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**Livinus U Uko\*** (luko@jcsu.edu), Department of Science and Mathematics, Johnson C Smith University, 100 Beatties Ford Road, Charlotte, NC 28216. *On the convergence of a generalized modified Newton scheme.* Preliminary report.

We use the Kantorovich theorem and the contraction mapping theorem to prove the convergence of the generalized modified Newton scheme

$$f'(u_0)u_{m+1} + g(u_{m+1}) = f'(u_0)u_m - f(u_m), \quad m = 0, 1, \dots$$

for the solution of the nonlinear equation

$$f(u) + g(u) = 0.$$

We also discuss some possible applications of this iterative scheme. (Received September 21, 2009)