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## **New possibilities – better perspectives. Interactive system of reinforcing the process of lifelong learning. Integrated Development Assistant (ZAR)**

Nowe możliwości – lepsze perspektywy. Interaktywny system wzmocnienia procesu uczenia się przez całe życie.  
Zintegrowany Asystent Rozwoju (ZAR)

**Streszczenie.** Obecnie na rynku dostępnych jest kilka narzędzi wspierających rozwój kompetencji miękkich oraz budujących motywację do samorozwoju użytkowników. Jednym w nowo powstałych narzędzi, które opisuje poniższy tekst, jest aplikacja internetowa Zintegrowany Asystent Rozwoju (ZAR), dostępna pod adresem internetowym: [www.zar.edu.pl](http://www.zar.edu.pl). System ZAR odróżnia się od już istniejących rozwiązań, gdyż połączy ze sobą oddziaływania online z zajęciami bezpośrednimi (gry diagnostyczno-szkoleniowe). Pozwala on również na elastyczne śledzenie i kształtowanie ścieżki kształcenia osoby dorosłej, jest zatem w pewnych obszarach narzędziem innowacyjnym, oferującym funkcje dotychczas niewykorzystywane w innych aplikacjach oraz integrującym różne rozwiązania stosowane przez konkurencyjne narzędzia.

ZAR to innowacyjne narzędzie wspierające kształcenie i rozwój osób dorosłych, skierowane zarówno do użytkowników indywidualnych zainteresowanych podnoszeniem własnych kompetencji lub umiejętności, jak również dla instytucji (m.in. szkół, firm edukacyjnych, itp. dysponujących ofertą w zakresie podnoszenia poziomu kompetencji). Zintegrowany Asystent Rozwoju składa się z dwóch części: modułu bezpośredniego w formie gier szkoleniowych oraz modułu zdanego mającego postać aplikacji internetowej ZAR. Wszystkie elementy ZAR zostały opracowane przez grupę ekspertów m.in. z zakresu psychologii, socjologii, zarządzania.

Aplikacja internetowa ZAR zapewnia użytkownikom możliwość korzystania z treści szkoleniowych, materiałów rozwojowych itp. Taką funkcjonalność dają moduły zdalne: „Interaktywny Coach” i „Zestawy rozwojowe”. Mają one postać autorskich plików tekstowych i/lub multimedialnych. Ważną możliwością dostępną w aplikacji ZAR jest dopasowanie treści

do potrzeb i stanu zaawansowania użytkownika ocenionej uprzednio w etapie autodiagnozy, a także jego specyfiki uczenia się poprzez aplikację internetową.

Założenia Zintegrowanego Asystenta Rozwoju (ZAR) oparte są na koncepcji ja realnego/idealnego E. T. Higginsa. Przejście od „ja realnego” do „ja idealnego” realizowane jest przy wykorzystaniu różnych funkcjonalności ZAR (m.in. spersonalizowane narzędzie służące wyznaczaniu celów w zakresie kształcenia, monitorujące poziom ich realizacji, motywujące do podjęcia działań rozwojowych poprzez wysyłanie wiadomości na profil użytkownika, a także proponowanie różnorodnych zadań rozwijających daną kompetencję oraz prezentowanie ofert edukacyjnych dopasowanych do potrzeb).

Funkcjonalność aplikacji ZAR została zaprojektowana w ten sposób, aby sugerowała użytkownikowi, które obszary rozwoju są kluczowe w jego przypadku i od których ma rozpocząć poprawę swoich kompetencji. Warto przy tym zauważyć, że wersja zdalna (aplikacja internetowa) ZAR stanowi jeden z wielu elementów realizowanych w projekcie, zmierzających do wzmocnienia umiejętności uczenia się przez całe życie u osób dorosłych. Aplikacja może być wykorzystywana w sposób odrębny (autonomiczny), jak również powiązany z częścią bezpośrednią realizowaną w formie gier szkoleniowo-dydaktycznych (wersja bezpośrednia ZAR).

Niniejszy artykuł jest informacją na temat realizacji projektu oraz wypracowanych w ramach projektu innowacyjnych narzędzi służących edukacji osób dorosłych i wspierania realizacji idei uczenia się przez całe życie.

W ujęciu całościowym składnikami aplikacji ZAR są:

- aplikacja – baza materiałów, m.in. autorskie zadania rozwojowe, materiały motywujące, podnoszące poziom kompetencji w wybranych obszarach,
- aplikacja – interaktywny asystent samorozwoju (funkcjonalność),
- gry szkoleniowe – scenariusze gier służące diagnozie wybranych kompetencji oraz wdrożeniu osoby do korzystania z aplikacji.

**Słowa kluczowe:** zintegrowany asystent rozwoju, e-edukacja, innowacyjna edukacja

**Summary.** Nowadays there are a few tools on the market which support the development of soft competences and build users' motivation to self-development. One of the newly created tools, which is described in this paper is the Internet application called Integrated Development Assistant (ZAR), which can be accessed at the Internet address: [www.zar.edu.pl](http://www.zar.edu.pl). The ZAR system differs from the existent solutions because it combines online practices with the face-to-face ones (diagnostic and educational games). It also allows to follow in a flexible way and shape the educational path of an adult, therefore in some areas, it is an innovative tool, offering functions which have not been used in other applications so far and the one integrating various solutions applied in competitive tools. ZAR provides its users with the possibility to use educational contents, development materials, etc. The assumptions of ZAR are based on the concept of real/ideal me by E. T. Higgins.

**Keywords:** integrated development assistant, e-learning, innovative education

## Introduction

The use of online solutions – the Internet ones in education, developing competences etc. among adults, is an issue which has been interesting not only for didactics but also for such sciences as psychology, sociology and technology. There have been a few papers related to the specificity of so called computer – mediated communication (*computer-mediated communication* – CMC) typical of many Internet applications.

The issue of the Internet user identity and particular Internet applications have been also undertaken many times. As noticed by K. Krejtz and J.M. Zając (2007) “in the series of empirical research it was found that people have the tendency to reveal their concealed personality traits being in touch with strangers – ‘The real me’ according to Carla Roger’s concept – and they do it more frequently while communicating with them via the network rather than during face-to-face meetings.”

The introduction of mobile solutions enhancing the self-education process is undoubtedly the answer to technological and social transformations observed in various societies. Data prepared by Pew Research Center which describe the state as of 2014 prove that 64% of American adults possess smartphones or other mobile devices. Whereas the results of the report concerning the use of smartphones in Poland as of May 2015 confirm that the use of the mobile devices is becoming more and more popular among the members of the Polish society – the so called smartphonisation (the use of smartphones) amounts 58% which means that the Poles aged 15 and over possess around 19 million smartphones. (Report on the use of smartphones in Poland, 2015, 6–8). Moreover, the possibility to apply so called mobile applications – the Internet ones – creates new circumstances for the process of self-education. It also gives the possibility to use the so called mobile – Internet applications since it provides spontaneity, being inofficial, individuality, omnipresence (Kukulska-Hulme, Shield, 2008).

## What is ZAR?

Bydgoszcz In Service Training Centre (BZDZ) in partnership with Psychological Solutions Group (PSG) and Europa Movilidad Estudiantil have carried out the project “New possibilities – better perspectives. Interactive system of reinforcing the process of lifelong learning”. The project carried out from the first of August 2016 to the 31st of January 2019 aims at working

out and implementing into practice the comprehensive solution in form of the Integrated Development Assistant (ZAR) by 35 entities dealing with institutions providing education for adults. ZAR is to increase the accessibility of adults to various forms of lifelong learning. ZAR is an innovative solution which combines two elements: the interaction module (specially designed diagnostic games carried out in form of group work) and the intermediate interaction module (author's mobile application).

ZAR is an abbreviation for the name Integrated Development Assistant. It is an innovative tool aiding education and adult development. It is aimed at both individual users interested in improving own competences/skills and also institutions (including schools, companies, etc. providing the offer related to improving the level of competences).

ZAR enables integration of the two groups of users mentioned above. It means that individual users (adults), due to the use of ZAR, have a chance to obtain better education or self educate due to the participation of companies/institutions registered in ZAR (being institution users).

Designing the Internet application (ZAR) results from the pursue to fulfil a range of functional assumptions connected with the usefulness of the whole application. These are mainly the following criteria:

a) the possibility of individualisation – personalisation of functioning of the application. It means that the ZAR user should have the possibility to select the content/ materials/tests etc. tailor-made to their needs/aspirations/paths of the planned development;

b) the application serves building and maintaining user's motivation and improving his/her ability to manage own time and development;

c) combining forms of face-to-face and mobile influences – the efficiency of influencing adults regarding reinforcing their tendency to self-education and development requires application of various forms of influence. In case of ZAR, comprehensiveness is possible due to combining the ZAR Internet application with direct influence in form of educational group games. Owing to such a solution, ZAR stimulates adults to a considerable degree and at the same time accustoms them to using the Internet application more effectively. Educational games (run in groups – face-to-face conditions) are partly the introduction and preparation for using the mobile application;

d) the ZAR Internet application contains the so called development coach/assistant module which allows to inspire, motivate adults and monitor their progress concerning the accomplishment of the set goals. Additionally, the ZAR application allows the user to develop basic skills essential

to the process of education and self-education (planning, setting and achieving aims), cross-sectional competences (including the ability to learn, entrepreneurship skills). This way it is possible to eliminate or reduce the selected disadvantages of traditional e-learning methods, particularly such as: barriers connected with using new technologies which mainly occur among the group of adults; “difficulties with motivation; difficulties with individualisation, lack of or extremely limited social communication in groups (especially the direct ones)” (Ziółkowski P., 2014).

e) due to the special character of the application, there were the efforts to work out the highly universal tool, of a wide range of applications for adults and institution users. Fulfilling this requirement is possible due to accomplishment of the following criteria:

- the use of the language sensitive to the sex.
- the use of the language sensitive to the age.
- functional and technological simplification.

#### *ZAR users*

In accordance with the assumptions of the “New possibilities – better perspectives” project, the ZAR Internet application is available to two groups of users:

- individual users – adults interested in education and self-education, improving skills concerning lifelong education, searching for tools and supporting their motivation to lifelong learning,
- institution users – institutions, business entities, etc. engaged in the process of education, improving competences and qualifications of adult learners (including companies specialised in training, labour market institutions, schools, etc.).

The structure of the application – in a functional sense – enables the individual process of integration of the mentioned above two groups of users. It means that the individual users owing to the use of ZAR can obtain the possibility to support their process of education and self-education with the use of companies/institutions registered in ZAR (being the institution users).

The ZAR Internet application allows individual customers-users to set own goals, helps to accomplish them and increase competitiveness in particular areas. ZAR institutional customers on the other hand have the possibility to link the Internet application with direct influence in form of educational group games. Owing to such a solution companies/institutions/centres can stimulate adults to a greater degree, accustom them to using

the Internet application more efficiently which would in turn mean making their offer more attractive.

In this sense, the important feature of the Internet application (ZAR) is the possibility to “connect” individual users interested in their own self-education in given areas and the institution users providing services in these areas. They have the opportunity to prepare the tailor-made offer for the customer so as to make it best adjusted to the customer’s needs. Due to the application of such a solution, the individual customer does not need to search for the database of the potentially interesting centres/training institutions himself or herself because on the basis of autodiagnosis and the areas the customer is interested in, they will be selected and provided to the customer.

## **Autodiagnosis**

The ZAR Internet application differs from other competitive solutions among other things by the stage of autodiagnosis and the linked with it process of setting goals which make ZAR a more personalised tool and adjusted to individual needs of the user. In relation to autodiagnosis, the ZAR Internet application allows to define the current level of competences in particular spheres of human life which has the real influence on human’s functioning in the context of setting aims. These are:

- having the initiative and entrepreneurship,
- solving problems in a creative way and taking decisions,
- time management and management of self-development,
- self-consciousness and being conscious of the methods and possibilities,
- emotional intelligence.

The user starting to use the ZAR profile website, first goes to the bookmark “check yourself”. Clicking it opens the display of the set of test questions in a new window. The user is asked to fill in a set of test questions designed in form of closed cafeteria where he or she is able to choose only one answer at a given item (question/statement, etc..). The set of diagnostic questions comprises 60 items. The time allocated for filling them in takes up to maximum 30 minutes when providing the suitable level of concentration and reliability of the preliminary diagnosis. Each area is measured in 5-stage Likert scale from “I definitely do not agree” to “I definitely agree”. After answering all the questions, the results are counted automatically in accordance

with the earlier set algorithms. After completing all the tests, the user may see the results of the diagnosis in the bookmark “your results”.

The graphical visualisation of the results of the diagnosis indicates the level of competences concerning five main areas:

- emotional intelligence,
- self-consciousness and being conscious of the methods and possibilities,
- time management and management of self-development,
- solving problems in a creative way and taking decisions,
- having the initiative and entrepreneurship.

Together with the visualisation of the results, the user receives a set of information relating to the areas which are the key ones for his/her further development, from which he or she should start the process of improving own competences, etc. The graphical visualisation is accompanied by the extended description of particular areas. On the basis of user’s results, some “recommendations” concerning further work with “development sets” are formulated for him/her which are to be found in the next bookmark. Moreover, as part of “my profile” bookmark the user has a chance to observe his/her progress relating to accomplishment of the set goals. However, in order to make it possible, the user first needs to go to the “planner” module in order to fill in the proper setting of the aim/aims sheet.

## **Setting goals and development planner**

The process of setting goals is very detailed in the ZAR application. In authors’ opinion, it is one of the most important stages. A lot of emphasis is put to the fact that the users should understand what distinguishes each of the stages of setting goals with SMART method, the reasons for defining them, etc. and the influence of their action on its effectiveness. The person who uses ZAR has access to examples which significantly facilitates understanding of the transferred contents and also gives a chance to include the aim of the other motivating person in the process.

This module is a personalised tool for an individual user to set goals concerning self-development, education, etc. It also allows up-to-date monitoring of the level of their accomplishment and motivating to undertake development activities by sending messages to user’s email address and his/her “close – motivating people” and also suggesting various tasks deve-

loping a particular competence and presenting educational offers tailor-made to user's needs.

Setting the goal by the user and completing all the information connected with him/her results in simultaneous "transferring" of the data to the bookmark "my profile". There, the individual user gains access to the scheme of accomplishing the goal in form of graphical visualisation.

From that moment, the individual user starts the process of achieving the aim/aims, which in practice means:

- current monitoring of progress by marking accomplished stages of achieving aims as part of the Integrated Development Assistant (ZAR) application,
- maintaining motivation by instant contact with the individual user by using reminder e-mails sent at real time. In the situation, when the deadline is not met and the aim is not marked, the e-mail is also sent to the person appointed by the user as a person supporting him/her in achieving the goal,
- increasing the effectiveness of accomplishing the set goals by making the user aware of the accessible resources (human and inhuman), which takes place at the time of filling in the fields "my resources" and "a person who will help you" by the user.

All the time, the individual user has access to monitoring his/her level of progress as part of the bookmark "your goals". After clicking it, the user can see the displayed goals which have been defined by the user so far together with the information about their accomplishment. Additionally, the user will have access to such functions:

- "edit the goal" – here the user has a chance to edit the set goal especially if it comes to the deadline and adding the step which can help in accomplishing the goal.
- "institutions" – here there are the descriptions of the particular institutions/companies etc. offering services or support in accordance with the goals set by the individual user. The user, after clicking the name of the institution/company gets access to complete information about it (characteristics, description of the service, location, experience etc.). The user has the possibility to get in touch with the institution by generating the internal message sent within ZAR.



## **Development zone**

All the time while using the ZAR application, the user has the possibility to access the ‘development zone’. It consists of two main bookmarks which contain contents, materials, etc. which are to assist the user in developing his/her competences, skills, self-education, etc. by offering the possibility to take advantage of the training contents, developmental materials, etc. Such functionality is provided by “Interactive Coach” and “Developmental Sets” modules. These are author’s materials in form of text files and/or multimedia files. The thing which is the special advantage of the ZAR Internet application is the possibility to decide about the time of giving access to the materials, the user may decide himself/herself when and which set he/she wants to use. The additional advantage is matching the contents to the needs and the level of user’s advancement, previously assessed during the stage of autodiagnosis and also its specificity of learning through the Internet application.

The “development zone” comprises of the following developmental sets:

- self-consciousness and being conscious of the methods and possibilities,
- time management and management of self-development,
- emotional intelligence,
- having the initiative and entrepreneurship,
- solving problems in a creative way and taking decisions.

The scheme of the single set is in form of an article which consists of the following elements:

- summary (short information about the contents of the given developmental set),
- theoretical part (that is the descriptive, extended part which also contains schemes and charts (max. 3 types of graphics),
- cloud – it is a place with a titbit (an excerpt of an article, a short text message) in form of a short task to fill in/download referring to the content of the set and the task which was previously done by the user as a form of indicating how to make use of the given skills in the process of learning, setting up goals. It contains references to interesting films, materials, series, books, articles, etc.

## **Interactive Coach**

In this place, developmental sets refer to competences and skills significant from the point of view of maintaining motivation to lifelong learning. These sets are in the extended form which contains among others the case study, an autodiagnostic part (in form of scales, questionnaires, etc. ), practical classes linked with the planning module accessible from ZAR. Materials which were worked out within the “interactive coach” module are:

- proactivity,
- creativity,
- self-motivation,
- planning,
- project management,
- assertiveness.

## **Educational games**

The use of educational games (diagnostics ones) is the next element which distinguishes ZAR from other solutions building motivation to self-development. The games are run in the conditions of group interaction and are run in accordance with the defined detailed scenario. Their subject, contents hidden in it, particular tasks relate to the development area and other functions of the ZAR Internet application. The significant element is the possibility to match the course of the games according to many variables (the size of the group of participants, participants’ age, potential competence gaps, participants’ expectations, etc.). Owing to the use of this solution, the ZAR application creates the possibility for companies/institutions/centres dealing with training/education of adults to make the diagnosis of the selected competences of their participants and introduce them and prepare to use the ZAR Internet application.

Educational games are run in form of classes in groups and according to the specially prepared scenario. Their subjects, contents, particular tasks directly refer to the area of development and the other functions of the ZAR Internet application.

The first of the games “Journey through the land of competences” enables users to make own autodiagnosis, looking at users from the point of view of particular areas of competences: having initiative, entrepreneurship, creative problem solving and taking decisions, self-consciousness and

being aware of the methods and possibilities, own time management and organization of self-development in the context of learning and emotional intelligence. The next game is an excellent chance to become aware of own strengths and weaknesses, our characteristic features, our aims and ambitions. The third game (“Travelling advisor”) focuses on the process of setting goals and allows to understand how important the stages (their proper planning, monitoring progress, etc.) are while achieving success. Whereas the fourth game (“My Business”) allows the users to experience the situations and tasks connected with solving problems in a creative way and shows how to be proactive. Each of the games becomes an important and useful element introducing and preparing to use the ZAR Internet application.

As it was mentioned above, taking advantage of the ZAR Internet application is optionally linked with preparation realised through participation in the educational and diagnostics game/games (the so called ZAR direct module). Educational and diagnostic games are realized in conditions of group interaction. They are run according to detailed scenarios. The subject, games, contents included in them, particular tasks directly refer to the area of development and other functions of the ZAR Internet application.

## **Summary**

The idea and the factual and technological usability of the ZAR Internet application were described in details above. In the summary, the author decided to answer the question “How does the ZAR application differ?”.

- innovative, personalised tool adjusted to the individual needs of the user,
- practical application of the process of autodiagnosis to the further stage of using the ZAR application,
- wide group of users – both individual ones and companies/institutions/centres dealing with education/training adult learners,
- detailed comprehensive process of setting a goal,
- designing functions increasing chances for achieving success by the user,
- access to a mobile application and the face – to-face module – educational games,
- increasing the attractiveness of the existing offer of the company/institution/centre by incorporating (simulation and diagnostic ones) to the process of teaching/training,

- the possibility to link the goals set by the user with companies/institutions/centres providing services in this field.

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