

## Identification of Educational Consultancy Needs for the Pre-Project Phase of Mobile Application Development\*

Juliya V. Makarenko <sup>1</sup> [0000-0002-4339-1668], Enise E. Abibullaeva <sup>2</sup> [0000-0002-4003-8922],  
Nonna N. Murovanaya <sup>3</sup> [0000-0001-6052-4437], Lyudmila S. Anisimova <sup>4</sup> [0000-0001-9412-5071]

<sup>1</sup> V.I. Vernadsky Crimean Federal University, Simferopol, Russia

jvmakarenko@gmail.com

<sup>2</sup> State Budgetary Educational Institution “Crimean Engineering and Pedagogical University”  
named after F. Yakubov, Simferopol, Russia

<sup>3</sup> Sevastopol State University, Russia

<sup>4</sup> Writer Ivan Shmelyov House Museum, Alushta, Russia

**Abstract.** The article actualizes the demand for the provision of educational consulting services about regional specifics. The provision of this type of service, including remotely (website, mobile application) is significant.

The project development of unified information and analytical space for professional support of teachers in the region will ensure the creation of a map of pedagogical experience, the author's teaching methods, and on-line access to the data collected during the provision of educational consulting services for teachers in the region.

Identification of the need for the provision of various types of services – educational consulting services, which should become the content of the mobile application. Provision of unified information and analytical space for educational consulting services should be based on an up-to-date, constantly updated information and analytical system. This will unite the professional and pedagogical community of the region. The most optimal access to educational consulting services may be granted via a mobile application (a compact alternative to the site).

**Keywords:** educational consulting, professional support services for a teacher, problems of educational interaction, mobile application, professionally-creative resources, unified information, and analytical space.

### 1 Introduction

The modern educational space strives to update the paradigms in content, improving the design of technologies and experience in the arrangement of educational interaction. In this regard, the phenomenon of “educational consulting” causes, on the one hand,

---

\* Copyright 2021 for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

the genuine interest of the pedagogical community, and, on the other hand, some rejection in the educational community. Moreover, this rejection is largely shared by both teachers and educational management at all levels. At the same time, in the vastness of the Russian Federation, it was this ambiguous position that provoked the emergence of several educational consulting centers as a new technology for organization of interaction with clients experiencing the need for diverse consultations in the field of organization, implementation, and education.

The purpose of the study is that it is necessary to identify the need for the provision of various types of services – educational consulting services, which should become the content of the mobile application.

The objectives of the study. To identify existing intellectual resources and mobile applications for the provision of educational consulting services to the professional-pedagogical community. To identify an existing request for pedagogical counseling services based on an analysis of a survey of teachers and teaching staff of educational organizations at various levels in the Crimean region. To formulate priority areas in services – educational consulting services, as informative lines in the design of a mobile application for providing professional support for teachers, using the example of the Republic of Crimea.

The tasks will be implemented through research methods, which include theoretical generalization, interpretation of the results of quantitative and qualitative analysis of the results of the survey of pedagogical personnel of educational organizations of the Republic of Crimea.

## **2 Project Development of a Mobile Application for the Provision of Educational Consulting Services**

The current complex socio-economic situation of the rapid development of society in the era of frequently changing crises requires the teacher to provide adequate and relevant information, including on resolving the issues of the educational process (either at the level of obtaining educational services or at the level of their organization and provision). Even today, in the era of global informatization, decisions are often made at random. If an individual makes such a decision at random, then this is the problem of his or her personal life, however, if the corresponding decisions are made at random at the level even at the level of an individual organization, not to mention the state level, this can cause several problems with serious consequences.

In most cases, parents are the subjects of educational consulting. In this regard, mobile applications for all operating systems are focused on the organization of child education in the interaction system "child-parent / teacher – gadget – mobile application". But the reality is that often this system loses an intermediary in the form of a parent/teacher.

Summarizing the data on mobile applications in the field of educational consulting, it is possible to classify them by educational directions (mathematics, mother tongue, English, Chinese, music, drawing, and others), by age (primary preschool, senior pre-

school, primary school age, adolescents, high school students, students), in the directions of development of cognitive processes (development of perception, attention, memory, thinking, imagination, speech, integrated).

Here are the most popular applications in <https://play.google.com/store/> for the period 2019-2020:

1. Kids education 2020 – Free kids educational app – <https://play.google.com/store/apps/details?id=com.nayemuzzaman.education.learning>;
2. Khan Academy Kids: Free educational games & books – <https://play.google.com/store/apps/details?id=org.khankids.android>;
3. Kids Educational Games: Preschool and Kindergarten – <https://play.google.com/store/apps/details?id=air.com.shubi.LearnCNLW.english>;
4. edX e-learning courses from Harvard – <https://play.google.com/store/apps/details?id=org.edx.mobile>;
5. StudyWorldEducationConsultancy – [https://play.google.com/store/apps/details?id=com.susankya.cmst\\_app.studyworld](https://play.google.com/store/apps/details?id=com.susankya.cmst_app.studyworld).

It should be noted that in the top five there are applications for children and online courses for adults and consultations for students. In a detailed analysis of the first hundred applications that lead in the ranking of the most popular, about 10% are applications for educators and a professionally oriented public. The following applications can be distinguished as multifunctional:

1. Methods of Teaching – An educational app– The application updates the information on traditional and new effective methods and forms of teaching the younger generation. (<https://play.google.com/store/apps/details?id=com.studetnsapps.methodsofteaching>).
2. Australian Education Consulting Nepal– comprehensive support of teachers and students of Nepal focused on the Australian education system and taking into account the educational standards of Australia ([https://play.google.com/store/apps/details?id=com.susankya.cmst\\_app.aecnepal](https://play.google.com/store/apps/details?id=com.susankya.cmst_app.aecnepal)).
3. Teaching methods– popularization of the results of modern psychological and pedagogical research on the effective organization of education in modern school (<https://play.google.com/store/apps/details?id=com.androido.dev601172.app848009>).
4. The Teacher App – professional assistant for Indian teachers in organizing, professional growth, and self-improvement. The application provides access to the experts of the Indian education system to study advanced pedagogical and innovative experience (<https://play.google.com/store/apps/details?id=org.tta.mobile>).
5. Classroom management – application for providing integrated management of classroom instruction (<https://play.google.com/store/apps/details?id=com.androido.dev601172.app848026>).
6. Teaching methods – The application takes into account the specifics of the functioning of the class as a dynamic environment, uniting students having different levels of ability. The application is aimed at creating the experience of effective teaching,

developing creative and innovative learning strategies to meet the individual needs of students (<https://play.google.com/store/apps/details?id=com.andromo.dev601172.app863087>).

7. Teaching Practice– popularization of relevant pedagogical experience ([https://play.google.com/store/apps/details?id=com.sqsapps.teaching\\_practice](https://play.google.com/store/apps/details?id=com.sqsapps.teaching_practice)).

At the same time, monofunctional applications are also presented on the resources:

1. McKinseyPSPracticeTest – classroom testing design and organization application (<https://play.google.com/store/apps/details?id=com.pst.android>).
2. AssessmentinEducation–assessment of the results achieved. The application presents various strategies for assessing student achievements (different types of assessment) ([https://play.google.com/store/apps/details?id=com.sqsapps.assessment\\_education](https://play.google.com/store/apps/details?id=com.sqsapps.assessment_education)).
3. LessonPlanfornewCurriculumPlusPDFReader– an application that helps in planning (<https://play.google.com/store/apps/details?id=com.gh.sammie.lessonplan>).
4. TeacherInterviewquestionanswers– application for preparing a teacher for an interview when applying for a job in an educational organization (<https://play.google.com/store/apps/details?id=com.techseers.teacherinterviewquestionanswers>).

At the same time, there are no similar applications targeted at the segment of Russian teachers and the implementation of the standards of the Russian education system (the so-called FES – federal educational standards).

The multidimensional nature of consulting research is presented in scientific works and publications of domestic authors, confirming the interest in expanding the theoretical and practical search for the use of educational consulting in the Russian Federation: organizational and pedagogical foundations of consulting activity (B. G. Barrett, S. Burlacu, S. Dan Grigorescu, C. Stefan, C. Popescu, O. Dele-Ajayi, R. Strachan, E. V. Anderson, A. M. Victor, E. Rejeesh and M. Anupama) [1-4]; the provision of remote educational consulting services (F. Liming, Z. Sanyin, K. A. Makoveichuk, N. I. Gallini, N., C. N. Obonyo) [5-8].

The current situation shows that the issue of understanding the nature of educational consulting and its place in the reform of the education system, respectively, and the place of the educational expert (analyst-consultant) in the process of reforming education in Russia remains relevant. Of particular importance is the expert opinion during the period of transformation of the education system of the Republic of Crimea as part of its entry into a new regulatory environment. There is a permanent risk for an educational expert to replace educational analytics and counseling with an educational stakeholder (preconception, interest).

As part of a pilot study (September-December 2019) to identify the level of awareness of the developing technology of educational consulting among the subjects of the educational system in the Republic of Crimea (teachers, representatives of the administration, parents), several directions in its organization were proposed.

Firstly, the identification of the level of familiarity with educational consulting as an integrated technology:

to provide an expert assessment of the current situation in the educational organization or educational interaction,

to develop the solutions to identified problems,

to support the implementation of selected/developed tools for the effective implementation of selected solutions.

Secondly, determining the level of demand for consultancy by various subjects of the educational system of the Republic of Crimea.

Thirdly, the identification of the problem field of the demand for educational consulting services in the Republic of Crimea in the form of specific services.

Thus, 89% of the respondents are not familiar with the technology of consulting and especially educational consulting. At the same time, 11% of them are familiar but did not use the services within the framework of this technology. At the same time, 76% of the respondents turned to pedagogical counseling, which forms the basis of educational consulting, one way or another, throughout life. And 98% would not refuse to use these services in solving problems arising in their educational interaction with children, parents, teachers, and the administration in the educational organization and beyond.

Among the experts able to provide consulting services in the field of education, the respondents indicated the employees of the Institute for Advanced Studies of the Republic of Crimea (56%), methodologists of teaching rooms, and employees of educational departments in the region (75%), the expert community of the faculty of universities in the region, leading participants of scientific-practical conferences (85%), successful and recognized pedagogical practitioners, winners of professional competitions in pedagogical skills (37%).

Analyzing the problem field that was proposed to be identified by the respondents, the study participants identified the following problems that are significant for them, both from the point of view of the subjects of educational interaction and from the point of view of the level of educational organizations in the region (Table 1, Table 2).

**Table1.** The problem field of the demand for educational consulting services in educational organizations of the southern coast of the Republic of Crimea.

<b>Educational Consulting Services</b>	<b>Teachers</b>	<b>Managers</b>	<b>Parents</b>
1. Subject-methodical service	75%	45%	79%
2. Monitoring service	95%	80%	34%
3. Marketing service	5%	85%	0%
4. Information service	48%	77%	60%
5. Expert service (scientific and methodological audit)	95%	67%	100%
6. Library methodological service	35%	30%	5%
7. Social and communicative service	100%	45%	100%

**Table 2.** The problem field of the demand for educational consulting services in educational organizations of the southern coast of the Republic of Crimea.

Educational Consulting Services	Types of educational organizations in the region				
	1	2	3	4	5
1. Subject-methodical service	65%	78%	45%	35%	45%
2. Monitoring service	75%	85%	65%	55%	68%
3. Marketing service	36%	38%	23%	28%	37%
4. Information service	65%	45%	40%	48%	67%
5. Expert service (scientific and methodological audit)	89%	90%	85%	55%	95%
6. Library methodological service	35%	45%	25%	25%	30%
7. Social and communicative service	90%	95%	96%	60%	70%

Conditional reductions: 1 – organization of preschool education, 2 – organization of general secondary education, 3 – organization of secondary vocational education, 4 – organization of higher education, 5 – organization of supplementary education.

This procedure makes it possible to identify the most pressing issues for the provision of educational consulting services in the Crimean region. For example, among educators, problems requiring assistance in solving them are distributed as follows (beginning with more significant ones): social and communicative service, subject-methodological service; expert service (scientific and methodological audit), and monitoring service; information service; library and methodological service; marketing service. Taking into account the specifics of the request for specific services – educational consulting services, in the context of assisting the teacher, professional support, and support of his activities, we received specific informative material for designing a mobile application.

A mobile application for the teachers of the Crimean region must meet the following requirements:

- orientation to the federal and regional regulatory framework for the organization and implementation of pedagogical activities;
- provision of multifunctional support for the teacher in professional activities in the context of the declared services – subject-methodical, monitoring, marketing, informational, expert (scientific-methodical audit), library-methodological, social, and communicative;
- psychological and creative support of the teacher both at the stage of his adaptation to professional activity, and in the case of professional burnout.

Updating the collected information during the registration process in the mobile application will lay the foundation for the design of single information and analytical space in the region. This will allow not only to provide operational support to teachers

but also to create a virtual map of pedagogical experience, the author is teaching methods, and on-line access to best practices for solving problems in the professional-pedagogical community.

### **Conclusions.**

Thus, within the framework of this study, it was revealed that the main problem of the establishment of professional educational consulting among the subjects of educational interaction in the educational organizations of the Republic of Crimea is the lack of adequate demand for this type of service. To become an independent subject of the educational system, the educational consulting (educational consulting agency, educational consultant) must be in a system in which the demand for educational consulting services is already determined by the system. Educational consulting can fully develop only as an element of the professional activity of the teaching and expert community in the field of education. It is specially organized cooperation between departments, basic departments, laboratories, research centers at educational institutions of higher education with educational organizations of various levels and specifics that can become the key to the success and popularization of educational consulting.

The analysis of mobile applications on the market revealed the lack of applications for the Russian segment of consumers. Given the existing specifics of the Russian education system, namely its regionality, the mobile application for the pedagogical community should also be regionally oriented. The authors have studied the demand in the Republic of Crimea and identified the need for the provision of various types of services – educational consulting services, which should become the content of the mobile application. Providing unified information and analytical space for the provision of educational consulting services should be based on an up-to-date, constantly updated information and analytical system. This will unite the professional and pedagogical community of the region. The most optimal access to educational consulting services may be a mobile application (in addition to the website).

### **References**

1. Barrett B. G. Creating change and innovation in Human Resource Management courses: Developing a model organizational consulting project as a learning application / 2011 International Conference on Business Management and Electronic Information, Guangzhou, 2011, pp. 267-270. DOI: 10.1109/ICBMEI.2011.5920445
2. Burlacu S., Dan Grigorescu S., Stefan C. and Popescu C. Basics of design and testing of a digital content generator tool for e-learning / 2013 8th International Symposium on Advanced topics in electrical engineering (ATEE), Bucharest, 2013, pp. 1-4. DOI: 10.1109/ATEE.2013.6563360
3. Dele-Ajayi O., Strachan R., Anderson E. V. and Victor A. M. Technology-Enhanced Teaching: A Technology Acceptance Model to Study Teachers' Intentions to Use Digital Games in the Classroom / 2019 IEEE Frontiers in Education Conference (FIE), Covington, KY, USA, 2019, pp. 1-8. DOI: 10.1109/FIE43999.2019.9028527

4. Rejeesh E. and Anupama M. Social media and data mining enabled pre-counseling session: A system to perk up effectiveness of counseling in distance education / 2017 International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Palladam, 2017, pp. 153-156. DOI: 10.1109/I-SMAC.2017.8058328
5. Liming F. and Sanyin Z. The Application of Mobile Internet in Teaching and Learning Development of University Young Teacher / 2016 Eighth International Conference on Measuring Technology and Mechatronics Automation (ICMTMA), Macau, 2016, pp. 700-703. DOI: 10.1109/ICMTMA.2016.172
6. Makoveichuk K. A. and Gallini N. I. A conceptual model of a comprehensive information and reference system of a higher education institution / Problems of modern pedagogical education. Series: Pedagogy and psychology. Collection of articles, Yalta: RIO HPA (Yalta), 2016, No. 52(1), pp. 72-82.
7. Gorbunova N. V. and Gallini N. I. The life cycle of designing the technology of interaction between structural units to rationalize the work of the educational organization of higher education / Innovative technologies in science and education: a collection of articles of the VII International Scientific and Practical Conference in 2 parts. Part 2, Penza: ICSN "Science and Enlightenment", 2018, pp. 201-208.
8. Obonyo C. N. Preparing Preservice Teachers to Use. Mobile Technologies in Educational Organizations. In Forkosh Baruch, Alona, Meishar Tal, Hagit (Eds.). IGI Global, 2019, p. 21. DOI: 10.4018 / 978-1-5225-8106-2.