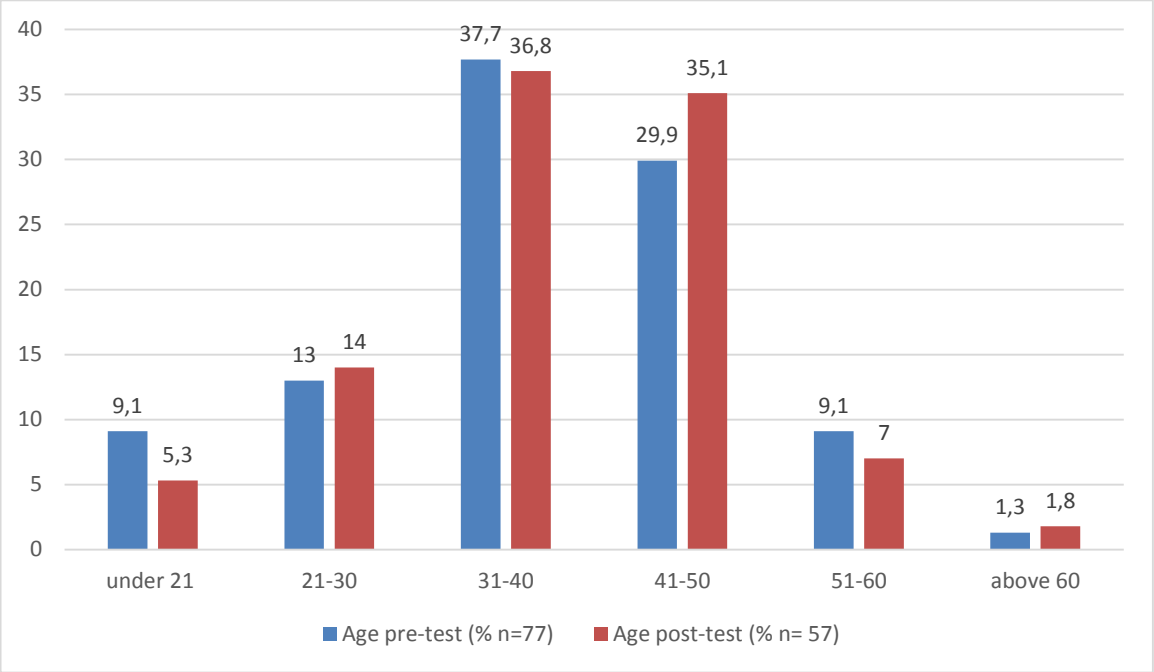


Figure 1: Age structure of participants

Staff Categories:

In the pre-test 72 participants supplied information about their staff category[10]. It is striking that 10 percent of the participants were senior command officers who on average represent only two (2) percent of German police officers. The reason could be that many lecturers from the FHPol BB who are senior command officers took part in the pilot implementation which led to an above-average participation of this group[11]. The participation of police personnel belonging to the operational and junior command level is in line with the percentage of staff (one-third operational level and two-thirds junior command level) in the Brandenburg police.

Far fewer participants (53) provided information about their career category in the post-test questionnaires than participants did in the pre-test questionnaires. But significant differences in comparison to the demographic data from the pre-test questionnaires cannot be determined[12].

[10] In Germany police personnel is divided into three staff categories. The lowest category is the operational level, comparable with corporal and sergeant ranks in the military. The next level is the junior command level, comparable to military ranks from lieutenant to captain. The highest level is the senior command level, comparable to military ranks from major to general. Senior command officers hold academic degrees, whereas junior command officers hold Bachelor degrees, and operational personnel completed a professional education. But there are also junior command officers with Master degrees who did not qualify for the senior command service yet.

[11] See figure 3

[12] See figure 2

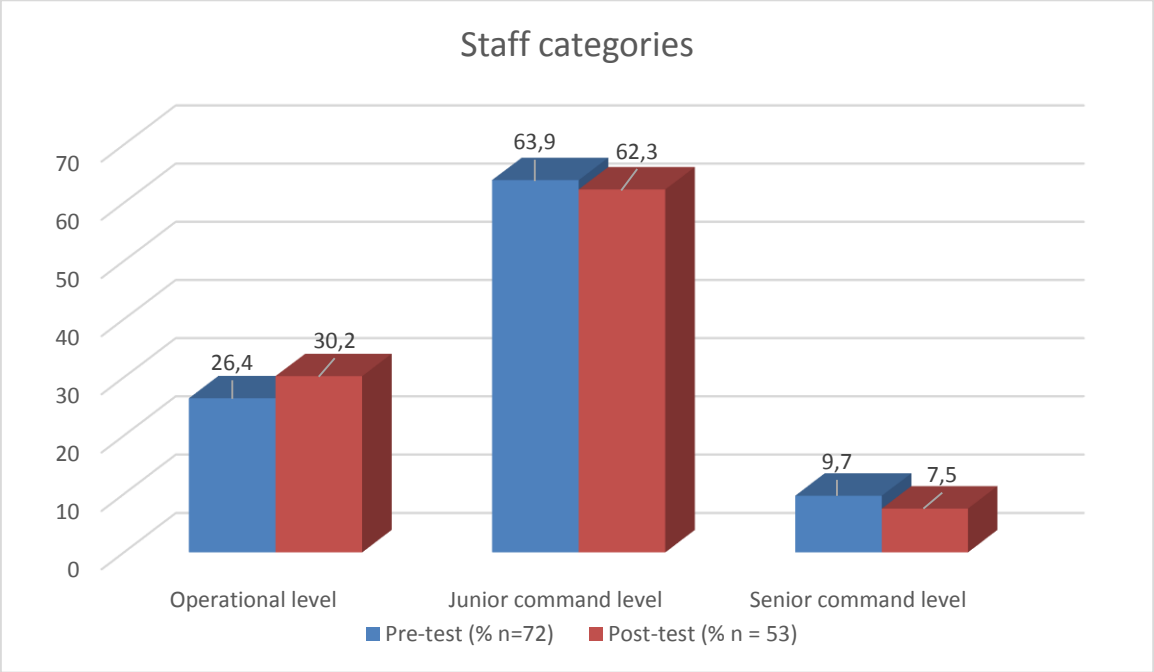


Figure 2: Staff categories of participants

Function:

The pre as well as the post-test also contained a question about the function of the participants. This was supposed to help to determine whether police personnel from certain working areas showed more interest in the e-learning application by taking part in the pilot implementation than other. In the pre-test 61 participants provided information about their duty function. The biggest groups of participants work in the criminal police and in training/education (19.7 % each). The high number of training personnel taking part in the pilot implementation could be attributed to the fact that lots of advertisement was done at the FHPol BB. There are several possible explanations for the high number of participants from criminal police. On the one hand, the criminal police have regularly to investigate crimes committed in the Internet and in social media and might be more familiar with these issues than other departments and sectors within the police organisations. On the other hand, it may at first glance appear as if the criminal police is overrepresented. By grouping formed police units (4.9 %), water police (3.3 %), traffic Police (1.6 %), patrol service (8.2 %), and community police (4.9 %), uniformed police together account for 22.9 percent of the participants. That means that criminal police is almost at the same level as the uniformed police. In the post-test 55 participants revealed their duty functions. It is remarkable that 29.1 percent chose the option "other". This is due to organisational reasons. In the post-test there was, besides the option "external", another possibility. In option "other" it could further be chosen between "administration" and undergoing "training/study".

Several participants used this additional option so that information on other functions like administration (5.5 %) and training/study (12.7 %) are available.

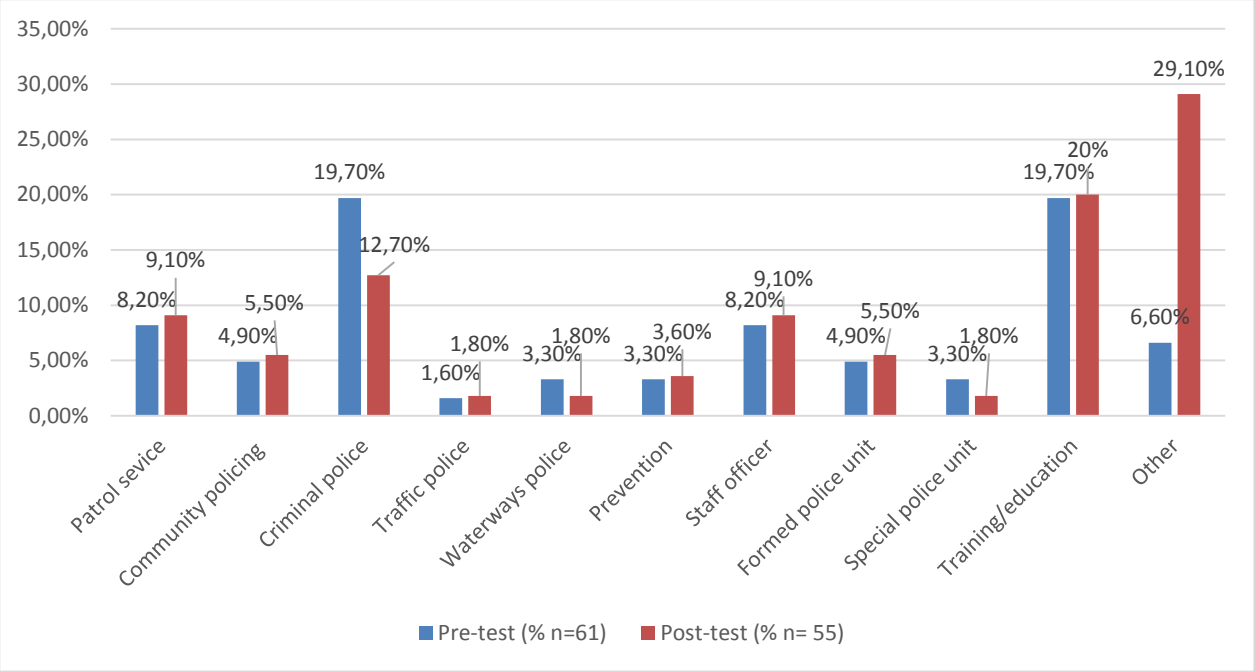


Figure 3: Functions of participants

3.2 Substantive results

In general the pilot implementation focussed on the evaluation of two fields of knowledge. The first question category (question 1.1 to 1.8) contained questions about personal usage and the state of knowledge regarding social media. In the second question category (question 1.9. to 1.22) the questions were directed at the knowledge about typical terms and phenomena in relation to social media.

For the post-test the content of the questions remained but were adjusted to the situation. In the pre-test, for example, the question 1.1 was “How do you rate your individual state of knowledge on social media?” In the post-test this question was reworded in “How effective did SOMEP help to improve your state of knowledge on social media?” The rating was done on a scale from 1 to 6, based on the German grading system. One (1) represents a very positive and six (6) a very negative rating.

Some of the test results could not be accepted due to inaccurate completion of the questionnaires which resulted in evaluation faults in EvSys. That is one of the main reasons why the numbers of answers in the pre-test mismatch the numbers of post-test responses.

Questions 1.1 to 1.8

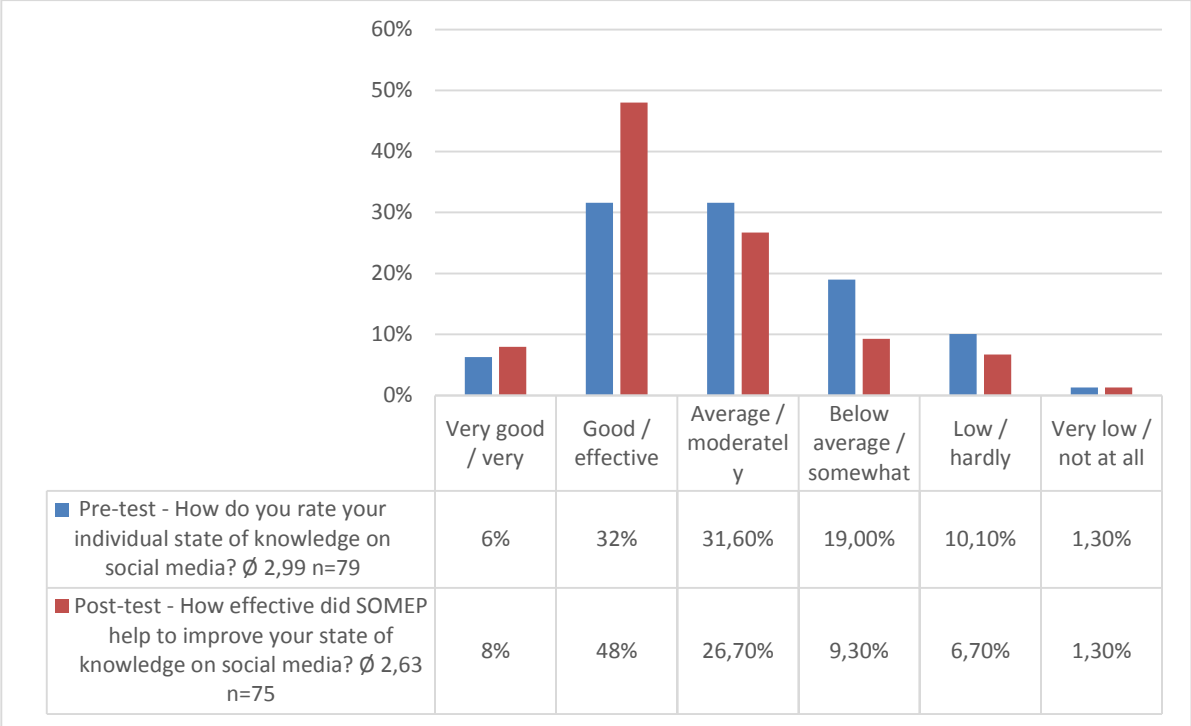
No.	Pre-test	Post-test
1.1	How do you rate your individual state of knowledge on social media?	How effective did SOMEP help to improve your state of knowledge on social media?
1.2	How do you rate your individual state of knowledge on the usage of social media by police services?	How effective did SOMEP help to improve your state of knowledge on the usage of social media by police services?
1.3	How do you rate your knowledge on how to create a social media account?	How effective did SOMEP help to improve your knowledge on how to create a social media account?
1.4	Are you confident with creating a social media account and using it for communicating with the public?	Are you confident with creating a social media account and using it for communicating with the public?
1.5	How do you rate your knowledge on what to pay attention to as police officer/police organisation when communicating with the public on social media?	How effective did SOMEP help to improve your knowledge on what to pay attention to as police officer/police organisation when communicating with the public on social media?
1.6	How do you rate your individual state of knowledge on the differences between formal and informal communication on official police social media presences?	How effective did SOMEP help to improve your individual state of knowledge on the differences between formal and informal communication on official police social media presences?
1.7	How do you rate your individual state of knowledge on problems which could occur and how to react if confronted with a critical situation or comment?	How effective did SOMEP help to improve your individual state of knowledge on problems which could occur and how to react if confronted with a critical situation or comment?
1.8	How many terms typically used in social media are you familiar with?	How many terms typically used in social media are you familiar with?

Figure 4: Overview of questions 1.1 to 1.8 – pre and post-test

3.2.1 Question 1.1: Individual state of knowledge on social media

In the pre-test this question was asked to determine the individual state of knowledge on social media in general. Seventy-nine (79) test persons gave an answer to this question. More than one-third (37.9 %) stated that they have a good or very good knowledge. Only 11.4 percent rated their knowledge as rather poor or very poor. This results in an average value of Ø 2.99.

The comparison question in the post-test was asked to determine whether SOMEP (meaning the e-learning application) helped to improve the individual state of knowledge. Seventy-five (75) test persons gave an answer to this question. More than half of the participants (56 %) stated that working through the module has enhanced their knowledge substantially or considerably. Further 36 percent said their knowledge was enhanced at least moderately or to some extent. But it has to be taken into account that participants with an already good knowledge on social media would not see a major improvement by using this application. The average value reached is Ø 2.63.



	Very good / very	Good / effective	Average / moderately	Below average / somewhat	Low / hardly	Very low / not at all
Pre-test - How do you rate your individual state of knowledge on social media? Ø 2,99 n=79	6%	32%	31,60%	19,00%	10,10%	1,30%
Post-test - How effective did SOMEP help to improve your state of knowledge on social media? Ø 2,63 n=75	8%	48%	26,70%	9,30%	6,70%	1,30%

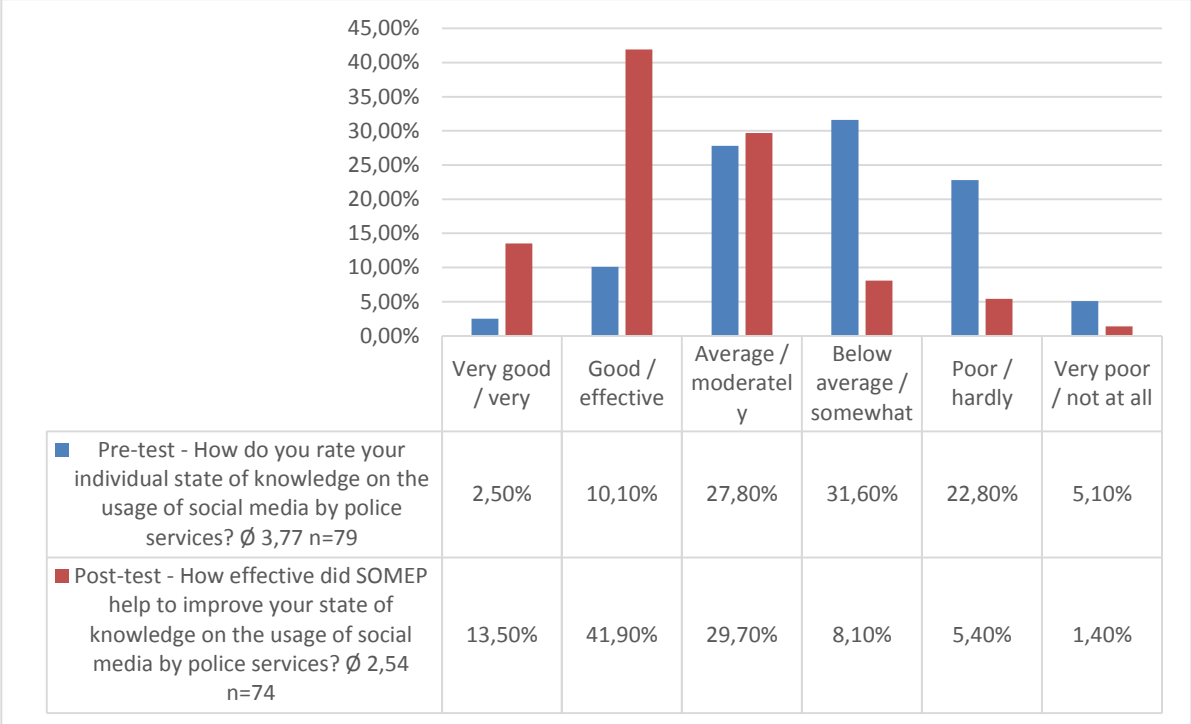
Figure 5: Results question 1.1

3.2.2 Question 1.2: Individual state of knowledge on the use of social media by police services

After asking about the knowledge on social media (question 1.1) question 1.2 was included to determine how the participants rate their knowledge about the usage of social media by police services. The comparison question was supposed to identify if and to what extend SOMEP helped to enhance that knowledge.

Seventy-nine (79) participants responded to this question in the pre-test and 74 in the post-test. In the pre-test 40.8 percent said they have an average or good knowledge on this issue.

Whereas only 10.1 percent stated to have a good and 2.5 percent to have a very good knowledge. The average value reached is Ø 3.77 which indicates a rather poor knowledge.
In the post-test 13.5 percent stated their knowledge was very effectively improved by SOMEP. Another 41.9 percent said it was effectively improved whereas 29.7 percent rate the enhancement as moderate. All in all 85.1 percent of the participants were able to improve their knowledge in this field. The average value reached is Ø 2.54.

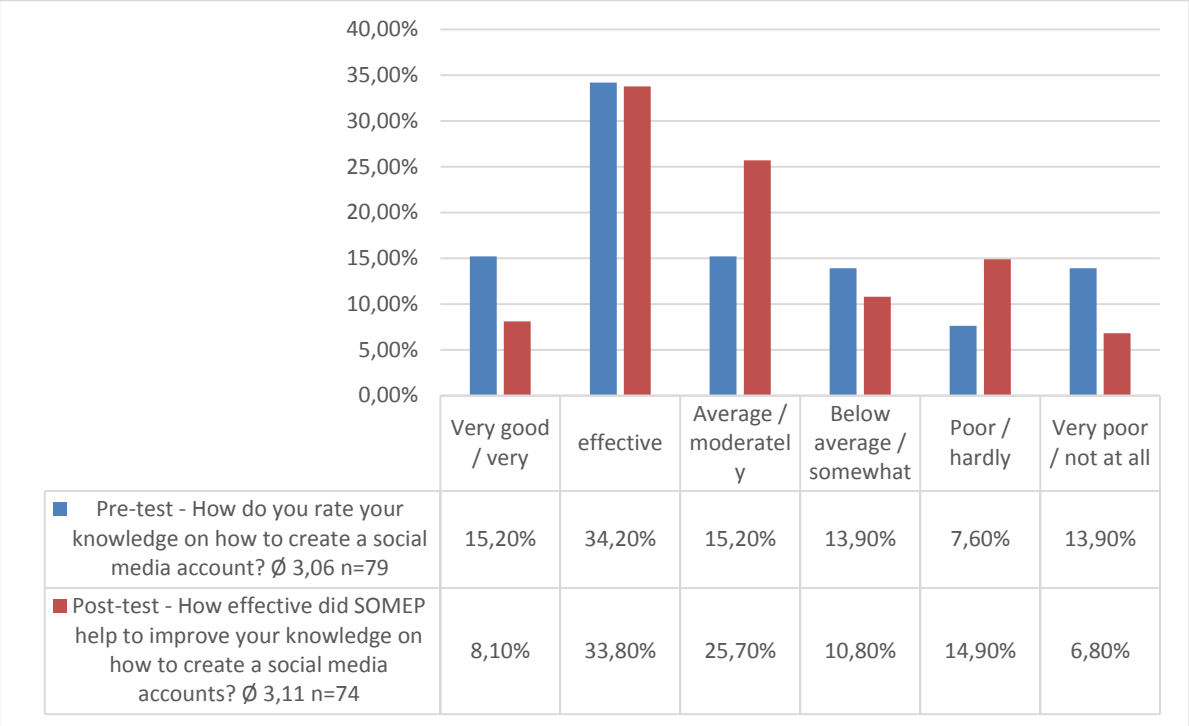


	Very good / very	Good / effective	Average / moderately	Below average / somewhat	Poor / hardly	Very poor / not at all
Pre-test - How do you rate your individual state of knowledge on the usage of social media by police services? Ø 3,77 n=79	2,50%	10,10%	27,80%	31,60%	22,80%	5,10%
Post-test - How effective did SOMEP help to improve your state of knowledge on the usage of social media by police services? Ø 2,54 n=74	13,50%	41,90%	29,70%	8,10%	5,40%	1,40%

Figure 6: Results question 1.2

3.2.3 Question 1.3: Knowledge about the creation of social media accounts

This question aims at the state of knowledge on the creation of social media accounts. Seventy-nine (79) participants answered this question whereas 49.4 percent stated their knowledge as good or very good. Only 7.6 percent rated it as poor and another 13.6 percent as very poor. The average value reached is Ø 3.06.
In the post-test 41.9 percent said that their knowledge was improved effectively (33.8 %) or very effectively (8.1 %), whereas all in all 21.7 percent stated that it was only hardly effective (14.9 %) or not at all (6.8 %) improved. This may be due to the already solid basic knowledge in this field so that an improvement amongst those persons could only be marginal.



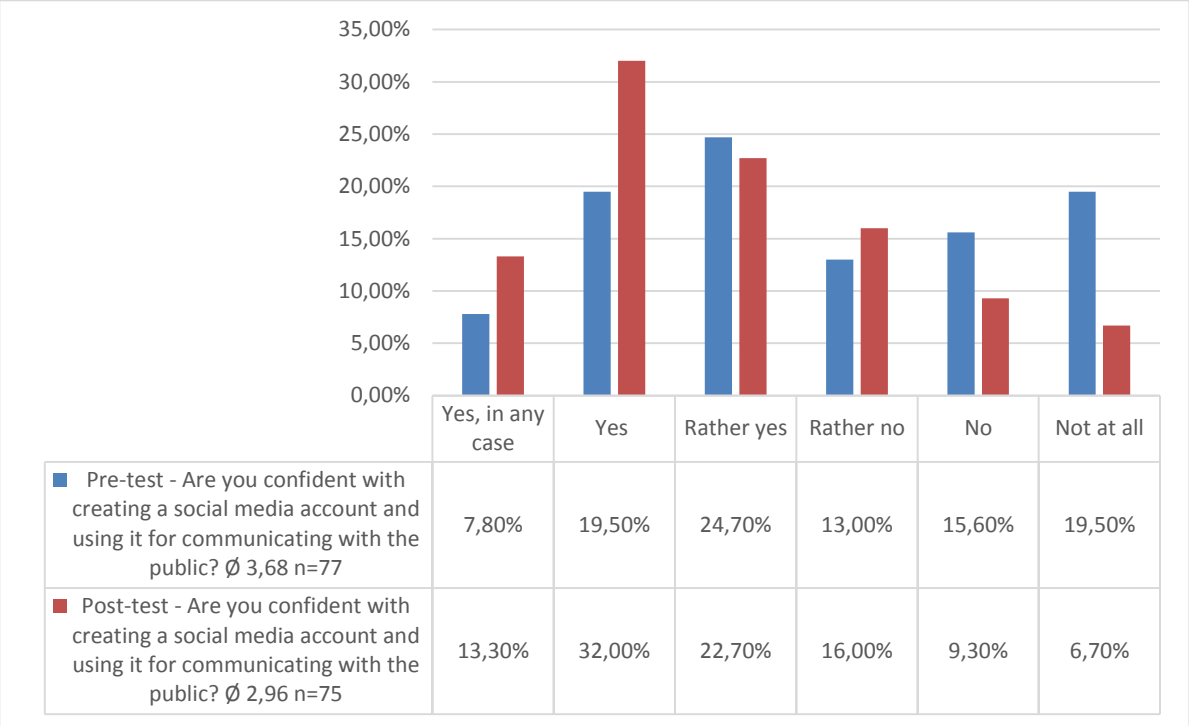
	Very good / very	effective	Average / moderatel y	Below average / somewhat	Poor / hardly	Very poor / not at all
Pre-test - How do you rate your knowledge on how to create a social media account? Ø 3,06 n=79	15,20%	34,20%	15,20%	13,90%	7,60%	13,90%
Post-test - How effective did SOMEP help to improve your knowledge on how to create a social media accounts? Ø 3,11 n=74	8,10%	33,80%	25,70%	10,80%	14,90%	6,80%

Figure 7: Results question 1.3

3.2.4 Question 1.4: Creating social media accounts for communication

This question aimes at the assessment of the participants about their confidence to create an official duty account and to use it for communication with the public. Fifty-two (52) percent of the participants who answered this question were more or less confident, whereas 48 percent could not imagine this. Noticeable is the fact that 7.8 percent were very confident in comparison to 19.5 percent who could not imagine this at all. The average value (Ø 3.68) is correspondingly lower.

After finishing the module the percentage of participants who were confident to create a duty account and to use it for communication purposes has increased to 68 (+16 %) percent. At the same time the percentage of participants who could not imagine this at all has decreased to 6.7 (-12.8%) percent and those how could barely imagine this to 9.3 (-6.3 %) percent. The average value shows a positive development since it decreased from Ø 3.68 (pre-test) to Ø 2.96 (post-test).



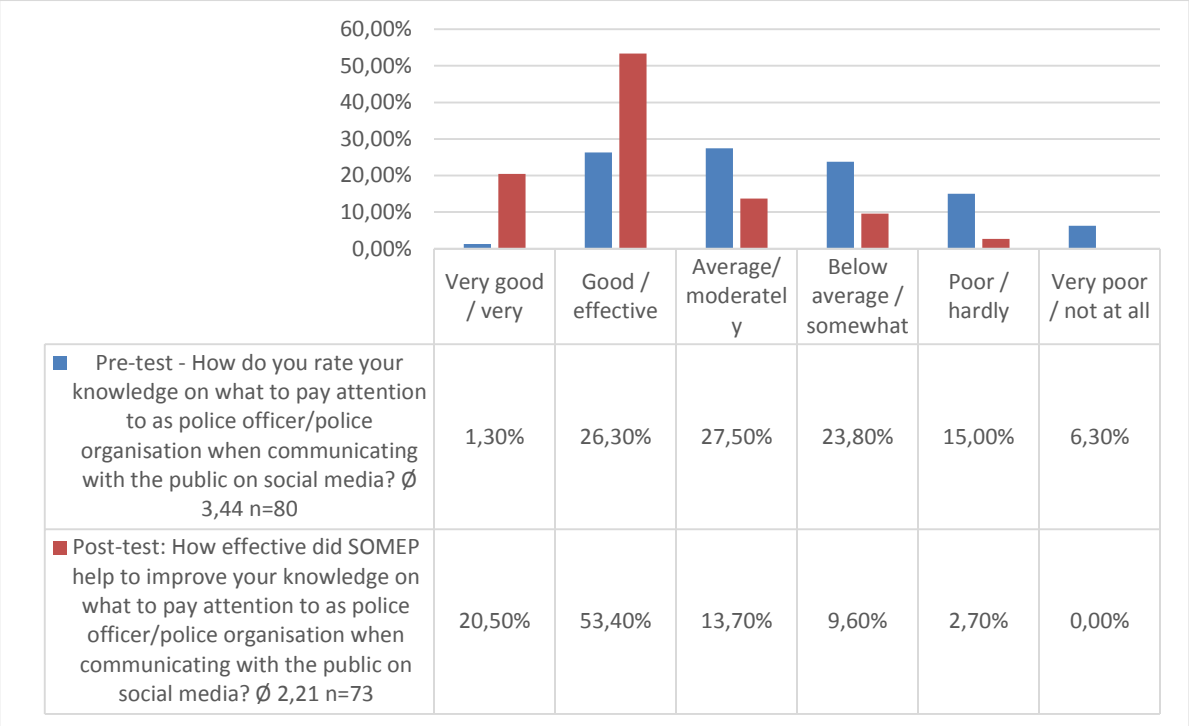
	Yes, in any case	Yes	Rather yes	Rather no	No	Not at all
Pre-test - Are you confident with creating a social media account and using it for communicating with the public? Ø 3,68 n=77	7,80%	19,50%	24,70%	13,00%	15,60%	19,50%
Post-test - Are you confident with creating a social media account and using it for communicating with the public? Ø 2,96 n=75	13,30%	32,00%	22,70%	16,00%	9,30%	6,70%

Figure 8: Results question 1.4

3.2.5 Question 1.5: Knowledge on what to pay attention to if communicating on social media

This question encompasses the previous questions and aims at the knowledge of the participants on special features about forms of communication in social media. Eighty (80) participants answered this question in the pre-test. More than half of the participants stated that they have an average (27.5 %), good (26.3 %) or very good (1.3 %) knowledge about this topic. Only 6.3 percent rated their knowledge as very poor. All in all there are no clear preferences which also shows in the average value of Ø 3.44.

The results of the post-test of this question show the highest increased numbers which proofs a significant enhancement of knowledge by using the e-learning application. Altogether 87.6 percent of the 73 participants who responded to this question stated that their knowledge has improved moderately effectively (13.7 %), effectively (53.4 %) or very effectively (20.5 %). The average value is with Ø 2.47 correspondently high and represents an increase by 97 percent which means almost one grade. Only 2.7 percent stated that their knowledge has not improved at all.



	Very good / very	Good / effective	Average/ moderately	Below average / somewhat	Poor / hardly	Very poor / not at all
Pre-test - How do you rate your knowledge on what to pay attention to as police officer/police organisation when communicating with the public on social media? Ø 3,44 n=80	1,30%	26,30%	27,50%	23,80%	15,00%	6,30%
Post-test: How effective did SOMEP help to improve your knowledge on what to pay attention to as police officer/police organisation when communicating with the public on social media? Ø 2,21 n=73	20,50%	53,40%	13,70%	9,60%	2,70%	0,00%

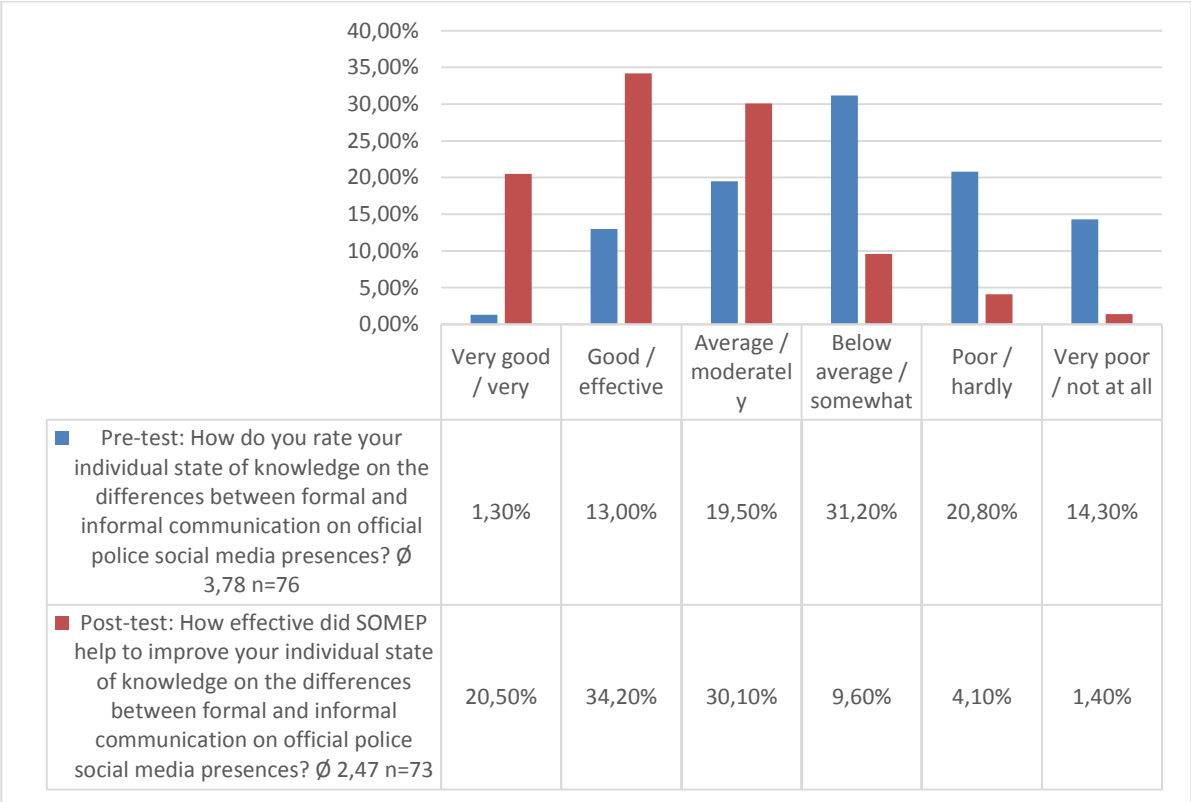
Figure 9: Results question 1.5

3.2.6 Question 1.6: Knowledge on formal and informal communication options

The distinction between formal and informal communication content plays an important role in social media. The question was asked to determine the state of knowledge in this field. In the pre-test 77 (n=) participants answered this question, whereby 66.3 percent stated they have a rather poor (31.2 %), poor (20.8 %) or very poor (14.3 %) knowledge in this field. Only 1.3 percent were of the opinion that their knowledge in this area is very good. Accordingly, this shows in an average value of Ø 4.0.

Due to this relatively poor knowledge of the participants a sharp improvement was to be expected. All in all 84.8 percent of the participants stated that SOMEP helped to improve it moderately effectively (30.1 %), effectively (34.2 %) or very effectively (20.5 %). This also shows in a positive average value of Ø 2.4 which also means an improvement of 1.6 grades.

It must, however, be taken into consideration that the differentiation between formal and informal communication options can be considered to be expert knowledge so that low values were to be expected in the pre-test. Nevertheless, the improvement amongst the participants is significant.



	Very good / very	Good / effective	Average / moderatel y	Below average / somewhat	Poor / hardly	Very poor / not at all
Pre-test: How do you rate your individual state of knowledge on the differences between formal and informal communication on official police social media presences? Ø 3,78 n=76	1,30%	13,00%	19,50%	31,20%	20,80%	14,30%
Post-test: How effective did SOMEP help to improve your individual state of knowledge on the differences between formal and informal communication on official police social media presences? Ø 2,47 n=73	20,50%	34,20%	30,10%	9,60%	4,10%	1,40%

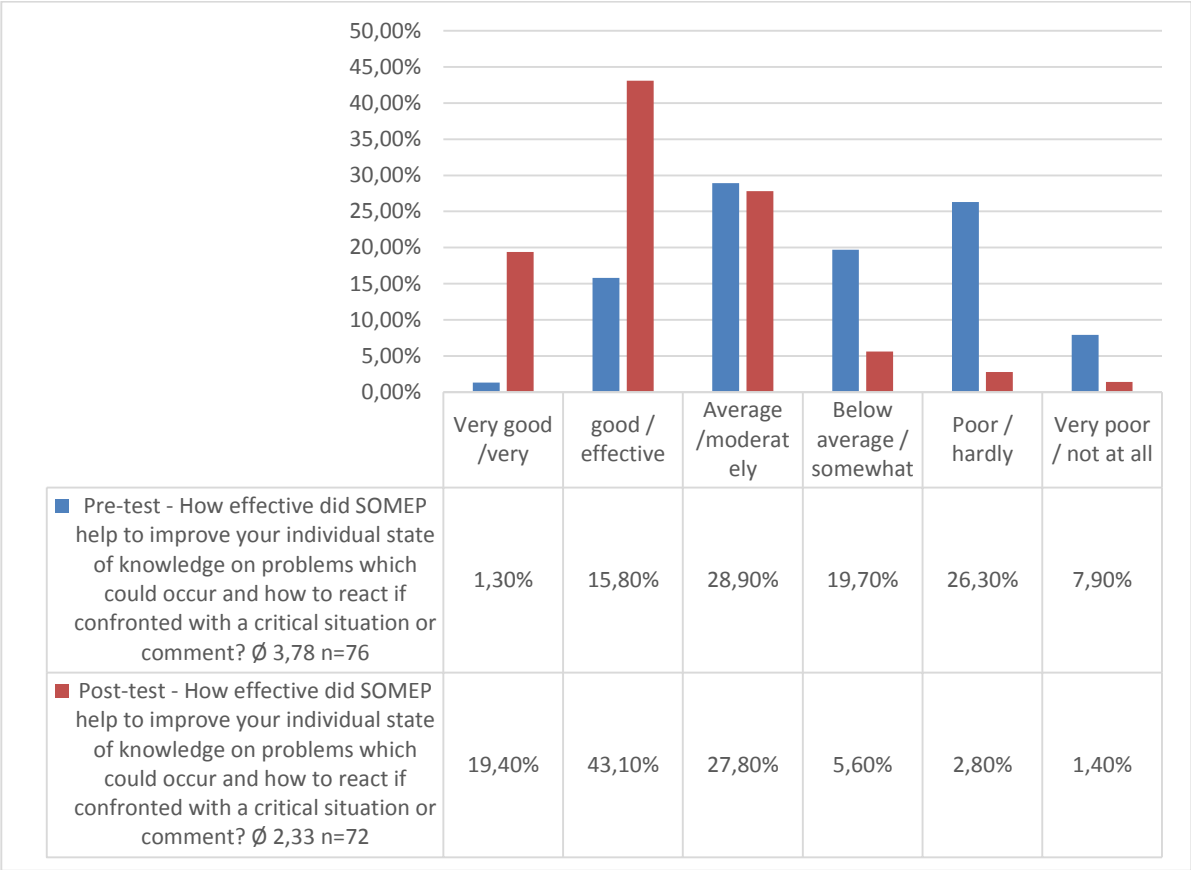
Figure 10: Results question 1.6

3.2.7 Question 1.7: Knowledge on how to deal with critical situations and problems with regard to communication in social media

An essential part regarding communication in social media by police is the handling of critical situations, respective phenomena and problematic interactions with users[13]. Police organisations have to have a strategy for dealing with Shitstorms, insults or even cyber-bullying and grooming[14] on their sites. Therefore, it appeared necessary to include a question about these issues. In the pre-test 76 (n=) participants answered this question, whereby 46 percent stated they have a very good (1.3 %), a good (15.8 %), and an average (28.9 %) knowledge in this area. Correspondingly, 54 percent rate it as below average or lower. About one-third of the participants stated that their knowledge is poor or very poor. This results in an average value of Ø 3.78.

[13] Rüdiger, Denef (2013)
[14] Rüdiger (2014)

In the post-test only 9.8 percent of the 72 (n=) participants who answered this question said that working through the module did not help much to enhance their knowledge in this area, whereby, only 4.2 percent stated that it hardly helped or did not help at all. Conversely, this also means that 90.2 percent of the participants say that they experienced a learning effect and partly a strong (43.1 %) or very strong (19.4 %) thrust of knowledge.



	Very good /very	good / effective	Average /moderately	Below average / somewhat	Poor / hardly	Very poor / not at all
Pre-test - How effective did SOMEP help to improve your individual state of knowledge on problems which could occur and how to react if confronted with a critical situation or comment? Ø 3,78 n=76	1,30%	15,80%	28,90%	19,70%	26,30%	7,90%
Post-test - How effective did SOMEP help to improve your individual state of knowledge on problems which could occur and how to react if confronted with a critical situation or comment? Ø 2,33 n=72	19,40%	43,10%	27,80%	5,60%	2,80%	1,40%

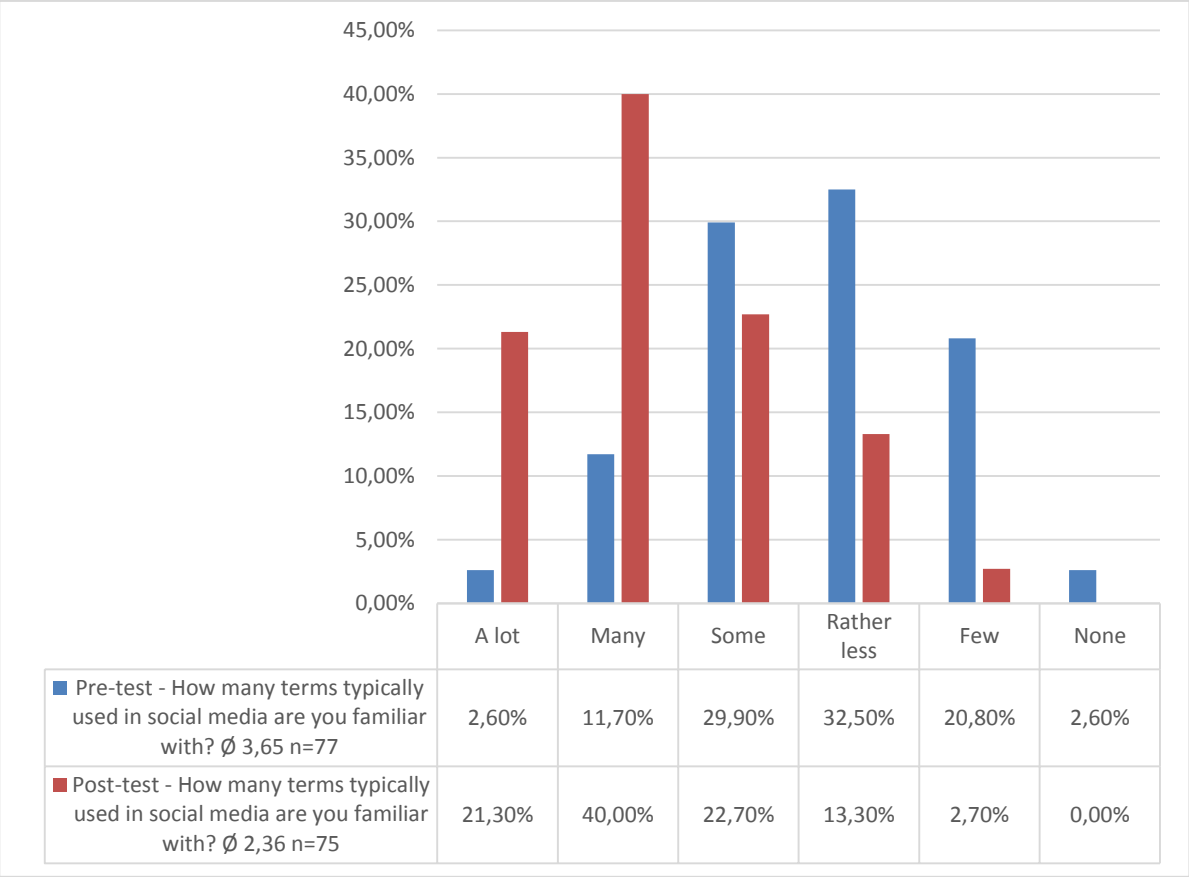
Figure 11: Results question 1.7

3.2.8 Question 1.8: Knowledge on abbreviations used in social media

The ways in which communication takes place in social media, especially by using Internet-capable mobile devices like smartphones and tablet-PC's, is subject to different conditions from those we know from classical forms of communication. Especially, the use of abbreviations and special terms is typical for communication in social media. This question was added to evaluate the previous knowledge on abbreviations used in social media and the learning results by the e-learning module. Seventy-seven (n=77) participants provided answers to this question in the pre-test, whereby, 44.2 percent stated they know some (29.9 %), many (11.7 %) or a lot (2.6 %) of the abbreviations. Correspondingly, 55.8 percent said

they know rather less (32.5 %), few (20.8 %) or none (2.6 %) of them. These results in an average value of Ø 3.65.

The post-test shows much better results than the pre-test and a considerable enhancement of knowledge is obvious. Eighty-four (84) percent of the 75 (n=) participants who answered the question stated they now know a lot (21.3 %; +18.7 %), many (40 %; +28.3 %) or some (22.7 %; -7.2 %) of the abbreviations. The decline in the proportion of participants stating they know only some of them is probably due to fact that only 16 percent stated to know only a few abbreviations. With 55.8 percent the proportion of this group is much higher. This is a difference of 39.8 percent. The participants rated their knowledge approximately one grade higher after having finished the module. Correspondingly, the average value improved to Ø 2.36 which means an enhancement of 1.29 grades.



	A lot	Many	Some	Rather less	Few	None
Pre-test - How many terms typically used in social media are you familiar with? Ø 3,65 n=77	2,60%	11,70%	29,90%	32,50%	20,80%	2,60%
Post-test - How many terms typically used in social media are you familiar with? Ø 2,36 n=75	21,30%	40,00%	22,70%	13,30%	2,70%	0,00%

Figure 12: Results question 1.8

3.3 Questions 1.9 -1.22 Second question category: Specific terms used in social media

The second question category builds on the content of the last questions of the first category. These questions are about determining whether the participants actually know about the meaning of some of the social media terms and relevant phenomena. Not every question from this category will be discussed separately and contextualized but will rather be considered as a block of questions.

Question	Term	Question	Term
1.9	Social Media	1.10	Google+
1.11	WhatsApp	1.12	Instagram
1.13	Troll	1.14	Shitstorm
1.15	Hashtag	1.16	Posting
1.17	Online-hate crime	1.18	Cyber-bullying
1.19	Cyber-grooming	1.20	Emoticon
1.21	Retweet	1.22	Like

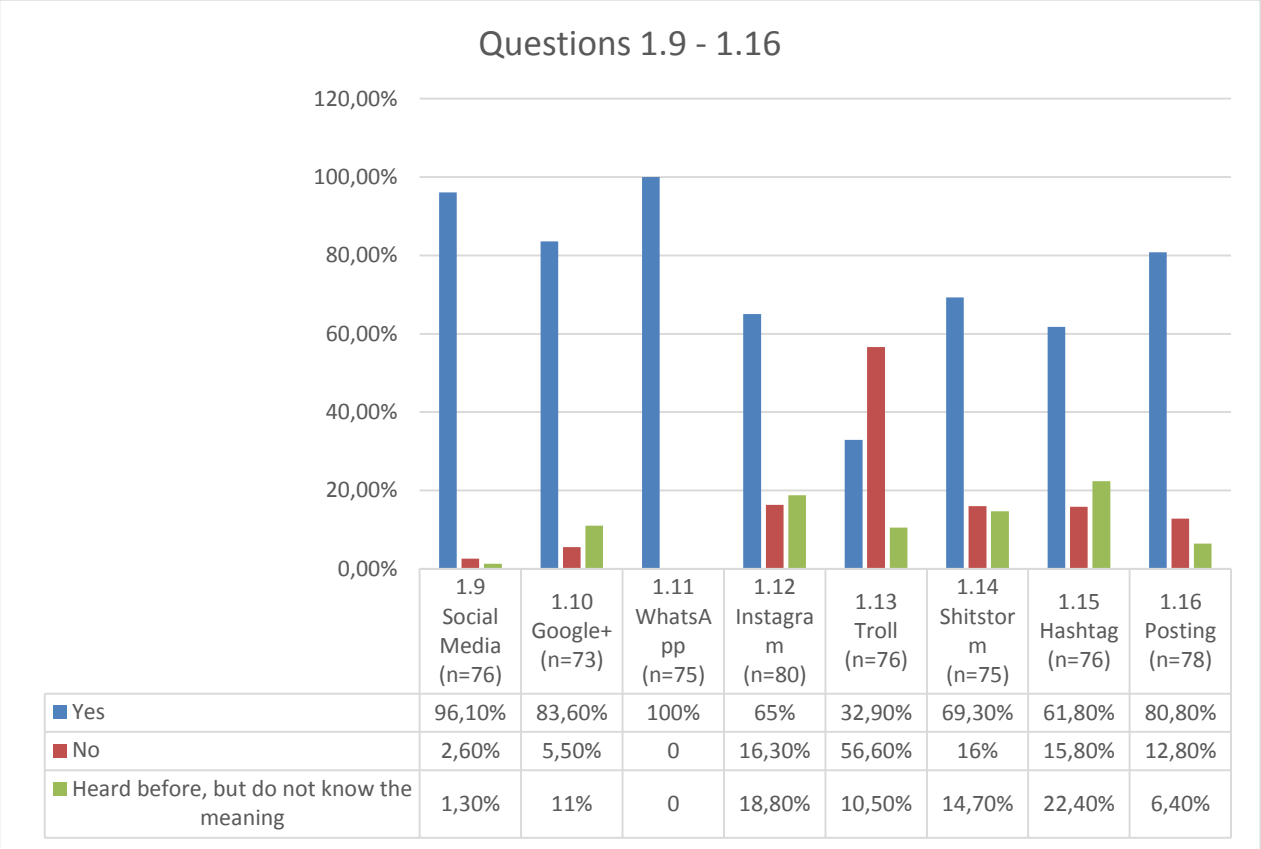
Figure 13: Overview question 1.9 – 1.22

All in all 13 individual terms[15] were tested always addressing the same question: "Do you know the meaning of the following terms?" The pre-test offered the three response options "yes", "no" or "heard before, but do not know the meaning". The results show[16] that these specific terms and phenomena are subject to a differentiated level of knowledge. The two most commonly known terms were WhatsApp (question 11) with 100 percent and social media (question 19) with 96.1 percent awareness level. Knowledge about the phenomena cyber-bullying (question 1.18; 88.9 %), the application Google+ (question 1.10; 83.6 %), and the terms "like" (question 1.22ö 82.7 %) as well as "posting" (question 1.16; 80.8 %) was also widespread. The approval ratings for the other terms were rather heterogeneously. The phenomena "Shitstorm" (question 1.14; 69.3 %), the platform Instagram (question 1.12;

[15] Common terms like Facebook and Twitter did not form part of the question block since these are common language nowadays. It was not the intention to ask for all kind of terms related to Social Media, but to select a number of them as indicators for the current state of knowledge.
[16] See figure 13 and 14.

65 %) as well as the terms “Hashtag” (question 1.20; 60.3 %) and “Emoticon” (question 1.15; 61.8 %) were also known to more than 50 percent of the participants.

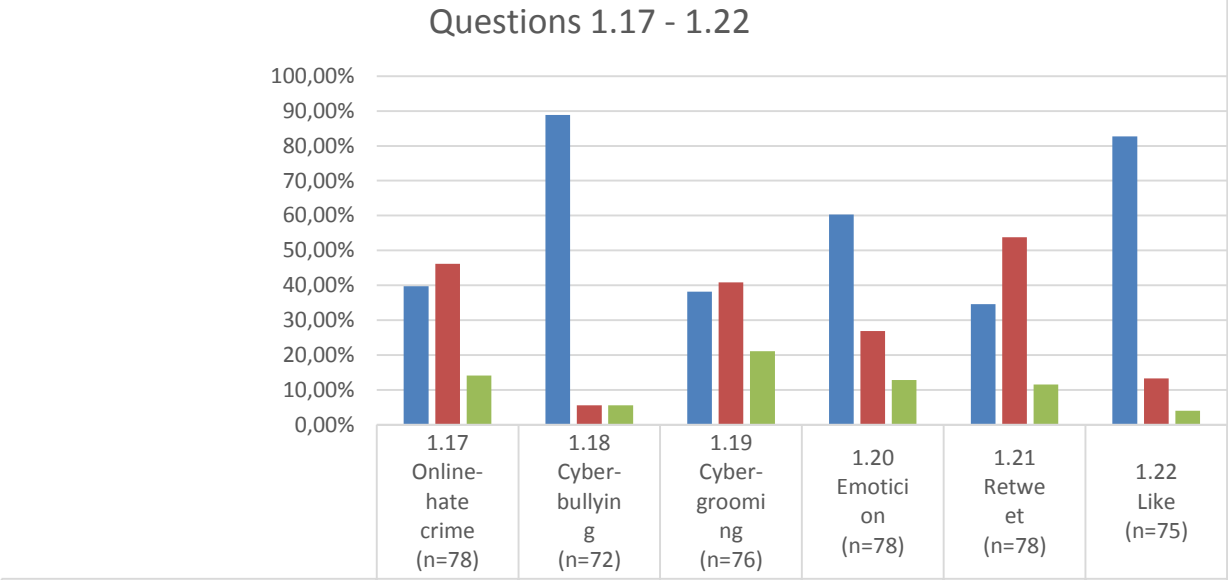
But the picture looks different when evaluating the responses to the questions related to further terms, applications and phenomena. The phenomena online-hate crime – extremist an racist statements in the Internet – (question 1.17) was only known to 39.7 % and cyber grooming – online-based initiation of sexual child abuse[17] - (question 1.19) to 38.2 % of the participants. The Terms “Troll (32.9 %; question 1.13) and “Retweet” (34.6 %; question 1.21) were even less well known.



	1.9 Social Media (n=76)	1.10 Google+ (n=73)	1.11 WhatsApp (n=75)	1.12 Instagram (n=80)	1.13 Troll (n=76)	1.14 Shitstorm (n=75)	1.15 Hashtag (n=76)	1.16 Posting (n=78)
Yes	96,10%	83,60%	100%	65%	32,90%	69,30%	61,80%	80,80%
No	2,60%	5,50%	0	16,30%	56,60%	16%	15,80%	12,80%
Heard before, but do not know the meaning	1,30%	11%	0	18,80%	10,50%	14,70%	22,40%	6,40%

Figure 13: Results pre-test questions 1.9 - 1.16

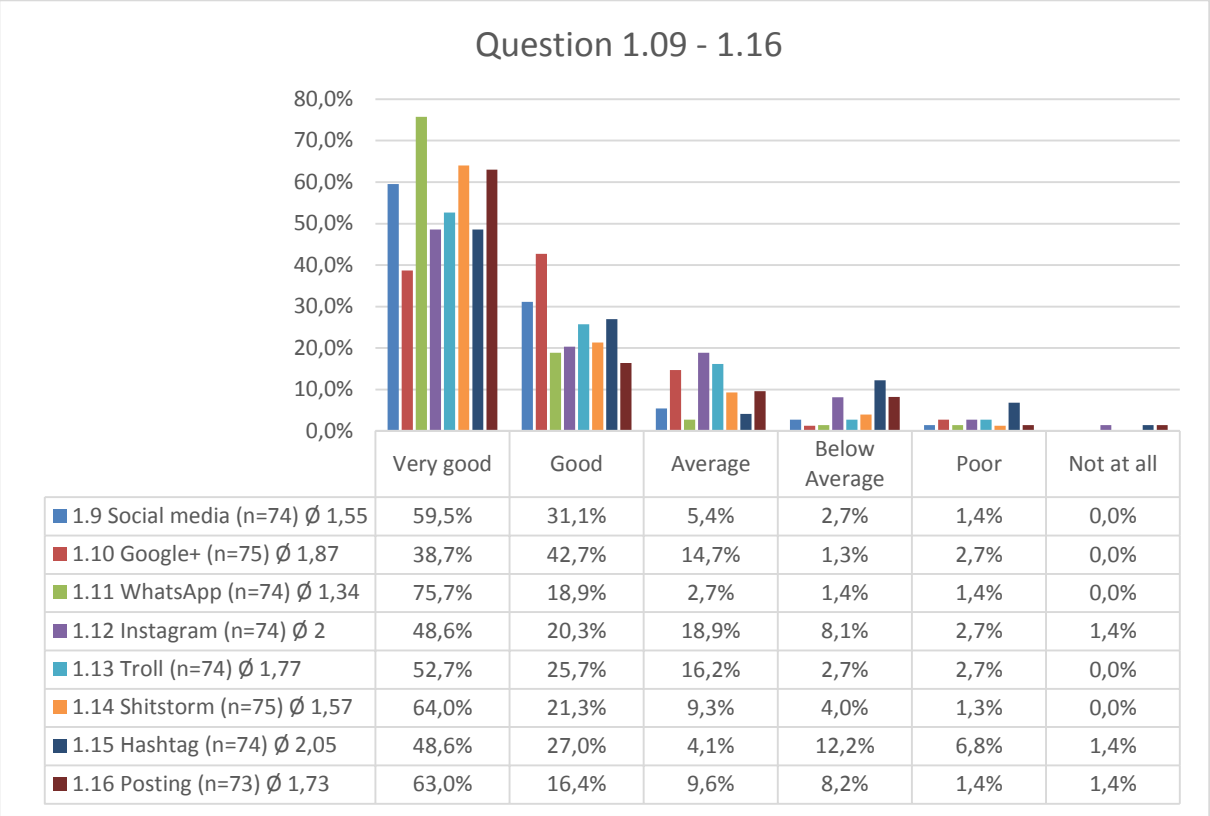
[17] Rüdiger (2014)



	1.17 Online-hate crime (n=78)	1.18 Cyber-bullying (n=72)	1.19 Cyber-grooming (n=76)	1.20 Emoticon (n=78)	1.21 Retweet (n=78)	1.22 Like (n=75)
Yes	39,70%	88,90%	38,20%	60,30%	34,60%	82,70%
No	46,20%	5,60%	40,80%	26,90%	53,80%	13,30%
Heard before, but do not know the meaning	14,10%	5,60%	21,10%	12,80%	11,50%	4%

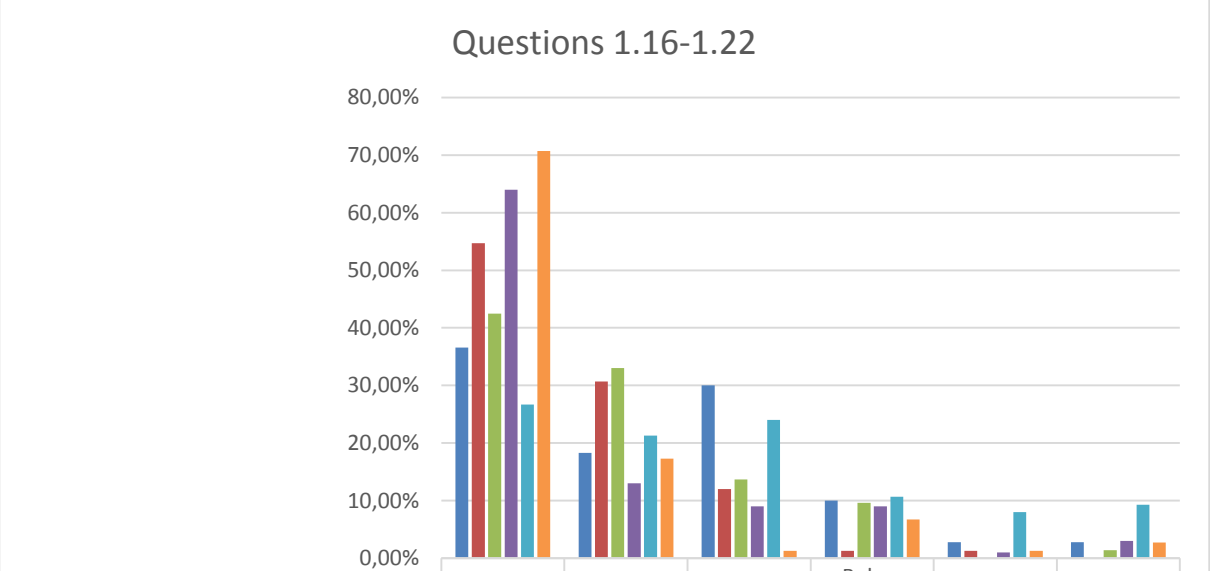
Figure 14: Results pre-test questions 1.17 - 1.22

The response options were altered in the post-test. The intention was not only to determine whether the participants knew the term or not, but how well they knew the meaning of a certain term in order to evaluate the enhancement of the respective knowledge by the e-learning application. The participants were now able to answer more differentiated. The results of the post-test are very positive. This was expected. After having finished the module the participants stated a solid enhancement of their knowledge regarding almost all terms in question except those which already got a high rating in the pre-test. In contrast, however, the special term (social media slang) “Hashtag” (questions 1.15) was only familiar to 20.4 percent of the participants. Twenty-eight (28) percent said they do not understand the term “Retweet” at all.



	Very good	Good	Average	Below Average	Poor	Not at all
1.9 Social media (n=74) Ø 1,55	59,5%	31,1%	5,4%	2,7%	1,4%	0,0%
1.10 Google+ (n=75) Ø 1,87	38,7%	42,7%	14,7%	1,3%	2,7%	0,0%
1.11 WhatsApp (n=74) Ø 1,34	75,7%	18,9%	2,7%	1,4%	1,4%	0,0%
1.12 Instagram (n=74) Ø 2	48,6%	20,3%	18,9%	8,1%	2,7%	1,4%
1.13 Troll (n=74) Ø 1,77	52,7%	25,7%	16,2%	2,7%	2,7%	0,0%
1.14 Shitstorm (n=75) Ø 1,57	64,0%	21,3%	9,3%	4,0%	1,3%	0,0%
1.15 Hashtag (n=74) Ø 2,05	48,6%	27,0%	4,1%	12,2%	6,8%	1,4%
1.16 Posting (n=73) Ø 1,73	63,0%	16,4%	9,6%	8,2%	1,4%	1,4%

Figure 15: Results post-test questions 1.09 - 1.16



	Very good	Good	Average	Below average	Poor	Not at all
1.17 Online-hate crime (n=71) Ø 2,32	36,60%	18,30%	30%	10%	2,80%	2,80%
1.18 Cyber-bullying (n=75) Ø 1,64	54,70%	30,70%	12%	1,30%	1,30%	0%
1.19 Cyber-grooming (n=73) Ø 1,96	42,50%	33%	13,70%	9,60%	0,00%	1,40%
1.20 Emoticon (n=75) Ø 1,79	64%	13%	9%	9%	1%	3%
1.21 Retweet (n=75) Ø 2,8	26,70%	21,30%	24,00%	10,70%	8,00%	9,30%
1.22 Like (n=75) Ø 1,59	70,70%	17,30%	1,30%	6,70%	1,30%	2,70%

Figure 16: Results post-test questions 1.16 - 1.22

3.4 Findings

As one result of the evaluation of the pilot implementation it can be concluded that the participants experienced a substantive enhancement of knowledge in many areas which are covert by the e-learning module. Unsurprisingly, the improvement is the higher the poorer the initial situation was. However, the results cannot be considered to be representative for all police organisations in Germany or Europe. On the one hand the survey method used was not representative not even for German police organisation, but it is worth mentioning that the demographic data of the participants are close to similar to the demographic data of the police personnel in Brandenburg[18]. On the other hand the knowledge about social media can differentiate significantly from one country to the other. While the knowledge of certain subject areas about the use of social media by police in Germany could be relatively weak[19], the situation in countries like the Netherlands, Spain or Great Britain could be completely different since social media has already become an effective means for policing there. The gain in knowledge would be accordingly lower in such countries.

However, it is remarkable that around 40 percent of the participants rated their knowledge about social media as good or very good[20]. This indicates a rather good state of knowledge possibly due to extensive private use. Nevertheless, only 17.4 percent say their knowledge was hardly or not at all enhanced by working through the module[21]. In turn, 23 percent stated that their knowledge was enhanced despite the already good prior understanding of the topic.

4. Conclusions

The participants also had the chance to come up with individual hints, suggestions, amendments and reviews about the SOMEP e-learning module and to forward and discuss them with the SOMEP team. Some remarks were simple by nature like that the final test is too easy/difficult or that there is a better example for a certain phenomenon. The participants

[18] See 3.1: The demographic structure of the Brandenburg police is identical to the data collected during the pilot implementation. This may indicate that the participants presented a representative sample. See Rüdiger, Rogus (2014) Attachment 1.
[19] About utilization of Social Media by German police see Rogus, Rüdiger (2014); Rüdiger, Rogus (2014)
[20] See figure 5
[21] Ibid.

also helped to detect grammar and spelling mistakes. There were also specific questions and topic suggestions. Eighty-seven (87) remarks and hints were received and if reasonable implemented.

But such an e-learning application can only play a supporting role in training police officers for the utilization of social media for policing purposes. Police organisations have to realize that social media has created a digital environment. Sooner or later every police officer will be confronted with it. So it would be logical to give this task to the younger generation of police officers since they have a higher level of online media experience. But they also need to learn about risks, communication options or the legal framework related to police activities in social media and have to obtain media competencies. For this reason social media as an effective means for policing should be integrated into the police training and education. The SOMEP e-learning module could bear fruit within the scope of such a strategy if taken seriously. This e-learning application is a very useful tool available for police officers to get deeper involved in the world of social media and its benefits for police services. The project supports the use of social media by police organisations in Europe and aims at raising awareness about the potential for the enhancement of effectivity and effectiveness of police work and the benefits for society.

5. Summary

Social media play a more and more important role for society and police as an important living space and room for interactions. The COMPOSITE project had already recognized the challenges for police in this regard[22]. SOMEP has taken up this subject and prepared an e-learning module for police officers to meet these challenges. The available results of the pilot implementation of the module created by FHPol BB as well as a large number of positive media reporting in the German-speaking area shows that SOMEP obviously goes in the right direction. Police services which want to integrate the e-learning module into the education and training will have the opportunity to adapt or amend it according to their needs and domestic legal situation.

The SOMEP module could also provide a very sound basis for the development of further specific e-learning application, for example, the usage of social media for public relations

[22] cf. Bayerl (2012); Composite (2014); Denef et. al . (2011); Denef et.al. (2012).

in connection to police operations or for criminal investigations. How important the presence of police in the digital arena is shows the discussion about the interpretational jurisdiction when it comes to publishing reliable information about the police and their actions.

At the same time the police need to take into consideration that they lose the battle for sovereignty in interpreting police actions and the self-image of the police if they are not present in social media[23]. For example there are more video clips about police violence available than about police helping[24].

This presents a challenge but also an opportunity which should be taken. The police should be present and visible where the people in need of security and protection are even in the digital world.

[23] See Jungholt (2014); Sasse (2014)

[24] As of 11 March 2015 a search in YouTube resulted in 32,200 hits when searched for the term "Polizei Gewalt" ("Police violence"). A search with the term "Polizei hilft" ("Police helps") resulted only in 418 hits. Cf. Rüdiger, Rogus (2015).

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7. Image index