



SHORT COMMUNICATION

Methodological guideline for learning guidance in order to promote self-regulation of learning

Lineamiento metodológico para la orientación del aprendizaje en función de promover la autorregulación del aprendizaje

Eduardo de Jesús Pomares Bory¹  , Odalys Vázquez Naranjo¹  , Lourdes Guadalupe Arencibia Flores¹  

¹Facultad de Ciencias Médicas Salvador Allende, Departamento de Ciencias Básicas Biomédicas. La Habana, Cuba.

Cite as: Pomares Bory E de J, Vázquez Naranjo O, Arencibia Flores LG. Methodological guideline for learning guidance in order to promote self-regulation of learning. *Seminars in Medical Writing and Education*. 2025; 4:167. <https://doi.org/10.56294/mw2025167>

Submitted: 07-05-2024

Revised: 21-08-2024

Accepted: 08-01-2025

Published: 09-01-2025

Editor: PhD. Prof. Estela Morales Peralta 

Corresponding Author: Eduardo de Jesús Pomares Bory 

ABSTRACT

Introduction: the University needs to create conditions for the implementation of new ways of projecting educational teaching management. This work aims to analyze the organizational sense of the methodological guideline established by the Department of Basic Biomedical Sciences, of Faculty of Medical Sciences Salvador Allende, in order to coordinate the orientation of learning in the teaching learning process of the Biological Basis of Medicine Discipline.

Method: a descriptive research was developed, with a qualitative approach, who's object of study was the methodological guideline established by the Department of Basic Biomedical Sciences, of Faculty of Medical Sciences Salvador Allende.

Results: the collective professor work aimed at improving the study guides and the implementation of teaching tasks that promote metacognition, contributes to their preparation to achieve active participation in the process of improving educational management with a view to supporting the development of self-regulation of learning.

Conclusions: the methodological guideline established by the Department of Basic Biomedical Sciences, of Faculty of Medical Sciences Salvador Allende, in order to coordinate the orientation of learning in the teaching learning process of the Biological Basis of Medicine Discipline, responds to a need in the management of departmental methodological work, determined by the requirement of a conceptual adaptation of the essential contents of teaching that enables the implementation of effective didactic alternatives to strengthen the work aimed at developing the self-regulation of learning in students.

Keywords: Medical Education; Orientation; Self-Directed Learning.

RESUMEN

Introducción: la universidad requiere crear condiciones para la implementación de nuevas maneras de proyectar la gestión docente-educativa. Este trabajo tiene el objetivo de analizar el sentido organizacional del lineamiento metodológico establecido en el Departamento de Ciencias Básicas Biomédicas, de la Facultad de Ciencias Médicas Salvador Allende, con la finalidad de concertar la orientación del aprendizaje, en el proceso de enseñanza-aprendizaje de la Disciplina Bases Biológicas de la Medicina.

Método: se desarrolló una investigación descriptiva, con enfoque cualitativo, cuyo objeto de estudio fue el lineamiento metodológico establecido en el Departamento de Ciencias Básicas Biomédicas, de la Facultad de Ciencias Médicas Salvador Allende.

Resultados: el trabajo de los colectivos de asignaturas encaminado al perfeccionamiento de las guías de estudio y la implementación de tareas docentes promotoras de la metacognición, tributa a la preparación

de los profesores para lograr una participación activa en el proceso de perfeccionamiento de la gestión docente-educativa, con miras a apoyar el desarrollo de la autorregulación del aprendizaje.

Conclusiones: el lineamiento metodológico establecido en el Departamento de Ciencias Básicas Biomédicas, de la Facultad de Ciencias Médicas Salvador Allende, con la finalidad de concertar la orientación del aprendizaje, en el proceso de enseñanza-aprendizaje de la Disciplina Bases Biológicas de la Medicina, responde a una necesidad en la gestión del trabajo metodológico departamental, determinado por el requerimiento de una adecuación conceptual de los contenidos esenciales de la enseñanza que posibilite la implementación de alternativas didácticas eficaces para fortalecer el trabajo encaminado al desarrollo de la autorregulación del aprendizaje en los estudiantes.

Palabras clave: Aprendizaje Autodirigido; Educación Médica; Orientación.

INTRODUCTION

Instruction and university education are two convergent activities in the teaching-learning process. Together, they form an environment in which professors, in correspondence with the precepts instituted in the subjects' programs, participate in the integral formation of the future professional.

The teaching practice in Higher Education should not be assumed as an activity focused only on promoting the learning of the particular contents of the subjects taught but as a reasoned formative management, fulfilling the university's responsibility to train professionals according to the social demands.⁽¹⁾ From this perspective, the university must develop an adaptive process of its academic culture to create the conditions, in terms of the thinking and action of teachers to assume, creatively and innovatively, the conception of new ways of projecting teaching-educational management.⁽²⁾

When considering the role of teachers in facing the educational challenges of Higher Education, it is essential to think about self-regulation of learning (ARA), referred to as a skill required by students, not only as a personal resource for a successful academic performance but also as a challenge for their future professional performance in the so-called knowledge society.^(3,4)

At present, the Department of Basic Biomedical Sciences of the Salvador Allende School of Medical Sciences is in the process of executing a research project whose purpose is to elaborate a proposal for a methodological strategy for the development of ARA in first-year students of the Medical Career who are studying the Discipline Biological Basis of Medicine (DBBM). Framed within this departmental methodological projection, it has been foreseen the development of actions aimed at preparing teachers for their active and creative integration in the development of the project to lay the foundations for future research, whose results will provide valuable experiences for the achievement of the educational intervention proposal sought with the study.

This work aims to analyze the organizational sense of the methodological guidelines established in the Department of Basic Biomedical Sciences of the Salvador Allende School of Medical Sciences to coordinate the learning orientation in the Biological Basis of Medicine Discipline teaching-learning process.

METHOD

Descriptive research was developed with a qualitative approach, whose object of study was the methodological guideline established in the Department of Basic Biomedical Sciences of the Salvador Allende School of Medical Sciences to agree on the learning orientation in the teaching-learning process of the DBBM, limiting the field of action to its organizational sense. The methodology used was that of the historical-organizational case study to analyze the juncture in which the object of study emerged,⁽⁵⁾ supported by the constructivist grounded theory, to consider its usefulness.⁽⁶⁾ For this purpose and the organization of the analysis, the confrontation between the conditions that motivated the elaboration of the methodological guideline and its content was carried out based on the intersubjective construction of the participating researchers.

Three professors with more than 20 years of experience in higher education and with the academic category of master's degree participated in the research. All of them had the teaching category of assistant professor, and two of them also had the category of consulting professor.

Theoretical and empirical methods were applied. The former included analysis-synthesis and induction-deduction for information management. In the case of empirical methods, the following were used: documentary review to obtain theoretical information on the context in which the analysis was carried out and the focus group for developing reflective interaction among the researchers. Of the thirty-five scientific articles reviewed, based on research on Curriculum E, Teaching for Understanding, ARA, and DBBM, using the Google Scholar search engine, thirteen were taken into account and selected for their direct and significant conceptual contribution to the analysis.

Basis of the methodological approach

In analyzing the conditions that motivated the elaboration of the departmental methodological guidelines, three determining circumstances of a curricular contradiction between its two meanings were highlighted: university project and teaching process in the DBBM.

University project

In the Department of Medicine, Curriculum E is in force, whose generic conception has been proposed as a response to social demands about the skills that should characterize professionals in the 21st century by postulating the establishment of teaching-educational management that promotes the development of student independence in the approach to learning situations related to the professional profile.⁽⁷⁾

Teaching process in the DBBM

Despite the curricular function assigned to DBBM, aimed at understanding the functional organization of the human organism, an essential requirement to be able to understand and intervene successfully in the health-disease process, difficulties have been reported in achieving this purpose, which may be influenced by the inadequate didactic treatment of the contents by teachers.⁽⁸⁾ In this regard, in the particular case of the Department of Basic Biomedical Sciences of the Salvador Allende School of Medical Sciences, its faculty is made up of professionals from different branches whose teaching training has been dominated by a traditional approach to the teaching-learning process, as well as a general pedagogical preparation, with an essentially theoretical treatment. All have not yet overcome these conditions, and the adequacy of teaching performance is limited to the methodological projection adopted.

Within the framework of a departmental research line oriented to the development of self-regulation of learning (ARA), a diagnostic investigation of the development of ARA was carried out in a group of first-year students in a medical career taking the DBBM. The result allowed determining difficulties in significant features of such behavior: a strategic approach to learning and metacognitive regulation.⁽⁹⁾

The above data show that although the Department of Basic Biomedical Sciences of the Salvador Allende School of Medical Sciences has assumed a position consistent with the curricular purpose of promoting student autonomy in the learning process, by considering the development of the ARA as a formative need of students studying the DBBM, it is necessary to deepen the preparation of teachers to assume this task. About this situation, reference has been made to (a) the convenience of having institutional methodologies designed to guide the process of adjustment of teaching practice⁽¹⁰⁾ and (b) critical reflection on student learning within the teaching staff as a significant pedagogical practice concerning teacher professionalization, since it contributes to the preparation for the improvement of educational management.⁽¹¹⁾

Content of the methodological guidelines

In elaborating the departmental methodological guideline, the need to prepare teachers to actively participate in improving teaching-educational management was taken into account, with a view to supporting the development of ARA in students in the context of professionalized teaching. Based on this conception, the indications for the work of the subject groups concerning two essential aspects of learning orientation were specified: guides for independent study and teaching assignments.

Refinement of the independent study guides

The independent study guide is defined as a didactic resource conceived to promote self-management of knowledge by students. It determines that an indispensable requirement for its correct elaboration is the precision of those contents that will be considered essential in the learning process.⁽¹²⁾ With this premise, improving the guides in the subject collectives should be directed to developing thought-activating actions to understand the specific contents of the subjects to be studied.⁽¹³⁾

To carry out this task in the subject groups, the proposal by Rivera Michelena et al.⁽¹⁴⁾ of a system of logical-intellectual skills for the Medical Career was taken into account, which, characterized as a practical expression of the physician's professional performance, is recommended to be part of the educational intervention deployed during the entire undergraduate training, without overlooking the due adjustment of the deepening of the specific content of the subjects to the General Practitioner's level of performance.

Programming of metacognition-promoting teaching tasks

It has been suggested that the teaching task aimed at solving questions or situations associated with the profession in which the student is trained should define a dynamic for the appropriation of the contents conceived as training needs actively and responsibly before the results of their realization⁽¹⁵⁾; ^(16,17,18) supports the idea of using the task with a view to the development of the ability to explain relationships between structure and function and its evaluation with a rubric,⁽¹⁹⁾ an evaluative valuable instrument as a learning

strategy in subject groups.

Given the aforementioned ideas, a professionalized and metacognitive approach to teaching task design is proposed, including analytical rubrics for self-evaluation of performance in explaining morpho-functional relationships.

CONCLUSIONS

The methodological guidelines established in the Department of Basic Biomedical Sciences of the Salvador Allende School of Medical Sciences, to coordinate the orientation of learning in the teaching-learning process of the Biological Basis of Medicine Discipline, respond to a need for the management of departmental methodological work that, based on an adaptation of the conception of the essential contents of teaching, makes possible the implementation of didactic alternatives beneficial to strengthen the work aimed at the development of self-regulation of learning in students.

REFERENCES

1. Ramírez Bernal, F. El reto de las prácticas docentes universitarias. *Seminars in Medical Writing and Education*. [Internet] 2024 [acceso 15/10/2024]; 3: 65. Disponible en: <https://doi.org/10.56294/mw202465>
2. Pomares Bory, EJ; Arencibia Flores, LG; Vázquez Naranjo, O; Barrios Herrero, L; Bernardo Fuentes, MG; Iglesias Ramírez, BZ. Gestión departamental del conocimiento: una primera aproximación a la responsabilidad social universitaria. *EDUMECENTRO*, [Internet] 2023 [Acceso 18/10/2024]; 16. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2077_28742024000100012&lng=es&nrm=iso
3. Valencia Serrano, M. Diseño de tareas para promover el aprendizaje autorregulado en la universidad. *Educación y Educadores*, [Internet] 2020 [acceso 07/10/2024]; 23(2): 267-290. Disponible en: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0123-12942020000200267&lng=en&nrm=iso
4. Carrera Viver, GJ; Gallardo Gallardo, ML., Guerra Zapata, DM; Cisneros Males, DA. (2023). Autorregulación del aprendizaje y el nivel universitario. *Revista Científica Retos de la Ciencia*. [Internet] 2020 [acceso 07/10/2024]; 7(16): 40-57. Disponible en: <https://doi.org/10.53877/rc.7.16e.20230915.4>
5. Rodríguez, AN; García, ÁRR; Minguet, JLC. Los ambientes de aprendizaje como metodología activa promotora de la actividad física en Educación Infantil: un estudio de caso. *Retos: nuevas tendencias en educación física, deporte y recreación*, 2020 [acceso 10/09/2024]; (37): 498-504. Disponible en: <https://dialnet.unirioja.es/descarga/articulo/7042305.pdf>
6. Zapata, AU; Salazar, DAR; Álvarez, OH. Apuntes sobre teoría fundamentada constructivista en educación. En: Edit. Pontificia Universidad Bolivariana. *Investigación para ampliar las fronteras*; 2021 [acceso 10/09/2024]; p. 173-184. Disponible en: <https://repository.upb.edu.co/bitstream/handle/20.500.11912/6277/Investigacion%20para%20ampliar%20las%20fronteras.pdf?sequence=4#page=171>
7. Pino Rodríguez, AX; Pérez Martínez, M; Ramos Guardarrama, J; Díaz Lemus, R; Rodríguez Domínguez, Y. Rediseño curricular para la formación de ingenieros en la modalidad semipresencial. *Modelling in Science Education and Learning* [Internet] 2024 [acceso 31/10/2024]; 17. Disponible en: <https://m.riunet.upv.es/handle/10251/209718>
8. Sánchez Anta, AJ; Lora Quesada, CA; Escobar Gomez, MV. Las ciencias básicas biomédicas y su valor en la formación del médico. *CCM*, [Internet] 2023 [acceso 03/12/2024]; 27(2). Disponible en: <https://revcocmed.sld.cu/index.php/cocmed/article/view/4810>
9. Pomares Bory, EJ; Arencibia Flores, LG; Vázquez Naranjo, O; Iglesias Ramírez, BZ. Autorregulación del aprendizaje: análisis de su apreciación por estudiantes de primer año de Medicina. *EDUMECENTRO* [Internet] 2023 [acceso 03/12/2024]; 15: e2521. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2077_28742023000100074&lng=es&nrm=iso
10. Castrillón Jaimes, YC. EL CONOCIMIENTO DIDÁCTICO DE CONTENIDO (CDC) DE LOS DOCENTES EN INGENIERÍA MECÁNICA DE LA UNIVERSIDAD FRANCISCO DE PAULA SANTANDER COMO REFERENTE PARA LA PERTINENCIA DE LOS MICRO CURRÍCULOS. [Tesis Doctoral]. Mayo 2024. Venezuela. Disponible en: <http://espacio.digital.upel.edu.ve/index.php/TD/article/view/1295>

11. Vargas Neira, SD; Bernal Ballén, A; Briceño Martínez, JJ. Desarrollo profesional docente sobre el conocimiento pedagógico del contenido en profesores de Ciencias: una revisión sistemática de la literatura. RECIE. Revista Caribeña de Investigación Educativa, [Internet] 2024 [acceso 05/12/2024]; 8(1): 89-115. Disponible en: <https://doi.org/10.32541/recie.2024.v8i1.pp89-116>
12. Chang Arañó, LA, Cobián Artimes, YE, León Duharte, D; Rodríguez Rabell, Y. (2023). Guías didácticas para el trabajo independiente en la asignatura Sistema Nervioso, Endocrino y Reprodutor. Maestro y Sociedad, [Internet] 2023 [acceso 07/10/2024]; 353-360. Disponible en: <https://maestroysociedad.uo.edu.cu>
13. Castillo, MP; Barreto Trovar, C; Martínez, E; Sarmiento, A. Una mirada a la enseñanza de los sistemas del cuerpo humano desde el enfoque de la Enseñanza para la Comprensión (EPC) en educación primaria para adultos. Bio-grafía; [Internet] 2023 [acceso 31/10/2024]; p. 2176-2183. Disponible en: <http://revistas.upn.edu.co/index.php/bio.grafia/article/view/18343>
14. Rivera Michelena, NM; Pernas Gómez, M; Nogueira Sotolongo, M. Un sistema de habilidades para la carrera de Medicina, su relación con las competencias profesionales. Una mirada actualizada. Educación Médica Superior. [Internet] 2017 [acceso 29/10/2024]; 31(1). Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21412017000100019&lng=es
15. Alonso Betancourt, LA; Aguilar Hernández, V; Cruz Cabezas, MA. La tarea de aprendizaje profesional para la formación de un trabajador competente. MENDIVE [Internet] 2013 [acceso 29/10/2024]; 21(3): e3229 2023 Disponible en: <https://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/3229>
16. Herrera Barzallo, JG; Arias Villalba, WO; Estrella Romero, VA; Obando Santillán, D I. Aprendizaje autónomo y metacognición en el bachillerato: desarrollo de habilidades para el siglo XXI, una revisión desde la literatura. Revista InveCom [Internet] 2024 [acceso 29/10/2024]; 4(2): 2739-0063. Disponible en: <https://doi.org/10.5281/zenodo.10659690>
17. Jácome León, S; Puga Places, P; Hurtado Sotalin, D. El aprendizaje autorregulado desde la socio-cognición y perspectivas para su fortalecimiento en estudiantes universitarios. CM [Internet] 2023 [acceso 18/10/2024]; 9(2):16-1. Disponible en: <https://www.cienciamatriarevista.org.ve/index.php/cm/article/view/1137>
18. Lara Sotomayor, JE; Suárez Erazo, RT; Carrera Gallardo, AE. Autorregulación del aprendizaje (ARA) en la educación superior: variables que inciden en su desarrollo. Revista Científica Retos de la Ciencia (rcrc) [Internet]. 2024 [acceso 15/11/2024]; 8(18):24-35. Disponible en: <https://www.retosdelacienciaec.com/Revistas/index.php/retos/article/view/506>
19. González González, K. El entorno virtual de aprendizaje para el desarrollo de la habilidad de explicar en Biología. RRP, [Internet] 2023 [acceso 15/11/2024]; 11, Número especial: 146-168. Disponible en: <https://rrp.cujae.edu.cu/index.php/rrp/article/view/386>

FINANCING

Salvador Allende School of Medical Sciences.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Eduardo de Jesús Pomares Bory.

Data curation: Eduardo de Jesús Pomares Bory, Odalys Vázquez Naranjo and Lourdes Guadalupe Arencibia Flores.

Formal analysis: Eduardo de Jesús Pomares Bory, Odalys Vázquez Naranjo and Lourdes Guadalupe Arencibia Flores.

Research: Eduardo de Jesús Pomares Bory, Odalys Vázquez Naranjo y Lourdes Guadalupe Arencibia Flores.

Methodology: Eduardo de Jesús Pomares Bory.

Research: Eduardo de Jesús Pomares Bory.

Project Administration: Odalys Vázquez Naranjo.

Resources: Odalys Vázquez Naranjo.

Supervision: Odalys Vázquez Naranjo.

Writing - original draft: Eduardo de Jesús Pomares Bory, Odalys Vázquez Naranjo and Lourdes Guadalupe

Arencibia Flores.

Writing - proofreading and editing: Eduardo de Jesús Pomares Bory, Odalys Vázquez Naranjo y Lourdes Guadalupe Arencibia Flores.