# Using Interprofessional Education & Simulation-based Learning in Health Profession Curricula to Improve Competence & Confidence: A Systematic Review

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**Objectives of Presentation**:
- Describe the types of interprofessional education (IPE) simulation-based learning experiences in current health professions curricula.
- Discuss benefits for implementation of IP simulation into pre-licensure health profession programs.
- Explain how IP simulation-based learning improves workforce competency and confidence in entry-level health
- professionals.

**PICO**: What is the impact of interprofessional education simulation activities in improving workforce competency and confidence in entry level health professionals?

**Methods**:
- **Databases**: CINAHL, PubMed, and Scopus
- **Search terms**: **(P)** Allied Health Personnel; Occupational therap*; Health Profession Student; Occupational Therapy Department, Hospital; Occupational Therapy Student, **(I)** Patient Simulation, Interdisciplinary Communication, Interprofessional Relations, Interdisciplinary Education, Interprofessional Education, Computer Simulation, Simulation Based Learning, **(O)** Self-concept; Self-efficacy; Self-confidence, Clinical Competence
- **Method of critique**: All 14 articles were critiqued using the Law & Letts quantitative and qualitative review forms.

**Results**:

| Themes | | | | |
|---|---|---|---|---|
| | Improved self-perception of communication when working on interdisciplinary teams | Increased value for interdisciplinary simulation in health science curriculums | Improved identification of health care team member roles | Improved outcomes overall regardless of the amount of disciplines included in the study |
| Supporting Articles | 3, 7, 8, 10, 15, 16, 17, 18, 20 | 3, 7, 8, 9, 10, 11, 16, 17, 19, 20, 21 | 3, 8, 10,11, 14, 15, 17, 19, 20, 21 | 3, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21 |
| Strength (AJOT) | Moderate | Moderate | Moderate | Moderate |

**Implications:**

| *Education* | *Research* | *Policymakers* |
|---|---|---|
| Able to attain positive outcomes with as little as two professions | Creation of a universal outcome measure to improve validity/reliability of studies | **Occupational therapy:** propose ACOTE standards to mandate simulation in all accredited OT programs |
| Worthwhile intervention to implement due to positive effects despite added cost and time required to organize scenarios | Determine if mannequin, video vignettes, or standardized patients yield different outcomes | **Allied health professions:** recommend all accreditation boards require IPE and simulation-based learning in curricula |

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References

1. American Occupational Therapy Association (2014). Guidelines for systematic Reviews. Retrieved from http://ajot.submit2aota.org/journals/ajot/forms/systematic_reviews.pdf

2. American Occupational Therapy Association. (2011). Accreditation Council for Occupational Therapy Education (ACOTE®) standards. *American Journal of Occupational Therapy*, *66*(6).

3. American Occupational Therapy Association. (2007). AOTA's Centennial Vision and executive summary. *American Journal of Occupational Therapy*, 61, 613–614. http://dx.doi. org/10.5014/ajot.61.6.613

4. Benavides-Vaello, S., Stevens, K. V., & Vines, M. M. (2014). Evaluating spanish proficiency among interprofessional health care students using simulation. *Clinical Simulation in Nursing, 10*(4), e169-e175. doi:10.1016/j.ecns.2014.01.001

5. Bethea, D. P., Castillo, D. C., & Harvison, N. (2014). Use of simulation in occupational therapy education: Way of the future? *American Journal of Occupational Therapy, 68*, S32–S39. http://dx.doi.org/10.5014/ajot.2014.012716

6. Hamilton, A., Copley, J., Thomas, Y., Edwards, A., Broadbridge, J., Bonassi, M., ... & Newton, J. (2015). Responding to the growing demand for practice education: Are we building sustainable solutions?. *Australian Occupational Therapy Journal*.

7. Interprofessional education/interprofessional practice (IPE/IPP). (2015). Retrieved from http://www.asha.org/Practice/Interprofessional-Education-Practice.

8. King, S., Carbonaro, M., Greidanus, E., Ansell, D., Foisy-Doll, C., & Magus, S. (2014). Dynamic and routine interprofessional simulations: Expanding the use of simulation to enhance interprofessional competencies. *Journal of Allied Health, 43*(3), 169-175.

9. Pfaff, M., A. (2014). Learning together: The image gently interprofessional simulation for nursing and allied health students. *Teaching & Learning in Nursing, 9*(3), 108-114. doi:10.1016/j.teln.2014.02.001

10. Reese, C. E., Jeffries, P. R., & Engum, S. A. (2010). Learning together: Using simulations to develop nursing and medical student collaboration. *Nursing Education Perspectives, 31*(1), 33-37.

11. Reising, D. L., Carr, D. E., Shea, R. A., & King, J. M. (2011). Comparison of communication outcomes in traditional versus simulation strategies in nursing and medical students.*Nursing Education Perspectives, 32*(5), 323-327.

12. Robertson, B., Kaplan, B., Atallah, H., Higgins, M., Lewitt, M. J., & Ander, D. S. (2010). The use of simulation and a modified TeamSTEPPS curriculum for medical and nursing student team training. *Simulation in Healthcare, 5*(6), 332-337. doi:10.1097/SIH.0b013e3181f008ad

13. Seybert, A. L., & Barton, C. M. (2007). Simulation-based learning to teach blood pressure assessment to doctor of pharmacy students. *American Journal of Pharmaceutical Education*, *71*(3).

14. Sharpnack, P., Goliat, L., & Rogers, K. (2013). Using standardized patients to teach leadership competencies. *Clinical Simulation in Nursing, 9*(3), 95-102. doi:10.1016/j.ecns.2011.10.001

15. Shrader, S., Kern, D., Zoller, J., & Blue, A. (2013). Interprofessional teamwork skills as predictors of clinical outcomes in a simulated healthcare setting. *Journal of Allied Health, 42*(1), e1-6.

16. Sigalet, E., Donnon, T., & Grant, V. (2012). Undergraduate students' perceptions of and attitudes toward a simulation-based interprofessional curriculum: The kidSIM ATTITUDES questionnaire. *Simulation in Healthcare, 7*(6), 353-358. doi:10.1097/SIH.0b013e318264499e

17. Smithburger, P. L., Kane-Gill, S. L., Kloet, M. A., Lohr, B., & Seybert, A. L. (2013). Advancing interprofessional education through the use of high fidelity human patient simulators. *Pharmacy Practice, 11*(2), 61-65.

18. Stewart, M., Kennedy, N., & Cuene-Grandidier, H. (2010). Undergraduate interprofessional education using high-fidelity paediatric simulation. *Clinical Teacher, 7*(2), 90-96. doi:10.1111/j.1743-498X.2010.00351.x

19. Tofil, N. M., Morris, J. L., Peterson, D. T., Watts, P., Epps, C., Harrington, K. F., . . . White, M. L. (2014). Interprofessional simulation training improves knowledge and teamwork in nursing and medical students during internal medicine clerkship. *Journal of Hospital Medicine, 9*(3), 189-192. doi:10.1002/jhm.2126 [doi]

20. Wagner, J., Liston, B., & Miller, J. (2011). Developing interprofessional communication skills. *Teaching and Learning in Nursing, 6*(3), 97-101. doi:10.1016/j.teln.2010.12.003

21. Wamsley, M., Staves, J., Kroon, L., Topp, K., Hossaini, M., Newlin, B., . . . O'Brien, B. (2012). The impact of an interprofessional standardized patient exercise on attitudes toward working in interprofessional teams. *Journal of Interprofessional Care, 26*(1), 28-35. doi:10.3109/13561820.2011.628425

22. Whelan, J. J., Spencer, J. F., & Rooney, K. (2008). A 'RIPPER' project: Advancing rural inter-professional health education at the university of tasmania. *Rural and Remote Health, 8*(3), 1017.

23. World Health Organization: Framework for Action on Interprofessional Education and Collaborative Practice. Geneva, WHO, 2010. Retrieved from http://www.who.int/hrh/resources/framework_action/en/.